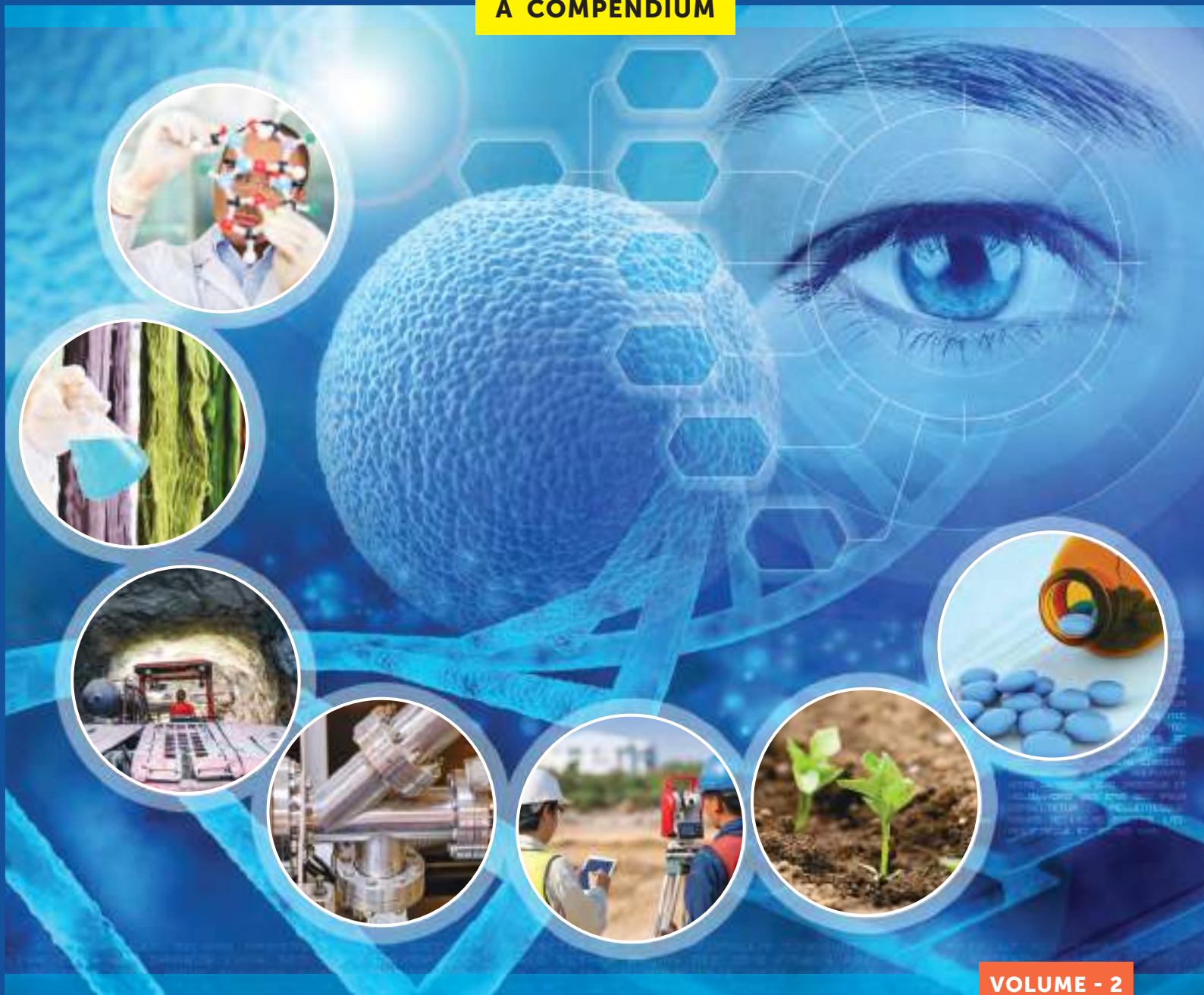


# R&D PROFILE OF SCIENTIFIC AND INDUSTRIAL RESEARCH ORGANIZATIONS (SIROs)

A COMPENDIUM



VOLUME - 2

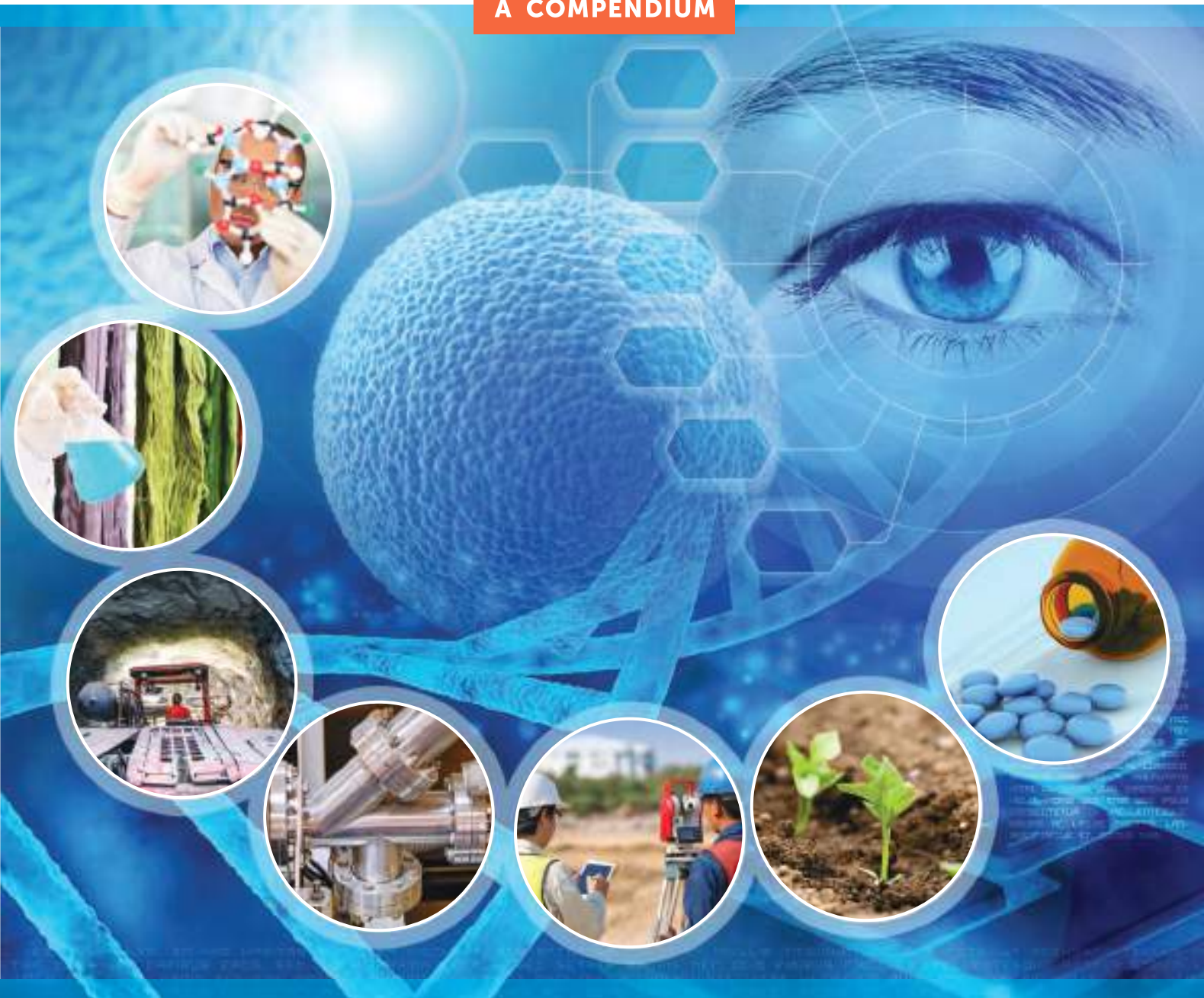


Department of Scientific & Industrial Research (DSIR)  
Ministry of Science and Technology, Government of India, New Delhi

JANUARY 2019

# R&D PROFILE OF SCIENTIFIC AND INDUSTRIAL RESEARCH ORGANIZATIONS (SIROs)

A COMPENDIUM



VOLUME 2



**Department of Scientific & Industrial Research (DSIR)**  
Ministry of Science and Technology, Government of India

## DSIR TECHNICAL TEAM

**Dr S K Deshpande**, Scientist-G, DSIR

**Dr Tripta Garg**, Scientist-D, DSIR

**Dr S P Verma**, Scientist-B, DSIR

**For any information please write to:**

**The Head – RDI (IRDPP Scheme)**

**Department of Scientific & Industrial Research (DSIR) Technology Bhawan, New Mehrauli Road, New Delhi 110 016**

**Email: skdpande@nic.in; tripta.garg@nic.in**

© Copyright, DSIR All rights reserved with DSIR, 2019

ISBN: 978-81-941544-1-9

## COMPILED & DEVELOPED BY

**Dr Shantanu Ganguly**, Fellow, Project PI and Convener, Knowledge Management Division

**Mr T P Sankar**, Fellow, Co-PI and Co-Convenor, Knowledge Management Division

**Dr P K Bhattacharya**, Associate Director, Knowledge Management Division

**Ms Anupama Jauhry**, Associate Director, TERI Press

**Ms N Deepa**, Fellow, Knowledge Management Division

**Ms Pallavi Shukla**, Information Analyst, Knowledge Management Division

**Ms Jolly Koshy**, Information Analyst, Knowledge Management Division

**Ms R Manning Thangal**, Information Analyst, Knowledge Management Division

**Ms Shazia Aslam**, Information Analyst, Knowledge Management Division

**Ms Neha Sharma**, Information Officer, Knowledge Management Division

**Ms Pradeep Dahiya**, IT Manager & Area Convenor, Information Technology and Services

**Ms Anushree Tiwari Sharma**, Editor, Knowledge Management Division

**Ms Naina Mukerji**, Assistant Editor, Knowledge Management Division

**Mr Abhas Mukherjee**, Assistant Editor, Knowledge Management Division

**Mr Santosh Kumar Singh**, Graphics Designer, Knowledge Management Division

**Mr Santosh Gautam**, Senior Visualizer, Knowledge Management Division

**Mr Rajiv Sharma**, Graphics Designer, Knowledge Management Division

## PUBLISHED BY

DSIR, Ministry of Science & Technology

## PRINTED BY

TERI Press

## Disclaimer

The contents of the Compendium of R&D Profile of SIROs are collated based on the information submitted by the SIROs through TERI in the online and / or offline survey questionnaire format. Due efforts have been made to provide information as accurate as possible. However, no warranty, expressed or implied, is being made by DSIR or TERI with regards to accuracy of the information contained in this report. Any omission is inadvertent. This document intends to provide a general guide on the SIROs.

The presentation of the data, facts in this publication and the opinion expressed therein are based on the data submitted by the SIROs and not necessarily those of DSIR or TERI and they cannot be held accountable for above.

Maps used in this book are for schematic depiction and illustration purpose only and are not intended to be accurate and used for reference purposes. Representations of political boundaries between states of India or borders between India and other countries, are not accurate and do not reflect any opinion and positions of DSIR or TERI.

# TABLE OF CONTENTS

<i>Foreword</i> .....	xiii
<i>Preface</i> .....	xiv
<i>Executive Summary</i> .....	xv
<i>Project Advisory and Review Committee</i> .....	xviii
<i>Acknowledgements</i> .....	xix
<i>List of Abbreviations</i> .....	xx

## **SECTION 3: MEDICAL SCIENCES**

Able Disabled All People Together (ADAPT)	2
Acharya & BM Reddy College of Pharmacy of J.M.J. Education Society	4
All India Heart Foundation	6
AMAI Charitable Trust	7
Amala Cancer Research Centre Society	9
Apollo Hospitals Educational & Research Foundation	11
APT RESEARCH FOUNDATION	12
Aravind Medical Research Foundation	13
Arogydham Global Aids Research Foundation	15
Artemis Education & Research Foundation	16
Arthritis Research and Care Foundation	18
Arya Vaidyasala	19
Asha Foundation, Bangalore	21
Asian Healthcare Foundation	22
Asian Institute of Public Health	23
Association for Research Homoeopathy	24
AVP Research Foundation	26
B R Nahata College of Pharmacy	28
Bai Jerbai Wadia Hospital for Children and Institute of Child Health Research Society	30
Bangalore Baptist Hospital	31
Bangalore Medical Services Trust	32
Barasat Cancer Research & Welfare Centre	34
Bhagwan Mahavir Medical Research Centre	35
Bharatiya Sanskriti Darshan Trust	37
Breach Candy Medical Research Centre	39

Cachar Cancer Hospital & Research Center	40
Cancer Foundation of India	42
Cancer Institute (WIA)	44
Cardiac Research and Education Foundation	45
CBCI Society for Medical Education	47
Central Council for Research in Ayurvedic Sciences	49
Central Council for Research in Homoeopathy	51
Central Council For Research In Siddha	53
Central Council for Research in Yoga and Naturopathy	55
Central India Institute of Medical Sciences	56
Centre for Brain Research	58
Centre for Cellular and Molecular Platforms	59
Centre for Chronic Disease Control	60
Centre for Human Genetics	62
Chalapathi Institute of Pharmaceutical Sciences	63
Charutar Arogya Mandal	65
Chellaram Diabetes Institute	66
Chennai Dental Research Foundation	68
Chest Research Foundation	69
Chettinad academy of Research & Education	71
Chittaranjan National Cancer Institute	73
Christian Medical College and Hospital Association	75
Christian Medical College Ludhiana Society	77
Dabur Research Foundation	79
Dayanand Medical College & Hospital Managing Society	81
Deenanath Mangeshkar Hospital and Research Centre	82
Dharamshila Cancer Foundation and Research Centre	84
Diabetes Foundation	86
Diabetic Association of India	88
Divya Yog Mandir Trust	89
Dr. Jivaraj Mehta Smarak Health Foundation	90
Dr. Mane Medical Foundation & Research Centre	92
Dr. P.B. Homoeopathic Research Foundation	93
Dr. Reddy's Institute of Life Sciences	94
Dr. Shroff Charity Eye Hospital	96
Durga Charitable Society	98
Dystrophy Annihilation Research Trust	100

ELLA Foundation	101
Era Lucknow Medical College of Era Educational Trust	102
Eye Research Centre	103
Father Muller Charitable Institute	105
Fetal Care Research Foundation	106
Fluorosis Research & Rural Development Foundation	107
Foundation for Environmental Medicine	109
Foundation for Research in Genetics & Endocrinology	110
Free Polio Surgical and Research Foundation	112
Ganga Orthopedic Research and Education Foundation	113
Genome Foundation	115
GHR Labs and Research Centre	116
Global Hospital and Research Centre	118
Gujarat Ayurved University	119
Gujrat Methodist Church Caardiothoracic and Vascular Research Society	121
G V K Emergency Management and Research Institute	122
Haffkine Institute for Training, Research and Testing	123
Health Action by People	125
Health Related Information Dissemination Amongst Youth	126
Help Life	128
Hirabai Cowasji Jehangir Medical Research Institute	129
Iladevi Cataract & Intraocular Lens Research Centre	130
India Diabetes Research Centre	131
Indian Burns Research Society	132
Indian Institute of Health Management Research	133
Indian Institute of Public Health Gandhinagar	134
Indian Medical Scientific Research Foundation	135
Indian Pharmacopoeia Commission	136
Indian Research Institute for Integrated Medicine	138
Indo-American Cancer Hospital and Research Institute	140
Indraprastha Cancer Society and Research Centre	141
Institute for Communicative & Cognitive Neurosciences	142
Institute of Bioinformatics	143
Institute of Bio-informatics and Applied Biotechnology	144
Institute of Liver and Biliary Science	146
Institute of Mental Health and Hospital	147
Institute of Neurosciences Kolkata	148

Institute of Pulmocare & Reserch	149
Institute for Stem Cell Biology and Regenerative Medicine	150
Integral University	152
Jan Swasthya Sahyog	154
Jaslok Hospital & Research Centre	155
Jeevan Blood Bank and Research centre	156
JSS Medical College	157
Jubilee Centre for Medical Research	158
K E M Hospital Research Centre	160
K.J.Research Foundation	162
Kaivalyadhama Shriram Madhava Yoga Mandir Samiti	164
Kamala Nehru Memorial Hospital	166
Kamayani Prashikshan & Sanshodhan Society	167
Kamineni Academy of Medical Sciences and Research Centre	169
Kamineni Education Society	170
KIMS Foundation & Research Centre	172
KMCH Research Foundation	173
L.J. College of Pharmacy of Lok Jagruti Kendra	174
Lata Medical Research Foundation	176
Lepra Society	178
Lilavati Kirtilal Mehta Medical Trust	180
Lokmanya Medical Research Centre	181
Lokmanya Tilak Hospital Silver Jubilee Research Foundation	182
M. S. Ramaiah Medical College & Hospitals	183
Maa Research Foundation	185
Madras Diabetes Research Foundation	186
Magadh Human Resource Development Trust	188
Maharashtra Medical Research Society	190
Mahatma Gandhi Mission's Medical College	191
Mandke Foundation	193
Manovikas Kendra Rehabilitation and Research Institute for the Handicapped	195
Maternal Health and Research Trust	197
Mazumdar Shaw Medical Foundation	198
Medical Research Centre of Bombay Hospital Trust	199
Metabolic Disorders Research Centre	200
MIMS Research Foundation	201
Mirpur Institue of Medical Sciences	203

Molecular, Diagnostics, Counseling, Care & Research Centre	204
Moving Academy of Medicine and Biomedicine	206
Muljibhai Patel Society for Research in Nephro-Urology	208
Nagri Eye Research Foundation Trust	210
Narayana Hrudayalaya Foundation	212
Narayana Medical College	214
Narayana Nethralaya Foundation	216
National Centre for Cell Science	218
National Health and Education Society	220
National Institute of Immunology	222
National Institute of Mental Health and Neurosciences	224
National Institute of Miner's Health	227
Nature Cure and Yoga Trust	229
Netaji Subhas Chandra Bose Cancer Research Institute	231
Nutrition Foundation of India	233
Parimal Banerji International Research Foundation	235
Pondicherry Institute of Medical Science	236
Poona Blind Men's Association	237
Prashanti Cancer Care Mission	239
PRAYAS	241
Prince Aly Khan Hospital,	243
Prof. M. Viswanathan Diabetes Research Centre	244
Public Health Foundation of India	245
Public Health Research Institute	248
Pushpagiri Medical Society	250
Pushpawati Singhanian Research Institute for Liver, Renal and Digestive Diseases	252
RGCF Poona Hospital and Research Centre	253
Samast Patidar Aarogya Foundation	254
Samatvam Science and Research for Human Welfare Trust	255
Sangath	257
Sanjeevan Medical Foundation	259
Santhigiri Ashram	261
Saraswati Dental College & Hospital	263
Sardar Patel Post Graduate Institute of Dental and Medical Sciences	265
Saroj Gupta Cancer Centre & Research Institute	267
Schieffelin Institute of Health Research & Training Centre	269
Schizophrenia Research Foundation	270



SCMS Institute of Bioscience & Biotechnology Research & Development of Pratap Foundation For Education and Training	272
Seth G. S. Medical College and KEM Hospital Diamond Jubilee Society Trust	274
SETH Research Foundation	276
Sharmila Institute of Medicinal Products Research Academy	277
Shivrath Centre of Excellence in Clinical Research	279
Shri Dharamsthala Manjunatheshwara Educational Society	280
Shrimati Kashibai Navale Medical College and General Hospital	282
Sir Ganga Ram Trust Society	284
Sir Hurkisondas Nurrotumdas Medical Research Society	286
Sitaram Bhartia Institute of Science & Research	288
Society for Applied Studies	290
Society for Biomedical Technology	293
Society for Health Allied Research and Education (SHARE - India)	294
Society For Welfare of the Handicapped Persons	296
SOUKYA Foundation Charitable Trust	298
Sree Chitra Tirunal Institute for Medical Sciences and Technology	300
Sri Aurobindo Ashram Trust	302
Sri Aurobindo Institute of Medical Sciences	304
Sri Balaji Educational & Charitable Public Trust	306
Sri Lakshmi Ammal Educational Trust	308
Sri Narayani Hospital & Research Centre of Sri Sakthi Amma Health Care Trust	310
Sri Ramachandra University	311
Sri Sankaradeva Nethralaya	313
Sri Venkateswara Institute of Medical Sciences	315
SRM Institute of Science and Technology	317
St James Hospital Trust Pharmaceutical Research Centre	319
St. Martha's Hospital	320
St. Stephen's Hospital of St. Stephen's Hospital Society	321
Sunderlal Jain Charitable Eye Hospital Society	322
Surat Raktadan Kendra & Research Centre	324
Sushrut Medical Care and Research Society	326
Swami Rama Himalayan University	327
Swami Vivekananda Yoga Anusandhana Samsthana	328
Swasthiyog Pratishthan Research Centre Fracture & Orthopedic Hospital	330
Tata Medical Centre Trust	331
Thalassemia and Sickle Cell Society	333
The Baba Jaswant Singh Trust	335

The Child's Trust Medical Research Foundation	337
The Foundation for Medical Research	339
The Foundation for Research in Community Health	341
The Gujarat Cancer Society	343
THE INCLIN Trust International	345
The Institute of Health Systems	347
The Kasturba Health Society	348
The Leprosy Mission Trust India	350
The Maharashtra Association of Anthropological Sciences (MAAS)	352
The Research Society of Bombay College of Pharmacy	354
The Talwar Research Foundation	356
The Voluntary Health Services	358
U.N. Metha Institute of Cardiology & Research Centre	359
Ujjain Charitable Trust Hospital & Research Centre	360
Valsad Raktdan Kendra	361
Venu Charitable Society	363
Vishwanand Kendra	364
Vision Research Foundation	365
Vivekanand Medical Foundation & Research Centre	367
Vivekananda Institute of Medical Sciences of Ramakrishna Mission Seva Pratisthan	369
World Healthal Trust	370
YR Gaitonde Medical, Educational and Research Foundation	372
Zandu Foundation for Health Care	374

## **SECTION 4: SOCIAL SCIENCES**

Ardent Foundation	376
Centre for Economic and Social Studies	377
Centre for Organization Development	379
Centre for Policy Research	381
Centre for Research in Rural and Industrial Development	383
Centre for Social Studies	385
Centre for the Study of Developing Societies	387
Chinmaya International Foundation	389
Consumer Education and Research Centre	391
Deendayal Research Institute	393
Deepak Foundation	395
Durbar Mahila Samanwaya Committee	397

Foundation For Democratic Reforms	398
Garhwal Community Development and Welfare Society	400
Gaudiya Mission	402
Giri Institute of Development Studies	404
Gujarat Institute of Development Research	406
Haryali Centre for Rural Development	408
Healing Fields Foundation	410
Healis-Sekhsaria Institute for Public Health	411
Indian Council for Research on International Economic Relations	413
Indian Institute of Education	415
Indian Institute of Foreign Trade	417
Indian Institute of Management Bangalore	419
Indian Institute of Management Calcutta	421
Indian Institute of Psychometry	423
Indira Gandhi National Centre for the Arts	425
Institute for Development and Research in Banking Technology	426
Institute for Financial Management and Research	428
Institute for Human Development (IHD)	430
Institute for Studies in Industrial Development	432
Institute of Applied Statistics And Development Studies	434
Institute of Economic Growth	436
Institute of Livelihood Research and Training	438
Institute of Public Enterprise	440
Institute of Public Health	442
Institute of Scientific Research on Vedas	443
Jain Vishwa Bharati	445
Karnataka Haridasa Scientific Research Centre	446
Karve Institute Of Social Service	447
KRIPA Foundation	449
Krishnamacharya Yoga Mandiram	451
M S Chellamuthu Trust and Research Foundation	453
Madras School of Economics	455
Mudra Foundation for Communications Research and Education	457
Nalanda Dance Research Centre	459
National Council of Applied Economic Research	461
National Institute of Bank Management	463
National Institute of Public Finance and Policy	465
Natya Shodh Sansthan	467

Prayas	468
Rural Development Society	469
Sardar Patel Institute of Economic and Social Research	470
Society for Education Welfare and Action Rural- SEWA Rural	472
Society for Institute of Development Management	474
Sri Aurobindo Society	476
Sri Shyam Sundar 'Shyam' Institute of Public Cooperation and Community Development	478
Sweekar Academy of Rehabilitation Sciences	479
TALEEM Research Foundation	481
Tamil Isai Sangam	482
Tata Institute of Social Sciences	483
The EFI Social and Labour Research Foundation	485
The George Institute for Global Health	486
The Indian Society of Agricultural Economics	488
The Indian Society of International Law	489
The Institute of Chartered Accountants of India	490
International Institute of Management and Entrepreneurship	492
The K R Cama Oriental Institute	494
The Kuppaswami Sastri Research Institute	495
The Mother's Service Society	496
University of Pennsylvania Institute for the Advanced Study of India	497
Ved Vignan Mahavidya Peeth	498
Vedanta Cultural Foundation	500
Vipassana Research Institute	501





सत्यमेव जयते  
 डॉ. शेखर चि. मांडे  
 सचिव, विज्ञान, प्रौद्योगिकी, विज्ञानपरामर्शी  
 सचिव  
 भारत सरकार

**Dr. Shekhar C. Mande**  
 Secretary  
 Government of India  
 FNA, FASc, FNASc

वैज्ञानिक और औद्योगिक अनुसंधान विभाग  
 विज्ञान और प्रौद्योगिकी मंत्रालय  
 टेम्प्लोनी भवन, न्यू मेहरौली रोड, नई दिल्ली-110016

**Department of Scientific & Industrial Research**  
 Ministry of Science and Technology  
 Technology Bhawan, New Mehrauli Road, New Delhi-110016



### Foreword

It gives me immense pleasure to note that Department of Scientific & Industrial Research (DSIR) is supporting R&D activities of Scientific and Industrial Research Organizations (SIROs) in the areas of Natural and Applied Sciences, Medical Sciences, Agricultural Sciences and Social Sciences. The prime objective of SIROs is to catalyze S&T based interventions, for inclusive growth in the country.


SIROs are the S&T driven organizations present Pan-India. Over the years, a strong S&T infrastructure of SIROs has been created in the country covering chain of National laboratories, Institutes, Specialized R&D centers which continuously provide expertise, technically trained manpower, and technological support to both the Industry and Society.

The present study report and compendium is an effort to share the research highlights of DSIR recognized SIROs with scientific community.

I hope that this document would facilitate knowledge networking and gainful use of science and technology in addressing societal challenges.

I am glad to know that this publication also reflects the contributions made by SIROs towards National missions such as Make in India, Skill India, Clean India, Digital India, etc.

I wish SIROs grow leaps and bounds and wish them success in their endeavours.

  
 [ Shekhar C. Mande ]

New Delhi

## PREFACE

DSIR recognition is the flagship programme and the only scheme in the Government system for accreditation/ benchmarking the R&D activities & infrastructure of not-for-profit sector known as Scientific and Industrial Research Organizations (SIROs). SIROs recognized by DSIR includes Industry Associations, academic institutions, R&D laboratories, Government entities, Technology Parks, and Universities/Colleges.

SIROs have been contributing immensely in the area of scientific and industrial research, design and development of indigenous technology to achieve technological self-reliance and minimize foreign inputs.

At present, there are 648 SIROs duly recognised by DSIR; of these, 270 are in the area of natural and applied sciences, 256 are in the area of medical sciences, 40 are in the area of agricultural sciences and 82 are in the area of social sciences.

DSIR has earlier published the compendium of SIROs highlighting their profiles in the year 1990. The compendium acted as a valuable reference source to various stakeholders, allowing free exchange of ideas and thoughts. The need was felt to build a deeper understanding of SIROs and conduct a detailed study on the significance and achievements of the Research programs/activities, R&D infrastructure, R&D achievements/S&T Interventions, Industrial linkages and collaborations of DSIR recognized SIROs, in different sector areas. As a result, this in-house study on SIRO scheme was initiated.

The output of the present study has been compiled in two parts: (i) Study Report on SIROs (ii) Compendium of R&D Profile of SIROs published in Two Volumes.

The study report represents the salient features of SIROs such as their zonal distribution, sharing of R&D infrastructure, R&D expenditure trends, analysis of Research projects, publications, patents & technologies developed/commercialized, etc. represented in the graphical format.

The two volumes of compendia showcase the case studies on SIROs, exhibiting a brief on their research areas & projects, R&D expenditure, R&D infrastructure including R&D personnel & equipment, technical collaborations & research achievements, etc. Efforts have also been made to showcase the R&D achievements of SIROs and disseminate their technologies across the country.

The main feature of the study is that it highlights the contributions of SIROs in various National Missions initiated by Government of India. It is hoped that this study would be a source of motivation & inspiration to other NGOs performing R&D to acquire S&T capability & obtain SIRO recognition.

DSIR is thankful to all SIROs and TERI, without whose support this study would not have been possible. I also appreciate the expert members of the Advisory Committee providing useful insights in this report.

DSIR welcomes comments/suggestions on the report.

Dr. S.K. Deshpande  
Scientist-G & Head-RDI  
DSIR

## EXECUTIVE SUMMARY

Department of Scientific & Industrial research (DSIR) had launched a scheme of granting recognitions to non-government, not-for profit organizations as Scientific and Industrial Research Organisations (SIROs) in 1988. The key objective of this scheme is to promote their activities in the area of scientific and industrial research, design and development of indigenous technology to achieve technological self-reliance and minimize foreign inputs. The SIROs are the S&T driven organizations present Pan-India. Presently, there are 648 SIROs recognized by DSIR; of these 270 are in the area of Natural and Applied sciences, 256 are in area of Medical sciences, about 40 are in the area of Agricultural sciences and about 82 are in the area of Social sciences.

The key benefits derived from the scheme are:

- (i) It is the only scheme in the entire Government system for accreditation/ benchmarking the R&D activities & infrastructure of non-commercial sector in India.
- (ii) The SIROs recognised by DSIR are eligible for customs duty exemption and GST waiver under notification nos. 51/96-customs dated 23.07.1996; no. 24/2007-customs dated 01.03.2007; no. 43/2017-customs dated 30.06.2017; no. 45/2017-central tax (rate) & 47/2017-integrated tax (rate) dated 14.11.2017; no. 9/2018-central tax (rate), no. 09/2018-union territory tax (rate) & no. 10/2018-integrated tax (rate) dated 25.01.2018; and state tax (rate) as applicable and all notification, as amended from time to time.
- (iii) DSIR recognition makes them eligible for receiving funds for R&D from other government departments and agencies such as DST, DBT, ICMR, ICAR, etc. where recognition to the R&D centre by DSIR is a requirement.
- (iv) The SIRO recognition scheme emanates from the section 35(1)(ii)/(iii) of income tax Act, 1961, and hence attract funding for research for national and international projects. Organizations recognized as SIROs may further be entitled for notifying under section 35(1)(ii)/(iii) of income tax Act, 1961, wherein exemptions to the donor are given on funds donated for pursuing research activities.
- (v) Since the organizations recognized as SIROs are not for profit, any earnings made out by fees, products, technologies transferred, etc. is ploughed back to the organization for further research.
- (vi) The SIROs are also eligible for any other fiscal incentives announced by Government of India from time to time.

DSIR had earlier published the compendium of SIROs highlighting their profiles in the year 1990. The compendium acted as a valuable reference source to various stakeholders, allowing free exchange of ideas and thoughts. The need was felt to conduct a detailed study on the significance and achievements of the Research programs/activities, R&D infrastructure, R&D achievements/S&T Interventions, Industrial linkages and collaborations of DSIR recognized SIROs, in different sector areas.

The task of collecting, compiling, analysing & publishing the Report cum compendia was outsourced by DSIR to Tata Energy Research Institute (TERI), New Delhi. The target groups for data collection were the R&D institutes and organizations, Heads of departments of universities and Institutes recognized as SIROs. A questionnaire comprising of 19 points was designed for each of the 04 sectors and circulated to all SIROs recognized by DSIR through both offline and online mode (Annexure 1 & 2). Regular follow-up with the institutes and organization were done to collect the data in right format. After rigorous follow-ups, the response from 595 SIROs was received; of these 251 are in the area of natural and applied sciences, 233 are in area of medical sciences, 37 are in the area of agricultural sciences and 74 are in the area of social sciences.

All information received from SIROs within stipulated time was collated and an attempt was made to measure the R&D performance and outcome of SIROs. The information was designed into case studies showcasing their research areas & projects, R&D expenditure, R&D infrastructure including R&D personnel & equipment, research achievements along with the societal or national relevance and technical collaborations, etc.



The output of the study has been compiled in two parts: (i) Study Report on SIROs (ii) Compendium of R&D Profile of SIROs published in Two Volumes.

The Study report has been compiled in three chapters. Chapter 1 gives a brief introduction about DSIR & the SIRO recognition scheme. It also gives the main highlights of the outcomes from the study. Chapter 2 deals with the objectives of the study, framework adopted, data sources, collection & data analysis highlighting the key parameters. Chapter 3 presents the Key Findings which includes the analysis on organization type, regional distribution, data on the research personnel engaged in SIROs, equipment/facilities available with SIROs and its usage, R&D expenditure trends, Knowledge creation which includes analysis of Research projects, publications, patents & technologies developed/commercialized, Knowledge transfer including details on collaborations: industrial & institutional. Many SIROs have not mentioned their R&D expenditure (also evident from R&D profiles in compendium) and hence could not include in the R&D expenditure figures.

The report contains the R&D Indicators Graphs on the following themes:

- Organizational structure
- Zonal/Regional Distribution (Subject-wise & state-wise)
- R&D manpower analysis
- SIROs research facilities user distribution
- R&D expenditure trends
- Research areas
- Research publications (National/International)
- Patents (Indian, Foreign; Filed/Granted)
- Technologies Transferred/Commercialized
- Knowledge exchange/transfer
- Collaborations- National & International; Industrial & Institutional
- Societal Relevance

SIROs are community based organizations who have linked themselves to national missions with specific mandates for carrying out societal action oriented research programmes. This publication also reflects the gainful use of science and technology for addressal of society challenges. Government of India is keen to use science and technology for national development and societal transformation. National missions such as Make in India, Skill India, Clean India, Digital India, etc. have been identified to be among nation's priorities for driving the manufacturing domain and creating appropriate skill sets among unemployed youth. The section on societal relevance has been particularly included to showcase their contributions towards National missions. Efforts have been made to present the data in the context which is relevant in today's scenario making it interesting and of practical use to diverse categories of audience and all the stake holders.

The Compendium of R&D Profile of SIROs has been brought out in two volumes: Volume I gives details of SIROs in the area of natural and applied sciences and agricultural sciences & Volume II would focusses on Medical Sciences & Social sciences area. The R&D profiles in this book show SIROs which could be Industry Associations or academic institutions or R&D laboratories or Government entities or Technology Parks or Universities/Colleges, and have registered themselves as a Trust or a Society or a Section 8 Company as per Company's Act 2013. Some important information pertaining to the Research strengths & Outcomes have been packaged briefly and presented as a box item.

SIROs are committed, qualified & self-motivated organizations working having centers of excellence in frontier areas such as textiles, wool, silk, sugar, rubber, pharmaceuticals, chemicals, renewable energy, electronics, metallurgy, automotives, gems, etc. They have created impressive infrastructural facilities for R&D including sophisticated testing facilities and laboratory equipment. Some SIROs have intended to inculcate scientific temper & create awareness, especially in the young minds. They have developed several indigenous products which are import substitutes. SIROs especially NGOs have been focussing towards sustainable development and transferred technologies to industries and/or to the society. Now, scientists and technologists have been ignited to work on societal problems/concerns through integrating science, technology and innovation. SIROs

have been trying to address the societal challenges and over a period of time have developed technological solutions across several sectors, for societal benefits.

Majority of SIROs recognized by DSIR are self-sustaining organizations which do not get grants for operation & maintenance & salary from Government. Increased private investment is necessary for translating R&D outcomes into commercial products. In India, private sector investments into R&D are significantly lower than those in developed and other emerging economies.

TERI collected data from all the SIROs and the profiles are developed based on the inputs received from the responding organizations and it is presumed that the information submitted by them is complete. Nonetheless, it is hoped that the study report & compendium would highlight the tangible outcomes, research infrastructure, patents, publications, technologies, collaborations and linkages, in different sector areas and be a useful source of information to scientists, technologists, implementing institutions, funding agencies & policy makers. This publication is also a collection of several new and different technologies which have been emerged from the work done by SIROs in the past 3 to 5 years.

We have attempted to capture and showcase the dynamism in SIROs recognised by DSIR through a detailed analysis highlighting their research infrastructure, R&D projects & research achievements. This will help us identify the areas of strengths and gaps and provide a direction to find solutions. The compendium of SIROs is a repository of information that would help in dissemination of knowledge, explore new opportunities and also encourage the R&D people associated with these SIROs. In addition, the compendia would provide useful information regarding the industrial research going on in the country by non-commercial sector and the kind of research infrastructure available. The compendia would also highlight the collaborations and linkages among SIROs and those with industries, Universities, National labs, etc and enable positive connections.

## PROJECT ADVISORY AND REVIEW COMMITTEE

### CHAIRMAN

**Dr S K Deshpande**

Scientist 'G', Head-RDI

Department of Scientific and Industrial Research (DSIR)

### MEMBERS

**Sh Ashwani Gupta**

Scientist 'G'

Department of Scientific and Industrial Research (DSIR)

**Dr Suneet Tuli**

Professor and Dean (Research and Development)

Indian Institute of Technology, Delhi

**Ms Namita Gupta**

Scientist 'G' – KIRAN Division

Department of Science and Technology, New Delhi

**Dr K Venkatasubramanian**

Chief Scientist

Council of Scientific & Industrial Research (CSIR)

**Dr Tripta Garg**

Scientist 'D'

Department of Scientific and Industrial Research (DSIR)

**Dr Kalyan Bhattacharjee**

Deputy Registrar

Indian Institute of Technology, Delhi

**Dr Shantanu Ganguly**

Principal Investigator & Convenor

Fellow, Knowledge Management Division

The Energy and Resources Institute (TERI)

**T P Sankar**

Co-Convenor & Fellow

Knowledge Management Division

The Energy and Resources Institute (TERI)

## ACKNOWLEDGEMENTS

We sincerely thank all the SIROs for providing the data as per the survey questionnaire for this study & compendium. Without their support, this study would not have been possible. We are also grateful to the expert members of the Advisory Committee for providing valuable suggestions & guidance from time to time. We are also thankful to TERI team & TERI Press for taking up this mammoth task along with DSIR.

## LIST OF ABBREVIATIONS

AAS	Atomic Absorption Spectroscopy
ABGVS	Akhil Bhartiya Grameen Vikas Sanstha
ABI	Aditya Birla Insulators
ABSTC	Aditya Birla Science and Technology Company
ACIRD	Avantha Centre for Industrial Research & Development
ACS	American Chemical Society
AcSIR	Academy of Scientific and Innovative Research
AD	Alzheimer's Disease
ADA	Aeronautical Development Agency
AERF	Associated Electronics Research Foundation
AFLS	Advanced Front Lighting System
AFM	Atomic Force Microscope
AG-E	Aerogel Electrodes
AGEI	Aditya Group of Educational Institutions
AGSC	Aerogel Supercapacitor
AHRF	AsthaGiri Herbal Research Foundation
AI	Artificial Inseminations
AI	Artificial Intelligence
AICRP	All India Coordinated Research Projects
AICTE	All India Council for Technical Education
AIDS	Acquired Immuno Deficiency Syndrome
AIIMS	All India Institute of Medical Sciences
AIMSCS	C R Rao Advanced Institute of Mathematics , Statistics and Computer Science
AKPS	Annapurna Krishi Prasar Seva
AMEF	Admar Mutt Education Foundation
AMS	Advanced Measurement Stations
APIs	Active Pharmaceutical Ingredients
APSSDC	AP State Skill Development Programme
ARAI	Automotive Research Association of India
ARCI	Advanced Research Centre for Powder Metallurgy and New Materials
ARF	Ayurved Research Foundation
ARL	Advanced Research Lab
ARM	Anhysteretic Remnant Magnetization
ASDI	Agriculture Skill Development of India
ASPEE	ASPEE Agricultural Research and Development Foundation

ATIRA	Ahmedabad Textile Industry's Research Association
ATREE	Ashoka Trust for Research in Ecology and the Environment
BAG	Bannari Amman Group
BAIF	BAIF Development Research Foundation
BARC	Bhabha Atomic Research Centre
BBAU	Babasaheb Bhimrao Ambedkar University
BEE	Bureau of Energy Efficiency
BESCOM	Bangalore Electricity Supply Co Ltd
BFUHS	Baba Farid University of Health Sciences
BGCI	Botanical Gardens Conservation International
BHEL	Bharat Heavy Electricals Ltd.
BIDAAN	Big Data Analytics
BIRAC	Biotechnology Industry Research Assistance Council
BIS	Bureau of Indian Standards
BISS	Bengaluru Integrated System Solutions
BITS	Birla Institute of Technology and Science
BLDC	Brushless DC Motor
BNHS	Bombay Natural History Society
BNN	Bayesian neural Network
BOD	Biological Oxygen Demand
BPCL	Bharat Petroleum Corporation Limited
BRF	Bioscience Research Foundation
BRIT	Board of Radiation and Isotope Technology
BSRN	Baseline Surface Radiation Network
BTRA	Bombay Textile Research Association
BUET	Bangladesh University of Engineering and Technology
CAD	Computer Aided Design
CAMST	Centre for Advanced Materials Science and Technology
CARC	Central Advanced Research Centre
CARD	Centre for Advanced Research and Development
CBIP	Central Board of Irrigation and Power
CBR	California Bearing Ratio Test
CBRI	Central Building Research Institute
CCMB	Centre for Cellular & Molecular Biology
CCPD	Centre for Collaboration Product Development
CCRI	Central Coir Research Institute
CDAC	Centre for Development of Advance Computing
CDFD	Centre for DNA Fingerprinting and Diagnostics
CDGI	Centre for the Development of Glass Industry
C-DIT	Centre for Development of Imaging Technology
CDMA	Code Division Multiple Access

CECRI	Central Electro Chemical Research Institute
CEDAR	Centre for Ecology Development and Research
CEE	Centre for Environmental Education
CEMS	Continuous Emissions Monitoring Systems
CeNS	Centre for Nano and Soft Matter Sciences
CEPCI	The Cashew Export Promotion Council of India
CEWiT	Centre of Excellence in Wireless Technology
CFD	Centre for Entrepreneurship Development
CHEA	Central Himalayan Environment Association
cHRV	Centralized System for Heart Rate Variability
CHT	Centre for High Technology
CIBART	Centre for Indian Bamboo Resource & Technology
CIPET	Central Institute of Plastics Engineering and Technology
CIRT	Central Institute of Road Transport
C-Lab	Characterization Lab
C-MET	Centre for Materials for Electronics Technology
CMMC	Centre for Metal Matrix Composites
CMTI	Central Manufacturing Technology Institute
CNBCRD	Centre for Natural Biological Resources and Community Development
CNM	Carbon Nanomaterials
CO2	Carbon Dioxide
COEs	Centres for Excellence
CPCB	Central Pollution Control Board
CPCSEA	Committee for the Purpose of Control and Supervision of Experiments on Animals
CPRI	Central Power Research Institute
CRD	Centre for Research and Development
CRL	Central Research Lab
CRRI	Central Road Research Institute
CRZ	Coastal Regulation Zone
CS	Capsule Suspensions
CSC	Computer Sciences Corporation India Pvt. Ltd.
CSCP	Centre on Sustainable Consumption and Production
CSE	Centre for Science and Environment
CSERC	Chattisgarh Electricity Regulatory Commission
CSF	Cerebrospinal Fluids
CSIO	Central Scientific Instruments Organization
CSIR	Council of Scientific & Industrial Research
CSKHPKV	Chaudhary Sarwan Kumar Himachal Pradesh Krishi Vishvavidyalaya
CSR	Corporate Social Responsibility
CSR	Consortium for Scientific Research
CSR	Auroville Centre for Scientific Research

CSST	Carmelite Sisters of St. Teresa
CST	Concentrated Solar Thermal
CSTEP	Centre for Study of Science Technology and Policy
CSW	Community for Social Works
CSWRI	Central Sheep and Wool Research Institute
CTC	Carbon Tetrachloride
CTD	Combinational Transmit Diversity
CTEVT	Council of Technical Education and Vocational Training
CTM	Compressive Strength Machine
CTPL	CSIR-Tech Pvt Ltd
CTTC	Central Tool Room and Training Centre
CVRCE	CV Raman Collee of Engineering
CWS	Centre for Wildlife Studies
CYP450	Cytochrome P450
DA	Development Alternatives
DAE	Department of Atomic Energy
DARE	Disha Academy of Research & Developoment
DART	Developmental and Reproduction Toxicity
DATE	Deep Packet Management Analysis Tuning Engine
DBT	Department of Biotechnology
DEI	Dayalbagh Educational Institute
DEISPI	Dynamic Education Information System for Planning and Improvement
DFCC	Digital Flight Control Computer
DIEV	Driving Information with Entertainment to Village
DIPP	Department of Industrial Policy and Promotion
DMLS	Direct Metal Laser Sintering
DMRL	Defence Metallurgical Research Laboratory
DNA	Deoxyribonucleic Acid
DOSK	Department of Sericulture, Government of Karnataka
DPSS	Diode Pumped Solid State
Dr BVR IPMT	Dr B V Rao Institute of Poultry Management
Dr.SACOE	Dr Sivanthi Aditanar College of Engineering of Aditanar Educational institution
DRDO	Defence Research and Development Organisation
DSI	Dayanand Sagar Institutions
DSS	Decision Support System
DST	Department of Science and Technology
DSTA	Deccan Sugar Technologists Association
EAC	Entrepreneurship Awareness Camp
ECG	Electrocardiography
ECPL	Eco Carbon Pvt. Ltd.
ECS	Environment Control System



ED XRF	Energy Dispersive X-ray Fluorescence
EDBOE	Experimental Design Bureau of Oceanological Engineering
EDII	Entrepreneurship Development Centre
EEDI	Energy Efficiency Design Index
EGFR	Epidermal Growth Factor Receptor
ELISA	Enzyme Linked Immunosorbent Assay
ENSAD	Ecole Nationale Supérieure Des Arts Decoratifs
EPAS	Electronic Power Assist Steering
EPF	Entomopathogenic Fungi
EPN	Infected Galleria Cadavers
EPTR	Environmental Protection Training and Research Institute
EQDC	Electronics and Quality Development Centre
ERDA	Electronic Research and Development Association
ERM	Electronic Reeling Machine
ERRC	Environmental Resources Research Centre
ESCA	Electron Spectroscopy for Chemical Analysis
ESCI	Engineering Staff College of India
ESSCI	Electronics Sector Skills Council of India
FAITHS	Foundation for Assessment and Integration of Traditional Health System
FARMER	Foundation for Agriculture Resources Management and Environmental Remediation
FBG	Fibre Bragg Grating
FCI	Food Corporation of India
FCRI	Fluid Control Research Institute
FDA	Food and Drug Administration
FE	Fatigue Analysis
FERAL	Foundation for Ecological Research, Advocacy and Learning
FESEM	Field Emission Scanning Electron Microscope
FIPPAT	Fredrick Institute of Plant Protection and Toxicology
FITT	Foundation for Innovation and Technology Transfer
FMC	Foundation for MSME Clusters
FPOs	Farmer Producer Organizations
FRAC	FICCI Research & Analysis Centre
FSM	Faecal Sludge Management
FTD	Forage Technology Demonstrations
FTIR	Fourier Transform Infrared Spectrometere
GBPNIHESD	GB Pant National Institute of Himalayan Environment & Sustainable Development
GCA	Graphics Cimpatible Adder
GCET	Geethanjali College of Engineering and Technology
GCMS	Gas Chromatograph Mass Spectrometere
GCMS-MS	Gas Chromatograph Mass Spectrometer
GEER	Gujarat Ecological Education and Research

GEF	Global Environment Facility
GEMI	Gujarat Environment Management Institute
GERMI	Gujarat Energy Research and Management Institute
GES	Gujart Ecology Society
GETCO	Gujarat Energy Transmission Co Ltd
GF AAS	Graphite Furnace Atomic Absorption Spectroscopy
GFSU	Gujarat Forensic Sciences University
GIAN	Gujarat Grassroots Innovations Augmentation Network
GIET	Gandhi Institute of Engineering and Technology
GII	Gemmological Institute of India
GIRDA	Gujarat Industrial Research and Development Agency
GIS	Geo Information System
GIT	Gandhi Institute for Technology
GITA	Gandhi Institute for Technology Advancement
GITAM	Gandhi Institute of Technology and Management
GIZ	Deutsche Gesellschaftfur Internationale Zusammenarbeit
GIZ	Gesellschaft Fur Internationale Zusammenarbeit
GLP	Good Laboratory Practice
GMRRF	G M Reddy Research Foundation
GNSS	Global Navigation Satellite Systems
GPS	Geographical Positioning System
GPS	Global Positioning Satellite
GRCP	Gokaraju Rangaraju College of Pharmacy
GRIET	Gokaraju Rangaraju Institute of Engineering and Technology
GSI	Geosynthesis Institute
GTIAF	Grassroots Technological Innovations Acquisition Fund
GTRE	Gas Turbine Research Establishment
GTTC	Government Tool Room and Training Centre
GUIDE	Gujarat Inatitute of Desert Ecology
HAPL	Haffkine Ajintha Pharmaceuticlas Limited
HASETRI	Hari Shankar Singhanian Elastomer and Tyre Research Institute
HBV	Anti-hepatitis B Virus
HEMT	High Electron obility Transistor
HPCL	Hindustan Petroleum Corporation Ltd.
HPGRDC	Hindustan Petroleum Green Research and Development Centre
HPLC	High Pressure Liquid Chromatography
HPLC	High Performance Liquid Chromatography
HPTLC	High Pressure Thin Layer Chromatography
HPTLC	High-performance-thin-layer chromatography
HRI	Harish-Chandra Research Institute
HRL	Herbal Research Laboratory

HTC	Heat Transfer Coefficient
IACS	International Association of Classification Societies
IARE	Institute of Aeronautical Engineering
IARI	Indian Agriculture Research Institute
IBCS	Improved Biomass Cookstoves
ICAR	Indian Council of Agricultural Research
ICIMOD	International Centre for Integrated Mountain Development
ICP-OES	Inductively Coupled Plasma Optical Emission Spectrometer
ICP-OES	Inductive Coupled Plasma Spectrometer
ICT	Information and Communication Technology
ICUMSA	International Commission for Uniform Methods of Sugar Analysis
IDST	Institute of Defence Scientists and Technologists
IDTS	Innovative Driving Testing System
IEEMA	Indian Electrical and Electronics Manufacturers Association
IERSE	Institute of Environmental Research and Social Education
IESWM	Institute of Environmental Studies and Wetland Management
IETE	Institution of Electronics and Telecommunication Engineers
IGCAR	Indira Gandhi Centre for Atomic Research
IGS	International Geosynthetics Society
IGSTC	Indo-German Science & Technology Centre
IHRD	In-House R&D
IHT	Institute of Horticulture Technology
IIBA	International Institute of Business Analysis
IIBAT	International Institute of Biotechnology and Toxicology
IICHE	Indian Institute of Chemical Engineers
IICT	Indian Institute of Chemical Technology
IIDS	Interactive Information Dissemination System
IIFPT	Indian Institute of Food Processing Technology
IIFSR	Indian Institute of Farming System Research
IIG	Indian Institute of Geomagnetism
IIIT-B	International Institute of Information Technology, Bangalore
IIMR	Indian Institute of Millet Research
IINRG	Indian Institute of Natural Resins and Gums
IIP	Indian Institute of Packaging
IISc	Indian Institute of Science
IISc Bangalore	Indian Institute of Science, Bangalore
IIT	Indian Institute of Technology
IIT B	Indian Institute of Technology, Bombay
IIT-D	Indian Institute of Technology, Delhi
IITM	Indian Institute of Technology Madras
IITs	Indian Institutes of Technology

IJIRA	Indian Jute Industries Reseach Association
IJIRA	Indian Jute Industries Reseach Association
IKGPTU	I K Gujral Punjab Technical University
ILBS	Institute of Liver and Biliary Science
ILO	International Labour Organization
IMEMS	Induction Motor Efficiency Monitoring System
IMPRINT	Impacting Research Innovation and Technology
IMR	Indian Monsoon Rainfall
INCOIS	Indian National Centre for Ocean Information Services
INFLIBNET	Information and Library Network Centre
INSA	Indian National Science Academy
INST	Institute of Nano Science & Technology
IOT	Internet of Things
IPFT	Institute of Pesticide Formulation Technology
IPIRTI	Indian Plywood Industries Research & Training Institute
IPS	Indian Planetary Society
IPS	Inverse Photo-emission Spectroscopy
IRCLASS	Indian Register Classification
IRMA	Immunoradiometric Assay
IRMRA	Indian Rubber Manufacturers' Research Association
IRS	Indian Register of Shipping
IS3	Integrated Security and Surveillance System
ISGF	India Smart Grid Forum
ISRO	Indian Space Research Organisation
ISSC	International Social Science Council
ISSPL	IR Class System and Solutions Private Limited
ITB	Institute of Tropical Biology
ITMA	Integrated Threat Management Appliances
IUCAA	Inter-University Centre for Astronomy and Astrophysics
IUCN	International Union for the Conservation of Nature and Natural Resources
JASIC	Japan Automobile Standards Internationalization Center
JKLU	JK Lakshmiapat University
JNCASR	Jawaharlal Nehru Centre for Advance Scientific Research
JNTU	Jawaharlal Nehru Technological University
JNU	Jawaharlal Nehru University
JPCL	Jubilant Pharmaceutical and Chemical Laboratory
JRF	Jai Research Foundation
KARE	Kalasalingam Academy of Research and Education
KBITS	Biotechnology and Information Technology Services
KET	Kelkar Education Trust
KHEL	Konceptogen Healthcare Pvt. Ltd.

KIAAR	K J Somaiya Institute of Applied Agricultural Research
KIIT	Kalinga Institute of Industrial Technology
KIIT-TBI	Kalinga Institute of Industrial Technology-Technology Business Incubator
KLIC	Kolleru Lake Information Centre
KNHPI	Kumarappa National Handmade Paper Institute
KREDL	Karnataka Renewable Energy Development Ltd
KSHIP	Karnataka State Highways Improvement Project
KSIT	Kamavari Sangha Institute of Technology
KSSRD	Karnataka State Sericulture Research and Development Institute
LCRD	Loyola Centre for Research and Development
LERC	LPG Equipment Research Centre
LIB	Lithium Ion Battery
LTC	Low Temperature Diesel Combustion
LTCC	Low Temperature Co-fired Ceramic
LTDD	Low Temperature thermal desalination
LVL	Laminated Veneer Lumber
m4agriNEI	Mobile-based Agro Advisory System for North-East India
MAFD	Magnetic Abrasive Finishing & Deburring Machine
MANTRA	Man-Made Textile Research Association
MAO	Micro Arc Oxidation
MAV	Micro Air Vehicle
MCGM	Municipal Corporation of Greater Mumbai
MCRC	Shri A M M Murugappa Chettiar Research Centre
MDF	Medium-density fibreboard
MeitY	Ministry of Electronics and Information Technology
MEMS	Micro Electro Mechanical Sensors
MFUFCP	Multi-function Up-front Control Panel
MHM	Menstrual Hygiene Management
MLAsia	Media Lab Asia
MLR	MarriLaxman Reddy
MLR	Marri Educational Society
MMUT	Maharishi Markandeshwar University Trust
MNIT	Malaviya National Institute of Technology
MNRE	Ministry of New and Renewable Energy
MoEFCC	Ministry of Environment, Forest and Climate Change
MOF	Metal Organic Framework
MoPNG	Ministry of Petroleum & Natural Gas
MoU	Memorandum of Understanding
MPAES	Microwave Plasma Atomic Emission
MPBIFR	MP Birla Institute of Fundamental Research
MPEDA	Marine Products Export Development Authority

MPERC	Madhya Pradesh Electricity Regulatory Commission
MR	Mental retardation
MRP	Minor Research Project
MSME	Ministry of Micro, Small and Medium Enterprises
MSME	Micro, Small & Medium Enterprises
MSRUAS	M S Ramaiah University of Applied Sciences
NABARD	National Bank for Agriculture and Rural Development
NABET	National Accreditation Board for Education and Training
NABL	National Accreditation Board for Testing and Calibration Laboratories
NAFARI	National Agriculture and Food Analysis and Research Institute
NAL	National Aerospace Laboratories
NALCOs	National Aluminum Company
NASI	National Academy of Sciences, India
NASSCOM	National Association of Software and Services Companies
NATRIp	National Automotive Testing and R&D Infrastructure Project
NBIA	National Business Incubation Association
NCB	National Council for Cement and Building Materials
NCBS	National Centre for Biological Sciences
NCF	Nature Conservation Foundation
NCL	National Chemical Laboratory
NCOF	National Centre of Organic Farming
NCR	National Capital Region
NCSTC	National Council for Science and Technology Communications
NDRI	National Dairy Research Institute
NEERI	National Environmental Engineering Research Institute
NERCI	Nansen Environmental Research Centre India
NESREA	National Environmental Standards and Regulations Enforcement Agency
NFTDC	Non Ferrous Materials Technology Development Centre
NGCMA	National Good Laboratory Practice Compliance Monitoring Authority
NGO	Non-governmental Organization
NIAS	National Institute of Advanced Studies
NICER	National Institute of Cleanliness Education and Research
NICHE	Noorul Islam Centre for Higher Education
NICMAR	National Institute of Construction Management and Research
NID	National Institute of Design
NIF	National Innovation Foundation
NIL	National Institute of Technology
NINT	National Institute of Nanotechnology
NIOT	National Institute of Ocean Technology
NIPER	National Institute of Pharmaceutical Education & Research
NIST	National Institute of Science and Tehnology

NITRA	Northern india Textile Research Association
NIWE	National Institute of Wind Energy
NMEM	National Mission on Electric Mobility
NPAC	Nanoporous Activated Carbon
NPP	National Perspective Plan
NRC-IMI	Industrial Materials Institute of National Research Council of Canada
NRDC	National Research Development Corporation
NRV	Non-return Valves
NSDC	National Skill Development Corporation
NSTEDB	National Sciece and Technology Entrepreneurship Development Board
NTRF	National Tea Research Foundation
OAC	Open Architecture Computer
OCAC	Odisha Computer Application Centre
OEMs	Original Equipment Manufacturers
OHP	Overhead Projector Sheet
ON	Oil of Neem
ONGC	Oil and Natural Gas Corporation
OTG	On the Go
PBTI	Punjab Biotechnology Incubator
PCBs	Printed Circuit Boards
PDP	Project Definition Phase
PDPU	Pandit Deendyal Petroleum University
PERD	Pharmaceutical Education and Research Development
PFC	Power Finance Corporation
PGIMER	Postgraduate Institute of Medical Education & Research
PHFI	Public Health Foundation of India
PLA	Poly Lactic Acid
PlaPER	Plastic Pelletizer, Extruder and Recycler
PM	Particulate Matter
PMKVY	Pradhan Mantri Kaushal Vikas yojana
PM-YUVA	Pradhan Mantri Yuva Yojana
PPP	Public Private Partnership
PRIST	Ponnaiyah Ramajayam Institute of Science and Technology
PROVe	Polar Remotely Operable Vehicle
PSCST	Punjab State Council of Science & Technology
PSCST	Punjab State Council for Science and Technology
PSSC	Power Sector Skill Council
PSUs	Public Sector Undertakings
PT	Proficiency Testing
PU	Punjab University
PV	Photovoltaic

PXRD	Powder X-ray Diffractometer
PZT	Piezoelectric powder
QCI	Quality Council of India
QPM	Quality Protein Maize
QPs	Qualification Packs
R&D	Research and Development
RBEF	Ritnand Balved Education Foundation
RCAIS	Raman Centre for Applied and Interdisciplinary Sciences
RDM	Rear-deployment mechanics
RDSO	Research Designs and Standards Organization
RE	Renewable Energy
RECAPP	Regional Centre for Accelerator-based Particle Physics
RGSTC	Rajiv Gandhi Science and Technology Commission
RIA	Radioimmunoassay
RIO	Research and Interpretation Centre
RMIT	Royal Melbourne Institute of Technology
RoHS	Restriction of Hazardous Substances
ROTM	Radio on the Move
RRCAT	Raja Ramanna Centre for Advanced Technology
RRI	Raman Research Institute
RSDC	Rubber Skill Development Council
RSoP	Research Scheme on Power
RSPN	Royal Society for Protection of Nature
SAC-ISRO	Space Applications Centre-Indian Space Research Organization
SACON	Salim Ali Centre for Ornithology and Natural History
SAMEER	Society for Applied Microwave Electronics Engineering Research
SANSCO	Srinivaspura Aging, Neuro Senescence and COGNition
SAR	Synthetic Aperture Radar
SASMIRA	Synthetic & Art Silk Mills Research Association
SASTRA	Shanmugha Arts, Science, Technology & Research Academy
SBF	Simulated Body Fluid
SBI	State Bank of India
SC	Solar Scyle
SC-CO <sub>2</sub>	Supercritical Carbon Dioxide
SCGJ	Skill Council for Green Jobs
SCM	Soft Condensed Matter
SCR	Spatially Capture-Recapture
SEED	Society for Energy, Environment & Development
SEM	Scanning Electron Microscope
SERB	Science and Engineering Research Board
SETS	Society for Electronic Transactions and Security



SFTRRD	Science Foundation for Tribal and Rural Resource Development
SIC	Silicon Carbide
SID	Society for Innovation and Development
SIRM	Saturation Isothermal Remnant Magnetization
SiTarc	Scientific and Industrial Testing and Research Centre
SITRA	South India Textile Research Association
SOI	Silicon-on-Insulator
SPA	State Procurement Agencies
SPAs	State Procurement Agencies
SPI	Spent Pot Lining
SPRERI	Sardar Patel Renewable Energy Research Institute
SRI	Shriram Institute for Industrial Research
SRISTI	Society for Research and Initiatives for Sustainable Technologies and Institutions
SSSIHL	Sri Sathya Sai Institute of Higher Learning
STAI	Sugar Technologists Association of India
STARS	Self Triggering Accident Response System
STD	Sun Tracker Device
STGs	Small Tea Growers
STQC	Standardization Testing and Quality Certification
STRC	Space Technology Research Centre
SVPUA&T	Sardar Vallabhbhai Patel University of Agriculture and Technology
TANUVAS	Tamil Nadu Veterinary and Animal Sciences University
TCS	Tata Consultancy Services
TERI	The Energy and Resources Institute
TES	Tamper Evident Seal
TGA	Thermogravimetric Analyser
TIFAC	Technology Information Forecasting and Assessment Council
TIST	Toc H Institute of Science & Technology
TISTR	Thailand Institute of Scientific and Technological Research
TNEB	Tamil Nadu Electricity Board
TOC	Total Organic Carbon Analyzer
TPD	Temperature Programmed Desorption Analyzer
TRA	Tea Research Association
TRAs	Textile Research Associations
TREC-STEP	Tiruchirappalli Regional Engineering College - Science and Technology Entrepreneurs Park
TRIFED	Tribal Cooperative Marketing Development Federation of India Ltd
TSAMRC	Tata Steel Advanced Materials Research Centre
TSL	Tata Steel Limited
UAY	Uchhatar Avishkar Yojana
UBA	Unnat Bharat Abhiyan
UGC	University Grants Commission

ULBs	Urban Local Bodies
UNDP	United Nations Development Programme
UNEVOC	International Centre for Technical and Vocational Education and Training
UPCMM	Ultra Precision Coordinate Measuring Machine
USMEC	Udupi Shri Admar Mutt Education Council
USTM	University of Science & Technology, Meghalaya
UTM	Universal Testing Machine
UV-VIS	Ultra Violet Visible Spectroscopy
VAPT	Vulnerability Assessment and Penetration Testing
VARD	Value Addition Research & Development
VCE	Vardhaman College of Engineering
VECC	Variable Energy Cyclotron Centre
VISTAS	Vels Institute of Science, Technology and Advanced Studies
VLSI	Very-large-scale integration
VLSI	Very-large-scale integration
VSI	Vasantdada Sugar Institute
VSSC	Vikram Sarabhai Space Centre
VSSC-ISRO	Vikram Sarabhai Space Centre - Indian Space Research Organisation
VSTS	Visual Speech Training Software
WCG	Women Care Groups
WDC	World Data Centre for Geomagnetism
WET Centre	Water and Environment Technology Research Centre
X	Magnetic susceptibility
XRD	Powder X-ray Diffractometer
XRD	X-Ray Diffractometer
XRF	X-ray Fluorescence Spectrometer



SECTION  
**3**

# MEDICAL SCIENCES



सत्यमेव जयते

Ministry of Science and Technology  
Department of Scientific and Industrial Research  
Government of India



^ Health screening template

### Registered Office

Able-Disabled All People Together, Upper Colaba Road, Opp. Afghan Church, Colaba, Mumbai 400 005, Maharashtra  
T: +91-022- 2215 0555  
E: contact@adaptssi.org  
W: www.adaptssi.org

### Recognition Status

File No.: 14/80/1988-TU-V  
Initial Recognition: 1988  
Valid Until: March 31, 2020

### R&D Manpower

Doctorates: 3  
PGs & Graduates: 16

## ABLE-DISABLED ALL PEOPLE TOGETHER (ADAPT)

### Brief Description

Able-Disabled All People Together (ADAPT), formerly The Spastics Society of India provides services for more than 3,000 children and 10,000 families. The research programmes examine policy assessment on disabled children and identify effective and appropriate practices for the promotion of inclusive education.

The non-governmental organization is registered as a society.

### R&D Set-up

The research facilities and infrastructure is used by staff, parents, beneficiaries, and research students from other NGOs and universities.

Research infrastructure comprises Library and Media Resource Centre, computer equipment, and therapy equipment for the disabled.

### Sources of income for R&D

- Donations
- International funding

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 97.45

FY 2015-16 = 126.77

FY 2016-17 = 86.99

### R&D Achievements

#### Products developed

- Developmental scales for differential abilities and achievement tests

- Resources for community workers to deliver inclusive services as part of research to identify effective and appropriate practices for the promotion of inclusive education.

### Processes developed

- Guide for Social Media Strategies for the Social Sector aims to provide an insight into how people with disabilities can best use popular social media tools.

### Research project

Retrospective research spanning four decades, published under the title 'A Birth That Changed a Nation: A New Model of Care and Inclusion' explores a novel model of care—integrating education, treatment, and social and emotional development—that addresses the issues of people with disability. This research examines a new holistic approach of care for persons with cerebral palsy and their families, developed by the institute.

### Technical Collaborations

#### National

Hindustan Petroleum Corporation Ltd, Mumbai, Maharashtra; Oil and Natural Gas Corporation Ltd, Uttarakhand; Oracle India, New Delhi; Procam International, New Delhi; United Way, Mumbai, Maharashtra; Worley Parsons, Mumbai, Maharashtra.

#### International

Citi NA, USA; The Women's Council, UK; United Nations Children's Fund (UNICEF), USA.

### Research Areas


- Integrated child development
- Inclusive education
- Advocacy for the disabled

### Research Outcomes

- Audio-visuals
- Instructional material and resource material

### Societal Relevance

The following R&D outcomes are of national or societal significance:

- The institute is the Brand Ambassador for the Swachh Bharat Campaign of Hindustan Petroleum Corporation Ltd and is partnering Pro Cam International in the capacity of the 'Official Provider' for the Champions with Disabilities Category, at the Tata Mumbai Marathon.
- The assessment protocols and health screening template developed are simple to use and community workers have been trained to do the primary assessment.
- Knowledge Management Centre has been set up to document and disseminate information and knowledge to the larger community online. 



^ Tablet Compression Machine

## ACHARYA & BM REDDY COLLEGE OF PHARMACY OF J.M.J. EDUCATION SOCIETY

### Brief Description

The mission of Acharya & BM Reddy College of Pharmacy of J.M.J. Education Society is to ensure planned development of pharmacy education consistent with national policies. The college is committed to undertake research on issues related to pharmacovigilance, pharmacogenomics, TDM, drug utilization review, genomics, proteomics, molecular parasitology, and drug formulations.

The JMJ Education Society is a registered society.

### R&D Set-up

The research facilities and infrastructure of the institution comprise instruments to support R&D activities, such as Humidity Chambers, Thermolab, Rotary Tablet Punching machine, Tablet Dissolution apparatus, Electro lab, UV-Visible Spectrophotometer, Tray Drying apparatus, Flows Fore Engineers, Electronic Balances, Autoclaves, Tablet coating pan, Probe Sonicator, Homogenizer, Orbital Shaking incubator, Semi Auto analyser, and others.

### Sources of income for R&D

- Government grants
- Technology transfer
- Training programmes

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 11.00

FY 2015-16 = 55.80

FY 2016-17 = 29.13

### R&D Achievements

#### Products developed

- Development of novel herbal formulation for healing of wounds
- Novel pyrimidine derivatives as potent anti-inflammatory and anti-cancer agents
- 7-azaindole derivatives and uses thereof
- Formulation and evaluation of herbal liposomal hair dyes

#### Revenue earned by way of licensing products/processes/ prototypes, etc., developed

- Commercialized products: ₹4,260,442
- Commercialized services: ₹21,751,862

#### Commercialization potential of products/processes developed

- Total products commercialized: 44
- Total services for commercialization: 20

#### Consultancy services rendered

- Dosage form design of Periochip - containing levofloxacin for treatment of gingivitis
- Herbal drug formulation
- Herbal and Siddha prototype product formulation
- Formulation of topical ethosome formulation

### Registered Office

Acharya & BM Reddy College of Pharmacy, Soldevanahalli, Achit Nagar Post, Bengaluru 560 107, Karnataka  
T: +91 80 23722222  
E: info@acharya.ac.in  
W: www.acharya.ac.in

### Recognition Status

File No.: 14/617/2012-TU V  
Initial Recognition: 2012  
Valid Until: March 31, 2018

### R&D Manpower

Doctorates: 27  
PGs & Graduates: 17

## Research Areas

- Novel drug delivery system and novel pelletization technology
- Computer-aided drug design, drug design, and synthesis of designed molecules
- Custom synthesis, separation of chiral molecules, analytical development by QbD approach, impurity profiling, isolation and characterization of marker compounds

## Research Outcomes

- Papers published:
  - » National: 58
  - » International: 15
- IPRs held
  - » Patents filed: 4
  - » Patents awarded: 1
- Technologies transferred/commercialized: 25

## Technical Collaborations

### National

Arokare India Pvt. Ltd, Bengaluru, Karnataka; LEADS Clinical Research & Bio Services Pvt. Ltd., Bengaluru, Karnataka; Plant Pharma Pvt. Ltd, Bengaluru, Karnataka; Sri Devaraj Urs Academy of Higher Education & Research, Karnataka; Wadh Foundation, New Delhi

### International

Alcyomics Ltd, UK ; Anthem Biosciences Pvt. Ltd., Bangalore; Sampada Healthcare, Nepal; National Institute of Allergy and Infectious Diseases, USA; National University of Singapore, Singapore

## Societal Relevance

The following R&D outcomes are of national or societal significance:

- Sensitizing youth regarding the importance of donating blood and inculcating a habit of donating for benefitting patients through blood donation camp.
- Breast and cervical detection camp and awareness guest lecture to generate mass awareness in public
- Collection of expiry drugs to generate mass awareness in the community.
- Accredited with Life Sciences Sector Skill Development Council for skill development. 🔍





^ Research facility at the foundation

### Registered Office

All India Heart Foundation,  
49 Community Centre,  
East of Kailash,  
New Delhi 110 065  
T: 011-26428371  
E: aihf1962@rediffmail.com  
W: www.nationalheartinstitute.com

### Recognition Status

File No.: 14/16/1988-TU-V  
Initial Recognition: 1988  
Valid Until: March 31, 2018

### Research Areas

- Rheumatic fever/rheumatic heart disease
- Ischaemic heart disease
- Cardiac epidemiology, core-pulmonology in young women
- Infective heart disease other than rheumatic heart disease

## ALL INDIA HEART FOUNDATION

### Brief Description

The main objectives of the All India Heart Foundation are scientific research in the area of cardiology, stimulation, and development of heart care through public health education, training of doctors and paramedical personnel, improving diagnostic and therapeutic modalities, development of national educational programmes to control all types of heart diseases, and treatment of heart patients. The National Heart Institute is an integral part of the foundation's research and clinical care delivery programmes.

The institute is registered as a society, under the Societies Registration Act XXI of 1860.

### R&D Set-up

The research infrastructure available at the foundation comprise the following:

- Medical research equipment, such as CX 50 Compact Xtreme ultrasound system; Siemens blood gas; electrolyte, metabolite & co-oximetry analyser; Valleylab force fx electrosurgical generator; three part differential automated haematology analyser; Maquet Servo S upgradable ventilator; ultrasound machine with 4 transducers with upgradation of software for CX 50 colour Doppler; Maquet Servo S upgradable ventilator; and several others.

### Sources of income for R&D

Government grants

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 36.11

FY 2015-16 = 87.42


FY 2016-17 = 126.94

### R&D Achievements

#### Research projects

- Correlation between Doppler, manual morphometry and histopathology-based morphometry of radial artery as a conduit in coronary artery bypass grafting
- Is radial artery Doppler scanning mandatory for use as coronary bypass conduit?
- A rare case of left coronary cameral fistula draining into the left ventricle associated with aneurysm of ascending aorta

### Societal Relevance

- Non-commercialized informative health care
- Vyadhi Nidhi Programme of the National Heart Institute is an example of a successful public-private partnership for the welfare of humanity. 

### Research Outcomes

- Papers published: 13



^ Research facility

## AMAI CHARITABLE TRUST

### Brief Description

The Arogyasewa Medical Academy of India (AMAI) facilitates medical treatment, surgery, and related services, in the area of urology and other medical diseases. The trust undertakes research on holistic medical treatment, which comprise complementary, traditional, and alternative treatments, such as yoga, Ayurveda, and homeopathy along with the modern treatment.

The academy is registered as a trust and non-governmental organization under the Bombay Public Charitable Trusts Act and Maharashtra Cooperative Societies Act.

### R&D Set-up

The research facilities and infrastructure of the institution are being used by academia and individuals. These include:

- A 20,000 sq. ft, super-specialty hospital with 101 beds capacity along with a department of naturopathy and yoga
- Research laboratory for research in naturopathy and yoga is equipped with spirometer, body fat analyser, heart rate monitor (FTI Polar), goniometer (girth measures), hand reaction time apparatus, flexibility tester (Sit and Reach Box), hand grip dynamometer, back-leg-chest dynamometer, etc.

### Sources of income for R&D

- Donations
- Research funds
- Clinical trials

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 47.21

FY 2015-16 = 39.24

FY 2016-17 = 39.50

### R&D Achievements

#### Products developed

- Herbal formulation for kidney disorders—Subap and Subap+
- Herbal formulation for wound healing—a regenerative medicine—Asup and Asup+ oil
- 3D vision system for interventional surgery
- Multi-functional instrument for laparoscopy

#### Commercialization potential of products/processes developed

- Commercialization of the herbal formulations—Asup+ oil, Subap, and Subap+, has been started

### Technical Collaborations

#### National

Indian Drugs Research Association, Pune, Maharashtra; Indian Institute of Technology Bombay, Mumbai, Maharashtra; Modern College of Biotechnology, Pune, Maharashtra; National Institute of Naturopathy, Pune, Maharashtra; National Toxicological Centre, Pune, Maharashtra

#### Registered Office

AMAI Charitable Trust,  
32/2 A, Erandwane, Gulwani MHJ  
Road, Pune 411 004, Maharashtra  
T: 020-25434063  
E: acehospitalpune@gmail.com  
W: www.acehospitals.in

#### Recognition Status

File No.: 14/437/2006-TU-V  
Initial Recognition: 2006  
Valid Until: March 31, 2018

#### R&D Manpower

PGs & Graduates: 10

**Research Areas**

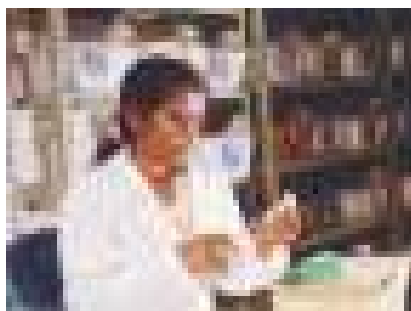
- Herbal formulations
- Kidney-related disorders
- Innovative medical device

**Research Outcomes**

- Papers published: 11
- IPRs held
  - » Patents awarded: 6
  - » Trademark: 1
- Technologies transferred/  
commercialized: 2

**Societal Relevance**

- Technology interventions for instruments developed would be undertaken under the 'Make in India' initiative
- Herbal formulations come under the mandate of AYUSH (Ministry of Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homoeopathy) for globalization of Ayurveda and the herbal formulations. 🔍



^ Animal house facility

## AMALA CANCER RESEARCH CENTRE SOCIETY

### Brief Description

Amala Cancer Research Centre Society undertakes scientific research in the area of cancer and other related branches of medical science, basic and applied fields. The centre is an integral part of Amala Institute of Medical Sciences.

The institute is registered as an independent society in 1984 under the Travancore–Cochin Literary, Scientific and Charitable Societies Act, 1955.

### R&D Set-up

The research facilities and infrastructure of the institution are being used by industry, individuals, and academia with 80:20 as the ratio of the sharing of facilities as 80:20 (internal/external). These include:

- Animal house, tissue culture labs, and radioactive laboratory
- R&D equipment, such as plethysmometer, enzyme-linked immunosorbent assay (ELISA) reader, cooling centrifuge, ultra-low temperature freezer, vacuum concentrator, inverted microscope with camera and indigenous image analysing system, spectrophotometer, gel documentation system, and others.

### Sources of income for R&D

- Grants-in-aid from government bodies/agencies

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 93.57

FY 2015-16 = 76.80

FY 2016-17 = 123.39

### R&D Achievements

#### Products developed

- Herbal products to combat HIV and AIDS, and drugs to inhibit viral carcinogenesis
- Phytochemicals that can inhibit angiogenesis and cancer cell metastasis
- Phytochemicals that can protect from the side-effects of radiation
- Immunostimulatory phytochemicals and their use in cancer
- Phytochemicals from macrofungi
- Anti-cancer drugs by plant tissue culture methods
- Nanoparticles that can inhibit cancer cell growth
- Nanoparticles acting as radiation protection for the development of oxycarotenoids as medicinal drugs
- Isolation and identification of anticancer drugs from plants

### Technical Collaborations

#### National

AKAY Flavours and Aromatics P.Ltd, Aluva, Kerala; Anti-Diabetic Consultation Service, Kannur, Kerala; Central Marine Fisheries Research Institute, Kochi, Kerala; Dhathri Group, Kerala; Omniactive Technologies, Mumbai, Maharashtra; Plant Lipids, Kochi, Kerala; Synthite Chemicals, Kochi, Kerala

#### Registered Office

Amala Cancer Research Centre Society, Amala Nagar PO, Thrissur 680 555, Kerala  
T: 487 2304000  
E: amalacancerresearch@gmail.com  
W: www.amalaims.org

#### Recognition Status

File No.: 14/11/1988-TU-V  
Initial Recognition: 1988  
Valid Until: March 31, 2020

#### R&D Manpower

Doctorates: 6  
PGs & Graduates: 16

### Research Areas

- Cancer biochemistry-plant and synthetic drugs
- Radioprotection–chemoprotection
- Immunology
- Antimetastatic drugs
- Anti-HIV drugs
- Anti-diabetic drugs
- Homoeopathic drugs
- Drugs from macrofungi

### Research Outcomes

- Papers published: 71
- Products commercialized: 10

### International


Garnett Mckeen Laboratory, New York, USA; Samueli Foundation, USA

### Societal Relevance

The following R&D outcomes are of national or societal significance:

- The centre has developed non-toxic drugs which can arrest the cancer cell growth and reduce the side effects of cancer treatment

modalities, such as radiation and chemotherapy.

- The acquired knowledge has been passed on to the clinicians in treating cancer patients with success.
- The centre has trained several students in this field who can successfully carry out research in cancer. 



^ Research and development

### Registered Office

Apollo Hospitals Educational & Research Foundation, 16 & 17, II Floor, Krishnadeep Chambers #1, Wallace Gardens, Chennai 600 006, Tamil Nadu  
T: +914023556573  
E: br.chennai@aherf.net  
W: www.aherf.org

### Recognition Status

File No.: 14/486/2008-TU-V  
Initial Recognition: 2008  
Valid Until: March 31, 2018

### R&D Manpower

Doctorates: 3  
PGs & Graduates: 2

### Research Areas

- Biomarkers
- Drug delivery agents
- Therapeutic agents

### Research Outcomes

Papers published:

- National: 1
- International: 3

## APOLLO HOSPITALS EDUCATIONAL & RESEARCH FOUNDATION

### Brief Description

The Apollo Hospitals Educational & Research Foundation undertakes and promotes scientific and medical research programmes encompassing the fields of basic research, clinical research, translational research, and epidemiological research. Cutting-edge research focusses on the medical areas that include basic and clinical aspects of stem cells, molecular diagnostics, development of new devices and drugs, personalized drug usage through pharmaco-genomics.

The foundation is registered as a society.

### R&D Set-up

The research facilities and infrastructure of the foundation include:

- R&D equipment, such as biosafety cabinets, table top centrifuges, carbon dioxide incubators, inverted trinocular, inverted microscope with fluorescent attachment, deep freezer, liquid nitrogen tank, hot air oven, electronic balance, cyclomixers, magnetic stirrers with hotplate, digital dry bath, UV spectrophotometer, ELISA reader, and others.

### Sources of income for R&D

- Funds from government and other agencies

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 80.36

FY 2015-16 = 88.08

FY 2016-17 = 75.22

### R&D Achievements

#### Processes developed

- Development of serum-based exosome diagnostics
- Co-development of saliva-based exosome diagnostics

Both the technologies involve development of new protocols/processes for exosome isolations from different body fluids.

### Technical Collaborations

#### National


University of Hyderabad, Telangana; Indian Institute of Chemical Technology, Hyderabad, Telangana; Stemcyte India, Ahmedabad, Gujarat; Mitra Biotech, Bengaluru, Karnataka; Guru Nanak Institutions, Hyderabad, Telangana

#### International

University of Manitoba, Canada

### Societal Relevance

The following R&D outcomes are of national or societal significance:

- Exosome-based technologies form the basis for liquid biopsies. These technologies form an integral part of disease identification, therapy management, and realtime monitoring of the disease. The technology would have a substantial impact on early detection of disease and real time monitoring of therapy without invasive surgeries. 



^ Gel for bleeding disorder

### Registered Office

APT Research Foundation,  
S.No:36/I/I, M.N199,  
Vadgaon Khurd, Sinhagad Road,  
Pune 411 041, Maharashtra  
T: 020-65304803  
E: aptresearch@gmail.com  
W: aptresearch.co.in/

### Recognition Status

File No.: 14/627/2013-TU-V  
Initial Recognition: 2013  
Valid Until: March 31, 2019

### R&D Manpower

Doctorates: 3  
PGs & Graduates: 2

### Research Areas

- Pharmacology
- Toxicology
- Microbiology
- Immunology
- Monoclonal and polyclonal antibodies

## APT RESEARCH FOUNDATION

### Brief Description

APT Research Foundation is a subsidiary of APT Testing and Research Pvt. Ltd Pune (previously National Toxicology Centre) established in 2006. The foundation is dedicated to various avenues of research in health sciences, medical sciences, environmental sciences, and social activities. The institute is registered as a non-governmental trust.

### R&D Set-up

The research facilities are being used by research scholars of various collaborating institutes. The R&D equipment comprise high speed centrifuge, rotary shaker, inverted microscope, biohazard safety cabinet, refrigerated centrifuge, micro nephelometer, water distillation plant, elisa reader, double beam UV spectrophotometer, single pan analytical balance, pressure gauge, semi biochemistry analyser, vet auto hematology analyser, quartz distillation unit, microtome, membrane permeability assembly, membrane filtration assembly, and others.

### Sources of income for R&D

- Government grants
- Funds

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 30.97

FY 2015-16 = 40.35

FY 2016-17 = 41.87

### R&D Achievements

#### Products developed

- Product for stopping bleeding

diathesis (hemophilia/surgery/ intracranial hemorrhage)

- Product for metabolic disorder (obesity and diabetes)
- Product for hepatic and biliary disorder
- Product for osteoporosis

#### Processes under developed

- Process for developing antibody against aflatoxin
- Process for bacteriocin for preservation of marine products

#### Prototypes developed

- Syrup for internal injury and gel/ spray for external injury
- Capsule for reducing obesity
- Capsule for hepatoprotective activity
- Gel for hair growth

### Technical Collaborations

#### National

Prosetta Bioconformatics Pvt Ltd., Mysore, Karnataka; Siddhakala Ayurved Mahavidyalaya, Sangamner, Maharashtra; Indian Institute of Technology Bombay, Maharashtra

#### Societal Relevance

The foundation has been associated for two years consecutively with National Environment Awareness Campaign (NEAC) organized by BAIF amongst school children for 'Importance of Medicinal Plants' and 'Management of Land Erosion', respectively. 🔍

#### Research Outcomes

- Papers published:
  - » National: 3
  - » International: 3
- IPRs held
  - » Patents filed: 4



^ Confocal microscope

## ARAVIND MEDICAL RESEARCH FOUNDATION

The mission of Aravind Medical Research Foundation is to eliminate blindness by providing evidence through research and evolving methods to translate the existing evidence and knowledge into effective action. The foundation conducts basic research to gain insights into vision science and is committed to finding new ways to reduce blindness.

The institute is a registered society under the Government of Tamil Nadu.

### R&D Set-up

The research facilities and infrastructure available at the foundation comprise the following:

- Six cell culture facilities
- Human organ culture anterior segment for trabecular outflow studies
- Core biocomputing centre
- GMP 1000 facility
- Research equipment, such as TSQ quantum ultra EMR system, cryomicrotome, cytospin, spectrophotometer, bacteriological incubator, laser capture microdissection system, dark field microscope, and others

### Sources of income for R&D

- Donations
- Government grants

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 282.80

FY 2015-16 = 235.03

FY 2016-17 = 233.68

### R&D Achievements

#### Products developed

- New strategy for fast and cost-effective diagnosis of retinoblastoma patients
- Prenatal diagnosis of ocular albinism
- Ex-vivo model system called human organ culture anterior segment (HOCAS) system to bring out newer lowering intraocular pressure drugs for glaucoma eye disease
- Personalized treatment strategies for individual patients with fungal keratitis through molecular evidence
- Biomarker for diabetic retinopathy (under development)

#### Prototypes developed

- Measurement of tensile strength of human corneas using INSTRON-tensile strength analyser
- Fundus imaging using android mobile: capturing fundus image with screening devices

#### Commercialization potential of products/processes developed

- Genetic testing centre for retinoblastoma
- Genetic testing centre for albinism

### Technical Collaborations

#### National

Alagappa University, Karaikudi, Tamil Nadu; All India Institutes of Medical Sciences, New Delhi; Indian Institute of Technology-Madras, Chennai, Tamil Nadu; Madurai Kamraj University,

#### Registered Office

Aravind Medical Research Foundation, No. 1, Anna Nagar, Madurai 625 020, Tamil Nadu  
T: 0452 4356550  
E: amrf@aravind.org  
W: www.aravind.org

#### Recognition Status

File No.: 14/2/1988-TU-V  
Initial Recognition: 1988  
Valid Until: March 31, 2020

#### R&D Manpower

Doctorates: 12  
PGs & Graduates: 54



### Research Areas

- Biology of human limbal epithelial stem cells
- Retinoblastoma genetics
- Genomics of complex eye diseases
- Etiopathogenesis of infectious eye diseases
- Biomarker discovery for diabetic retinopathy
- Human trabecular meshwork outflow studies using organ perfusion culture
- NGSomics of ocular disorders
- MicroRNA regulatory functions in eye diseases

### Research Outcomes

- Papers published:
  - » International: 38

Tamil Nadu; Narayana Nethralaya, Bengaluru, Karnataka

### International

London School of Hygiene and Tropical Medicine, UK; National Eye Institute, USA; Singapore National Eye Centre, Singapore; Sichuan Academy of Medical Sciences & Sichuan Provincial People's Hospital, China; University of Liverpool, UK

### Societal Relevance

- Cancer Genetic Testing Centre for the diagnosis of retinoblastoma

established at Aravind Eye Hospital, Madurai, Tamil Nadu

- Carrier detection and prenatal diagnosis of oculocutaneous albinism helps to identify the risk groups and provides forewarning by counselling to prevent occurrence of the disease in future.
- Workshops on proteomics are held; organized the 24th Annual Meeting of the Indian Eye Research Group ARVO-India. 🔍



^ Smran Shakti RasayanYog

### Registered Office

Arogyadham Global Aids Research Foundation, Siddharth Colony, Arya Samaj Road, Muzaffarnagar 251 001, Uttar Pradesh  
 T: 0131 2622326  
 E: arogyadham@rediffmail.com  
 W: arogyadham.in/

### Recognition Status

File No.: 14/479/2008-TU-V  
 Initial Recognition: 2008  
 Valid Until: March 31, 2019

### R&D Manpower

Doctorates: 4  
 PGs & Graduates: 4

## AROGYADHAM GLOBAL AIDS RESEARCH FOUNDATION

### Brief Description

The mission of Arogyadham Global Aids Research Foundation is to preserve the tradition of diverse knowledge systems of yoga and Ayurveda appropriately. The foundation carries out research studies that contribute to further validate the value of knowledge systems, such as yoga and Ayurveda.

The foundation is a non-governmental body registered as a trust.

### R&D Set-up

The research facilities and infrastructure available at the foundation:

- Herbal museum comprising a collection of around 600 specimen of medicinal plants and rare herbs
- R&D equipment, such as spectrophotometer, high-performance liquid chromatography (HPLC), oven, muffle furnace, digital balance, and glassware

### Sources of income for R&D

- Donations
- Government grants

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 8.26

FY 2015-16 = 4.35

FY 2016-17 = 4.30

### R&D Achievements

#### Products/processes developed

- Identification and preparation of medicines from herbs for controlling of acquired immunodeficiency syndrome (AIDS), diabetes mellitus, joint pains, migraine, etc., and treatment of resultant ailments, such as tuberculosis, herpes, pneumonia, diarrhoea, skin diseases, and others due to reduced resistance in patients
- Clinical evaluation of Ayurvedic formulation in the management of rheumatoid arthritis

### Societal Relevance

The foundation has conducted several awareness programmes on yoga and Ayurveda. 🔍

### Research Areas

- Herbal medicines
- Ayurvedic treatment
- Chronic diseases

### Research Outcomes

- Papers published: 3



^ Research infrastructure

## ARTEMIS EDUCATION & RESEARCH FOUNDATION

### Brief Description

The Artemis Education & Research Foundation aims to create an integrated healthcare system by fostering, protecting, and restoring health through best medical practices and cutting-edge technology developed through in-depth research. The foundation is a registered trust.

### R&D Set-up

The research infrastructure and facilities are used by academics and students, including those from universities offering biotechnology and allied courses. Major research equipment include the following:

- Flowcytometry
- Thermal cycler
- High-speed centrifuge
- Biological safety cabinet
- Spectrophotometer
- Electrophoresis assembly, and others

### Sources of income for R&D

- Donations

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 0.05

FY 2015-16 = 49.82

FY 2016-17 = 51.27

### R&D Achievements

#### Processes developed

- Development of diagnostic test for acute myeloid leukemia

- Development of diagnostic tests for acute lymphoid leukemia
- Development of a diagnostic test for JAK-2 mutation
- Development of one-step Polymerase Chain Reaction (PCR) for the detection of chikungunya
- Development of diagnostic tests for Paroxysmal Nocturnal Hemoglobinuria (PNH)

#### Principle/theory developed

- Many cases of Human Papilloma Virus (HPV) have normal cytology, but harbour the infection and test positive in PCR-based detection.

#### Commercialization potential of products/processes developed

- Services, such as in-house test PCR for acute lymphoid leukemia, acute myeloid leukemia, JAK-2 mutation, and FACS-based assay for PNH are being provided to patients.

### Technical Collaborations

#### National

Hindustan Latex Family Planning Promotion Trust, Uttar Pradesh; Jamia Hamdard (deemed university), New Delhi

#### Societal Relevance

- In-house tests have been developed in the Molecular Oncology Division for the diagnosis of acute lymphoid leukemia, acute myeloid leukemia, and JAK-2 mutation. As these are available in very few centres in Delhi/NCR, by providing these

### Registered Office

Artemis Education & Research Foundation,  
Artemis Health Institute,  
Sector-51, Gurugram,  
Haryana-122001  
T: 124 6767999  
E: education.research@  
artemishealthsciences.com  
W: sshospitalpatna.org

### Recognition Status

File No.:14/678/2015-TU-V  
Initial Recognition: 2015  
Valid Until: March 31, 2018

### R&D Manpower

Doctorates: 1  
PGs & Graduates: 12

### Research Areas

- Infectious diseases
- Oncology
- Antimicrobial resistance


### Research Outcomes

- Papers published: 5

tests in-house, reports are timely available to clinicians.

- In-house tests developed for chikungunya and HPV are under validation. The commercialization will be done after validation and will be helpful in reducing the cost.
- A project on the assessment of the knowledge, attitude, and practices of community regarding the judicious use of antibiotics and appropriate infection control measures has been initiated.

Based on the results of the survey, educational programmes on this topic will be undertaken in the community and subsequently, the improvements will be measured.

- In partnership with National Skill Development Corporation, the foundation runs a programme, UDAAN that helps provide exposure to graduates and postgraduates of Jammu and Kashmir to help them orient and develop skills in various aspects of paramedical sciences and hospital management. 



^ Clinical and community care

### Registered Office

Arthritis Research and Care Foundation - Center for Rheumatic Diseases, 11 Hermes Elegance, 1988 Convent Street, Camp, Pune 411 001, Maharashtra  
T: 02026348529  
E: crdp@vsnl.net  
W: rheumatologyindia.org

### Recognition Status

File No.: 14/354/2003-TU-V  
Initial Recognition: 2003  
Valid Until: March 31, 2018

### R&D Manpower

PGs & Graduates: 13

### Research Areas

Rheumatic diseases  
Musculoskeletal disorders

## ARTHRITIS RESEARCH AND CARE FOUNDATION

### Brief Description

The Arthritis Research and Care Foundation administers the Center for Rheumatic Diseases that aims to collect community data, measure disease burden, and explore the Ayurveda- Modern medicine interface for better therapy solutions. The medical camp methodology has been restructured towards providing service and simultaneously collecting research data. The data has been a continuous resource for several laboratory-based novel experiments to define diagnostics and the related characteristics that are unique to the Indian scenario for several common rheumatic disorders. The foundation is a registered research society.

### R&D Set-up

The research facilities available at the foundation comprise R&D equipment such as:

- Immunoelectrophoresis tank
- Immunofluorescence microscope
- Biochemistry semi-autoanalyser
- ELISA Shaker
- Monopan electronic balance
- Magnetic stirrer with hot plate
- Microcentrifuge
- Automated biochemistry analyser
- Ultra-low deep freezer and others.

### Sources of income for R&D

- Funds
- Grants

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 13.00

FY 2015-16 = 22.54

FY 2016-17 = 11.81

### R&D Achievements

#### Products developed

Potassium nutritional supplement

#### Research projects

- The centre launched the flagship community oriented programme for control of rheumatic diseases in collaboration with the World Health Organization in a 9,000+ population in Bhigwan village in Pune. This is an ongoing-long-term longitudinal observational study.
- A rural population-based study of Chikungunya with a special reference to a persistent rheumatic musculoskeletal disorders

### Technical Collaborations

#### International

Tehran University of Medical Sciences, Tehran; World Health Organization

### Societal Relevance

- The foundation hosts Mission Arthritis India whose main goal is to provide proper and scientific information and guidance about all aspects of arthritis and related problems.
- Community and education programmes train young internists for clinical rheumatology. 🔍

### Research Outcomes

- Papers published: 3



^ Ayurvedic treatment

## ARYA VAIDYASALA

### Brief Description

Arya Vaidyasala is engaged in the practice and propagation of Ayurveda and offers classical Ayurvedic medicines, treatments, and therapies, to patients from all over India and abroad. The institute undertakes the task of planned cultivation of medicinal plants in herbal gardens as part of a project of conservation and sustainable use of medicinal plants. The institute is engaged in research work for modernization of production and quality control of Ayurvedic drugs. Clinical research activities are undertaken in the charitable hospital with a focus on cancer and also to validate new drug development.

The institute is registered as a charitable trust constituted under will of the founder Late Vaidyaratnam P S Varier.

### R&D Set-up

The research facilities and infrastructure of the institution comprise the following:

- Laboratories for taxonomy, crop improvement, plant tissue culture, pharmacognosy, phytochemistry, microbiology, molecular biology, and R&D quality control
- Other facilities, such as instrument room, nursery with misting, polyhouse and equipment, such as BOD incubator, cooling centrifuge, cryocan, dehumidifier, electrophoresis unit, laminar air flow with glass bead sterilizer, polarization microscope, thermal cyclor, atomic absorption spectrophotometer, and others

### Sources of income for R&D

- Funds from governmental and non-governmental bodies

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 87.27

FY 2015- 16 = 193.91

FY 2016-17 = 226.33

### R&D Achievements

#### Products developed

- 350 plants documented, 142 collections were conserved in the Herb Garden, 15 new species, two rediscoveries, two species new to India, and revision of two genera has been achieved
- Medicinal plants garden established in 42 schools
- Established a demonstration plot of medicinal plants with 25 species for public awareness
- 1,400 voucher specimens have been prepared and deposited at Centre for Medicinal Plants Research for herbaria
- Microrhizome and minirhizome production technology for pathogen free planting material production was developed in ginger and turmeric
- Developed technologies for protected cultivation of medicinal plants in polyhouse in six medicinal species
- Database containing pharmacognostic characters of about 400 raw materials were

#### Registered Office

Arya Vaidyasala,  
Kottakkal 676 503,  
Malappuram, Kerala  
T: 483 280 8000  
E: mail@aryavaidyasala.com  
W: www.aryavaidyasala.com

#### Recognition Status

File No.: 14/320/2001-TU-V  
Initial Recognition: 2001  
Valid Until: March 31, 2019

#### R&D Manpower

Doctorates: 8  
PGs & Graduates: 22

### Research Areas

- Ayurvedic medicinal plants
- Conservation of medicinal plant genetic resources
- Medicinal plants: propagation and cultivation, crop improvement, pharmacognostic and phytochemical authentication, molecular authentication
- Raw drug repository
- Standardization of Ayurvedic formulations
- Development of Ayurvedic formulations

### Research Outcomes

- Papers published: 54
- Products developed: 98
- Processes developed: 15

developed as a reference collection

- Developed a raw drug repository with about 400 authenticated raw drug samples
- More than 275 plant samples were pharmacognostically tested and authenticated
- Digitized database of 275 medicinal plants has been developed for floor-level checking of raw drug samples for quality control and standardization
- Chemical fingerprints were developed for 13 species as part of standardization
- Four compounds were isolated from various medicinal plants
- DNA barcode developed in 30 species

### Commercialization potential of products/processes developed

- Studies on up-scaling and developing commercial mini-rhizome production systems for ginger for pathogen-free planting material production

## Technical Collaborations

### National

JSS University, Ooty, Tamil Nadu; Karpagam University, Coimbatore, Tamil Nadu

### Societal Relevance

- Pharmacognostic and phytochemical standards of Ayurvedic raw drugs and finished products
- Monographs of raw materials and standard operational procedures of formulations are being published in *Ayurvedic Pharmacopoeia*, a national document by the Government of India
- The institution conducted national-level workshops cum training programmes on plant drug discovery and developing quality standards for herbs and herbal formulations. [Q](#)



^ Workshop at St. Therese High School, Mumbai

### Registered Office

Asha Foundation, Bangalore  
No. 42, 4th Main, SBM colony,  
Anand Nagar, Bengaluru 560 024,  
Karnataka  
T: 080 23545050  
E: alexglory11@gmail.com  
W: www.ashaf.org

### Recognition Status

File No.: 14/481/2008-TU-V  
Initial Recognition: 2008  
Valid Until: March 31, 2020

### R&D Manpower

Doctorates: 1  
PGs & Graduates: 10

## ASHA FOUNDATION, BANGALORE

### Brief Description

Asha Foundation, Bangalore stands for Action, Service, and Hope for AIDS. The focus areas of research in the foundation include prevention of mother-to-child transmission of HIV, adolescent health education, pediatric and adult HIV infection, and epidemiology of HIV/AIDS. The foundation is a charitable trust.

### R&D Set-up

The research facilities and infrastructure of the institution include the following:

- Research infrastructure include counselling and HIV testing facilities, outpatient HIV clinic, antiretroviral drugs, linkage with NABL accredited lab, and linkage with NABH accredited hospital

### Sources of income for R&D

- Donations
- Government grants

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 59.49

FY 2015-16 = 56.53

FY 2016-17 = 52.42


### R&D Achievements

#### Products developed

- Diagnostic study on exploring the barriers to accessing care and treatment for HIV-infected children in India
- Mapping the future-students' response to adolescent health education

- Descriptive study on the users and utility of HIV/AIDS Helpline in Karnataka
- Demographic predictors of HIV positivity among women presenting for obstetric care in southern states of India

### Societal Relevance

- The foundation conducts awareness programmes on HIV/AIDS and training of counsellors for the Karnataka Government (in 2003 and 2011).
- Other services include organizing HIV/AIDS Clinic; HIV/AIDS Helpline; adolescent health education in schools and out of school youth; educational, nutritional and medical care for HIV infected and affected children and families; empowerment of women; prevention of mother to child transmission of HIV/AIDS; psycho-social intervention for HIV positive children through the concept of summer camp and research. 

### Research Areas

- HIV/AIDS in adults and children
- Antiretroviral drugs

### Research Outcomes

- Papers published:
  - » National: 1
  - » International: 2





^ Tissue culture facility

### Registered Office

Asian Healthcare Foundation,  
6-3-661 Somajiguda  
Hyderabad 500 082,  
Telangana  
T: 040-23378888  
E: aigres.mit@gmail.com  
W: www.ahf.aigindia.net

### Recognition Status

File No.: 14/462/2007-TU-V  
Initial Recognition: 2007  
Valid Until: March 31, 2019

### R&D Manpower

Doctorates: 12  
PGs & Graduates: 14

### Research Areas

- Chronic pancreatitis
- Pancreatic cancer
- Islet cell transplantation
- Type 3c diabetes
- Colorectal cancer
- Viral hepatitis

## ASIAN HEALTHCARE FOUNDATION

### Brief Description

Asian Healthcare Foundation is the research and training wing of the Asian Institute of Gastroenterology providing tertiary medical care for gastroenterology-related diseases. The mission of the foundation is to conduct focussed research in frontier areas of gastroenterology and minimum invasive surgical gastroenterology. The foundation is registered as a trust.

### R&D Set-up

The foundation's research facilities and infrastructure include:

- Tissue culture facility with good manufacturing practices (GMP) labs, stem cell biology lab, islet cell isolation facility, next generation sequencing facility, micro array facility, cell sorting facility, Cobas AmpliPrep, ultracentrifuge, and imaging facility.

### Sources of income for R&D

Donations

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 1,002.00

FY 2015-16 = 1,023.08

FY 2016-17 = 742.15

### R&D Achievements

#### Products developed

- Diagnostic PCR to detect hepatitis B virus genome
- Beta cell dysfunction in secondary diabetes associated with chronic pancreatitis reported for the first time

### Commercialization potential of products/processes developed

- Kit for amplification and detection of a minority genome variant of hepatitis B virus—to be commercialized after validation

### Technical Collaborations


#### National

Centre for Cellular and Molecular Biology, Hyderabad, Telangana; Osmania University, Hyderabad, Telangana; National Centre for Cell Science, Pune, Maharashtra; National Institute of Nutrition, Hyderabad, Telangana; University of Hyderabad, Telangana; Indian Institute of Technology, Hyderabad, Telangana

#### International

University of Minnesota, USA

### Societal Relevance

- The foundation has been participating in Skill India programme by imparting training to postgraduates in molecular diagnostics and stem cell research
- Skills are being developed in clinicians for translational research
- Protocols for islet transplantation were developed for the first time in the country to help the patients with chronic pancreatitis
- Regular popular lectures are held to educate public on digestive diseases including liver problems, nutrition issues, and diabetes. 

### Research Outcomes

- Papers published: 23
- IPRs held
  - » Patent awarded: 1



^ Research facility

### Registered Office

Asian Institute of Public Health,  
Plot No 2934, Nageswar Tangi,  
Lewis Road, Bhubaneswar  
751002, Khurda, Odisha  
T: 0674-6574656, 2397197  
E: contact@aiph.ac.in  
W: www.aiph.ac.in

### Recognition Status

File No.: 14/604/2012-TU-V  
Initial Recognition: 2012  
Valid Until: March 31, 2018

### R&D Manpower

Doctorates: 1  
PGs & Graduates: 7

### Research Areas

- Sickle cell anemia
- Reproductive tract infection
- *Trichomonas vaginalis*
- Vaso-occlusive crisis
- Microsatellite

## ASIAN INSTITUTE OF PUBLIC HEALTH

### Brief Description

The Asian Institute of Public Health (AIPH) undertakes cutting-edge research activities in various domains of public health to generate scientific evidence, which helps to reshape public policy and benefits a large section of the population. The research activities involve both community as well as laboratory components, for which the institute has developed state-of-the-art laboratories and has fostered a team of highly-skilled field research associates.

The institute is registered as society under the Registration of Societies Act XXI of 1860.

### R&D Set-up

The research infrastructure of the institute comprises a well-equipped research laboratory.

### Sources of income for R&D

Grant-in-aid from government and other agencies

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 39.84

FY 2015-16 = 29.43

FY 2016-17 = 6.55

### R&D Achievements

#### Research projects

- Epinephrine induced alterations in the erythrocyte influence occurrence of frequent Vaso-occlusive crisis in sickle-cell disease

- *Trichomonas vaginalis* genetic diversity and the influence of *Trichomonas vaginalis* viruses in determining the severity of clinical manifestations of the lower female reproductive tract
- Translation of data into knowledge: Setting up the first cancer registry in the State of Odisha
- Aetiology of neonatal infection in Southeast Asia
- Community and hospital burden of antibiotic resistance in the Indian pediatric population: impact of probiotics and geography

### Technical Collaborations

#### National

Institute of Life Science, Bhubaneswar, Odisha; Veera Surenda Sai Institute of Medical Sciences and Research, Burla, Odisha; Ispat General Hospital, Rourkela, Odisha

#### International

London School of Hygiene and Tropical Medicine, UK

### Societal Relevance

The Odisha State Assembly has passed the AIPH University, Odisha, Bill 2017, paving the way for the establishment of the state's First Public Health University. The university will offer new courses in public health, which are not offered by any other university in the state. [Q](#)

### Research Outcomes

- Papers published: 4



^ Yoga hall

## ASSOCIATION FOR RESEARCH HOMOEOPATHY

### Brief Description

The Association for Research Homoeopathy was established to undertake research in homoeopathy as a cost-effective, therapeutic approach. Besides training homoeopathic physicians, the association is also building knowledge-management centres to help the rural youth to run their agricultural initiatives in a more eco-friendly and sustainable manner. The research focus is to enhance the clinical application of the principles of homoeopathy by integrating it with advances in science in general and biomedical science in particular and to investigate the nature and mechanism of action of homoeopathic drugs.

The association is registered as trust under Section 25 of the Companies Act, 1956.

### R&D Set-up

The research facilities of the institution are used for clinical research and academic purposes. These include:

- Research infrastructure comprise rooms for data storage, and dispensing, and a library
- Equipment include mechanical potentiometer, micropipette, pulse-oxymeter, and others

### Sources of income for R&D

- Donations
- Medical consultancy

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

- FY 2014-15 = 5.84
- FY 2015-16 = 8.12
- FY 2016-17 = 3.76

### R&D Achievements

#### Processes developed

- Inclusion of data from cell and molecular biology in the consideration of homoeopathic therapeutics
- Computation of case records for research
- Retrospective observational pilot study of treatments of short-duration fever cases and associated symptoms with individualized homoeopathic treatment
- Study to test the effect of the homoeopathic drug Chelidonium on alcohol a induced toxicity in HepG2 cell line
- Study to test the effect of potencies of Homoeopathic drug Millefolium on the blood vessels of a chick embryo
- Study of the effect of various concentrations of homeopathic dug mercury with potency 30C and 1,000C on the physiology of *moong* plant

### Technical Collaborations

#### National

S P College, Pune, Maharashtra; Indian Institute of Technology Bombay, Mumbai, Maharashtra; Institute of Chemical Technology, Mumbai, Maharashtra; Vaze College, Mulund, Mumbai, Maharashtra

### Registered Office

Association for Research Homoeopathy, Plot 24/2-3, Sector 15, Airoli, Navi Mumbai 400 708, Maharashtra  
T: 022 27799646  
E: office@arhcm.org  
W: www.arhcm.org

### Recognition Status

File No.: 14/354/2003-TU-V  
Initial Recognition: 2003  
Valid Until: March 31, 2018

### R&D Manpower

Doctorates: 3  
PGs & Graduates: 5

### Research Areas

- Clinical research in homoeopathy
- Integral yoga

### Research Outcomes

- The clinical knowledge and clinical case experiences are shared by the experts through lecture series.

### Societal Relevance

- Cost-effective homoeopathic treatment is provided for acute as well as chronic diseases
- A centre at rural area (Kotapur, in the district Ratnagiri) provides affordable medical care
- Online learning programmes were held on the website through which regular uploading of lessons and case studies was done
- Others programmes were organized, including alternative future medicine and yoga. 🔍



^ Pilot manufacturing plant

### Registered Office

AVP Research Foundation,  
136/137, Trichy Road,  
Ramanathapuram P O,  
Coimbatore 641 045,  
Tamil Nadu  
T: 0422 4341967  
E: office@avpresearch.org  
W: www.avpresearch.com

### Recognition Status

File No.:14/588/2011-TU-V  
Initial Recognition: 2011  
Valid Until: March 31, 2020

### R&D Manpower

Doctorates: 2  
PGs & Graduates: 18

## AVP RESEARCH FOUNDATION

### Brief Description

The AVP Research Foundation primarily engages in research activities in the field of Ayurveda. In addition, the foundation also offers specialized clinical services and educational programmes in the relevant areas. It is a subsidiary of Arya Vaidya Pharmacy (CBE) Ltd and involved in basic and clinical research in the field of Ayurveda. Basic research involves literary research and preclinical research. Clinical research includes observational studies and clinical trials. One of the priority areas for research at the foundation is to facilitate informed decision making and evidence-based practice in the field of Ayurveda.

The foundation is registered as not-for-profit organization registered under Section 25 of the Companies Act, 1956.

### R&D Set-up

The foundation's research facilities and infrastructure are available for use by the industry, individuals, and academia on case-to-case basis; these include:

- Laboratory and clinical research area
- Conference and seminar halls
- A library exclusively for research activities

### Sources of income for R&D

- Grants-in-aid
- Project fee
- Training charges
- Fee for conducting courses, consultancy, products, and services.

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 21.3

FY 2015-16 = 44.1

FY 2016-17 = 56.45

### R&D Achievements

#### Products developed

- Know-how on the upscaling of six formulations used in cosmetics, facilitated licensing of the same from Drug Controller, Government of Kerala
- *Anjanam* (medicated collyrium): a daily usable collyrium is effective treating in diseases of eye
- RUDRA (Random Uninterrupted Documentation for Retrospective Analysis): A questionnaire-based instrument, developed to study generic Ayurvedic practice

#### Processes developed

- Development and dose optimization of concentrated *Vyosakatvivaradi* in virgin coconut oil for the management of hypercholesterolemia
- Randomized double blind parallel group placebo controlled study to investigate the efficacy and sustainability of integrated Ayurveda treatment in type 2 diabetes in addition to pre-existing anti-diabetic therapy
- Ayurveda-based approach to improve the quality of life in children with Duchenne muscular dystrophy.

## Research Areas

- Drug research in Ayurveda
- Educational research
- New drug development
- Development of software for clinicians and research in Ayurveda
- Interdisciplinary research
- Clinical protocol development in Ayurveda

## Research Outcomes

- Papers published:
  - » National: 3
  - » International: 3
- IPRs held
  - » Trademark: 1

- Development of a novel herbal product for wound healing using the method of lamellar gel phase emulsion
- Understanding the mechanism of Jatyadi Thailam and its components in treating non-healing diabetic ulcers using a reverse pharmacology approach

### Prototypes developed

- AYUTEXTS: Online cataloging of Ayurvedic books mentioned in Schedule 1 of Drugs and Cosmetics Act
- OSADHI: Referral portal on the standards of Ayurvedic herbs and other non-herbal drugs

### Revenue earned by way of licensing products/processes/prototypes developed

- Rs. 153 lakh for products and services, including intellectual consultancies

### Commercialization potential of products/processes developed

- Comparative evaluation of specific phytochemical indicative in CirivilādiKasāya prepared freshly and at commercial scale
- Formulation and development of commercially viable products: Virgin coconut oil-based formulation development for cosmetics used

### Consultancy services rendered

- Industrial consultancy on the large-scale production of Ayurvedic medicines

## Technical Collaborations

### National

Ari Foundation, Coimbatore, Tamil Nadu; Coconut Development Board,

Kochi, Kerala; DattaMeghe Institute of Medical Sciences, Maharashtra; Gujarat Ayurveda University, Jamnagar, Gujarat; Keratech Pvt. Ltd, Kerala

### International

The Rosenberg Society for Holistic Health and Education, European Academy of Ayurveda (REAA), Germany; The Ayurvedic Point, Italy; Atreya Ayurveda, Ayurveda and Yoga Clinics, Russia; ASANA, South America; National Ayurvedic Medical Association, Russia; Southern California University of Health Sciences, USA

## Societal Relevance

- A protocol has been developed for standardized treatments in Ayurveda
- DHARA (Digital Helpline for Ayurveda Research Articles) and AYUTEXTS enable easier access to high-quality research content for research in Ayurveda at no cost. RUDRA, the digitized clinical documentation protocol, is made available for the use of Ayurvedic fraternity at affordable costs
- Regular awareness programmes on health and hygiene; special health awareness camps on diseases associated with women, eye, ano-rectal and musculo-skeletal; regular awareness programmes on healthy living at schools, colleges, and community associations. 🔍



^ Tablet punching machine

## B R NAHATA COLLEGE OF PHARMACY

### Brief Description

The B R Nahata College of Pharmacy aims to emerge as a benchmark and center-of-excellence ensuring highest quality in education, research, and extension in the field of pharmacy. The institute fosters collaborative work, sharing of community space, construction of knowledge in addition to greater learning retention amongst students and providing e-learning through new technologies. The focus is on teaching and providing value-based learning, practical aspects in projects, research and development, industrial training, workshops, etc for the overall development of students. The institute is registered as a trust.

### R&D Set-up

The research facilities and infrastructure of the institution comprise the following:

- R&D laboratory in departments of pharmacchemistry, pharmaceutics, pharmacognosy, analytical development lab, CADD lab, pharm-analysis lab, data processing lab, pharmacology lab/ animal house, sonic biochem lab, and keegad lab.
- The institute has extensive R&D equipment, such as tablet dissolution tester, atomic absorption spectrophotometer, digital randell selitto apparatus,

differential scanning calorimeter, digital plethysmograph, ir moisture balance, environmental test chamber, viscometer, microscope with photographic attachment, auto biochemistry analyser, rotary evaporator, stereotaxic unit, sonicator, and others.

### Sources of income for R&D

- Donations
- Government funds

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 0.22

FY 2015-16 = 3.08

FY 2016-17 = 1.97

### R&D Achievements

#### Products developed

- Novel Series of alkoxyphenylcarboxamido derivatives II
- New  $\alpha$ -acyl  $\beta$ -phenyl propanoic acid as PPAR- $\alpha$  based hypolipidemic agent
- Development of a globally acceptable polyherbal formulation for diabetes
- Development of a chromatographic method for analysis of active ingredients in various anti-obesity diet formulations

### Registered Office

B R Nahata College of Pharmacy,  
Mhow-Neemuch Road Near  
Krishi-Upaj Mandi Mandasaur,  
Madhya Pradesh  
T: 07422 4576434  
E: info@meu.edu.in  
W: www.meu.edu.in/brncop

### Recognition Status

File No.: 14/400/2005-TU-V  
Initial Recognition: 2005  
Valid Until: March 31, 2017

### R&D Manpower

Doctorates: 4  
PGs & Graduates: 15

### Research Areas

- Herbal drug research
- Computer-aided drug design
- Pharmaceutical product development
- Development of targeted drug delivery systems
- Toxicological studies on herbal products
- Cosmeceuticals and nutraceuticals
- Quality audit and regulatory affairs
- Analytical development and synthetic chemistry
- Clinical research

### Research Outcomes

- Papers published: 23
- IPR held
  - » Patents filed: 2

### Consultancy services rendered

- Antioxidant activity: Quantification of phytoconstituents
- Pharmacognosy and pharmacological work
- Viscosity determination

### Societal Relevance

- As part of the R&D outcome, eight seminars/workshops have been organized by B R Nahata College of Pharmacy in the last three years. Seminars and conferences are held in the pharma-related sectors. 🔍





^ Inauguration of the neonatal ventilator

## BAI JERBAI WADIA HOSPITAL FOR CHILDREN AND INSTITUTE OF CHILD HEALTH RESEARCH SOCIETY

### Brief Description

The society offers state-of-the-art services for neonatal and paediatric care at affordable costs. The primary focus of research activities is aimed at providing children with preventive, curative, intensive, and rehabilitative treatments as well as spreading awareness about the same through imparting quality health education. The objective is to offer children with state-of-the-art neonatal and paediatric treatments through innovative techniques.

The non-governmental organization is registered as a society.

### R&D Set-up

The research infrastructure available at the institution comprises the following R&D equipment:

- Thermal cyclor
- Centrifuge
- Gel documentation system, and other such facilities

### Sources of income for R&D

- Donations
- Government funds

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 0.46

FY 2015-16 = 0.90

FY 2016-17 = 1.83

### R&D Achievements

#### Processes developed

A novel diagnostic service of Spino-muscular Atrophy (SMA), genetic disorder, was introduced using restriction fragment length polymorphism analyses (RFLP)

#### Commercialization potential of products/processes developed

- DNA diagnosis of beta thalassemia and other hemoglobinopathies
- Spinomuscular atrophy genetics

### Technical Collaborations

#### National

The Advanced Centre for Treatment, Research and Education in Cancer, Navi Mumbai, Maharashtra

#### Societal Relevance

- The institution has developed a cost-effective genetic diagnosis for the betterment of society
- An economical genetic facility is provided for patients from economically underprivileged backgrounds for an early diagnosis and prenatal counselling of various genetic diseases. 🔍

### Research Areas

- Thalassemia
- Genetic neurological disorders

#### Registered Office

Bai Jerbai Wadia Hospital for Children and Institute of Child Health Research Society,  
Parel, Mumbai 400 012,  
Maharashtra  
T: 022 24185646  
E: info@wadiahospitals.org  
W: www.wadiahospitals.org

#### Recognition Status

File No.: 14/10/1988-TU-V  
Initial Recognition: 1988  
Valid Until: March 31, 2018

#### R&D Manpower

Total: 3



^ Laboratory facility

### Registered Office

Bangalore Baptist Hospital,  
Bellary Road, Hebbal,  
Bengaluru 560 024, Karnataka  
T: 080 22024564  
E: talk2us@bbh.org.in  
W: www.bbh.org.in

### Recognition Status

File No.: 14/599/2011-TU V  
Initial Recognition: 2011  
Valid Until: March 31, 2018

### R&D Manpower

PGs & Graduates: 5

### Research Areas

- Patient care related — medicine, surgery, gynecology, orthopedics, anesthesia, ear-nose-throat (ENT)
- Quality related studies
- Community health and primary care

## BANGALORE BAPTIST HOSPITAL

### Brief Description

The Bangalore Baptist Hospital is a multispecialty mission hospital serving the different socio-economic groups in society. The hospital has been conducting specific training programmes for nursing aides, health care assistants, security assistants, and others to meet the requirements in various skill areas. Postgraduate students are trained in developing research protocols, studies, and statistical analysis. Clinical departments are encouraged to develop research ideas from their clinical observations and practice.

The hospital is registered as a society.

### R&D Set-up

The research facilities of the institution include research offices and laboratories comprising 1,500 sq. ft. The following research infrastructure is available at the institute:

- Cardiac catheterization laboratory
- Computed tomography machine
- Continuous passive motion machine
- Dual-energy X-ray absorptiometry machine
- Digital radiology machine
- Electroencephalography equipment
- Orthopantomograph

### Sources of income for R&D

- Donations
- Government grants

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

- FY 2014-15 = 16.30

- FY 2015-16 = 25.44
- FY 2016-17 = 24.38

### R&D Achievements

#### Products developed

- Effectiveness of carica papaya leaf extract in increasing the platelet count in cases of dengue fever with thrombocytopenia—a double blind randomized placebo-controlled study
- Cognitive development and behavioural patterns amongst children with stunting in an urban slum
- Effectiveness of the addition of intrathecal tramadol with hyperbaric bupivacaine in prevention of shivering in the parturients undergoing caesarean section
- Development of a mobile diagnostic and screening toolkit for urban slums (pilot testing phase)

### Technical Collaborations

#### National

Icarus Nova, Bengaluru, Karnataka;  
Maya Health, Bengaluru, Karnataka

#### International

Baylor University, Texas, US; Maastricht University, The Netherlands

### Societal Relevance

- Mobile screening and diagnostic toolkit for slums
- Virtual simulation project on hypertension for slums. 🔍

### Research Outcomes

- Papers published: 12



^ Immunohematology and transplant immunology R&D facility

### Registered Office

Bangalore Medical Services Trust,  
New Thippasandra Main Road,  
HAL III Stage, Bengaluru, 560 075,  
Karnataka

T: 80 25287903

E: admin@bmstindia.org

W: www.bmstindia.org

### Recognition Status

File No.: 14/612/2012-TU-V

Initial Recognition: 2012

Valid Until: March 31, 2018

### R&D Manpower

Doctorates: 3

PGs & Graduates: 20

## BANGALORE MEDICAL SERVICES TRUST

### Brief Description

The Bangalore Medical Services Trust has evolved over time to become a centre of excellence in the areas of blood banking, transfusion, and immunohematology; transplant immunology; tissue banking; solid organ and stem cell transplantation; training; research; and community-based health education and health services. The institute comprises blood bank, tissue bank, Human Leukocyte Antigen Lab, and Stem Cell Registry, and, therefore, provides the wide spectrum of services in the field of blood, organ, and cellular therapies.

This is a non-governmental, not-for-profit trust of the Rotary Club of Bangalore and the TTK group.

### R&D Set-up

The research facilities and infrastructure available at the institute include the immunohematology (red cell serology) laboratory, laboratory for screening of transfusion transmissible infections, transplant immunology laboratory, and a laboratory for the screening of sexually transmitted infections.

Research facilities at the collaborating centres are also utilized.

### Sources of income for R&D

Receives funds from national and international bodies

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 257.13

FY 2015-16 = 287.38

FY 2016-17 = 387.45

### R&D Achievements

#### Products developed

- Blood bank management software 'Hemotrace' v3: Multi-stakeholder, multi-pronged strategies for thalassemia management, control and prevention programme
- Transplant immunology software programme: Exploring emerging technologies, such as Next Gen Sequencing and identifying newer technologies to study population genetics

#### Processes developed

- Multi-stakeholder, multi-pronged strategies for thalassemia management, control, and prevention programme
- Standardized processes for research and investigation of problems in red cell immunohematology

#### Revenue earned by way of licensing products/processes/prototypes

- Blood bank management software 'Hemotrace': ₹3 lakh (in partnership with Centaur Information Systems Pvt. Ltd)

#### Commercialization potential of products/processes developed

- The Blood Bank management software 'Hemotrace' is in use at Lions Blood Bank, Chennai

### Technical Collaborations

#### National

- Centre for Cellular and Molecular Platforms, Bengaluru, Karnataka; Christian Medical College, Vellore, Tamil Nadu; Indian Council of

### Research Areas

- Blood banking and transfusion medicine
- Infectious diseases
- Transplant immunology
- Community and workplace health and social issues

### Research Outcomes

- Papers published: 3

Medical Research, New Delhi; Indian Institute of Science, Bengaluru, Karnataka; Institute of Immuno-Hematology, Mumbai, Maharashtra

### International

- Blood Systems Research Institute, San Francisco, USA; London School of Hygiene and Tropical Medicine, UK; University of California, USA; University of Manitoba, Winnipeg, Canada; University of Minnesota, USA

### Societal Relevance

- The trust is an NABH accredited; and NACO is a assisted regional transfusion centre, Karnataka, collecting around 40,000 units of blood per annum exclusively from

voluntary donors. It is a recognized training centre providing free blood and transfusions for thalassemia, haemophilia, and HIV/AIDS patients.

- Under the Thalassemia Control Programme, the trust provides screening and genetic counselling for families of Thalassemia patients in Karnataka
- Under Project 'NamagaagiNaave', workplace capacity building programmes are held to tackle gender equity, gender-based violence, alcohol abuse, HIV/AIDS and sexual and reproductive health, and, simultaneously, links to networked service providers are strengthened. 🔍



^ Research facility

## BARASAT CANCER RESEARCH & WELFARE CENTRE

### Brief Description

Barasat Cancer Research & Welfare Centre, a voluntary people's organization, is dedicated to control and curtail cancer amongst poor cancer-stricken people. The organization is involved in research activities aimed at cancer prevention and treatment in a low- or no-cost mode mainly for the underprivileged section of the society.

The centre is registered as a non-governmental organization in 1992.

### R&D Set-up

The research facilities and infrastructure are used for academic and research purposes. These comprise the following:

- Land and building area earmarked for R&D activities encompass 10,626 sq. m; of this 3,188 sq. m area is fully furnished
- Equipment available for R&D include: Real-time PCR, UV trans-illuminator, UV-transparent submarine electrophoresis system, electrophoresis power pack, micro centrifuge, pH-meter-systronics, electronic top loading balance, and several more

### Sources of income for R&D

Self-funding

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 35.98

FY 2015-16 = 39.69

FY 2016-17 = 40.59

### R&D Achievements

#### Products developed

- Incidence pattern of HIV, Hepatitis B, C, and Syphilis in the rural population of West Bengal
- Generation and maintenance of stem cells and development of strategy for the application in cyto-therapeutic approaches in cancer
- Effect of radiotherapy on tissue damage, innate and humoral immunity in a malignant condition

### Societal Relevance

- The organization is involved in social welfare and health services of cancer prevention, detection, research, diagnosis, management, and treatment
- A rapid and cost-effective protocol has been developed for early detection of oral cancer.
- Cancer-awareness programmes are organized every year all over West Bengal, the nearby Indian states, and in Bangladesh, including remote areas of the Sundarbans. 

### Research Areas

- Correlative study on the ABO blood group and malignant disorder
- Incidence pattern of blood transmissible diseases
- Prevalence of beta haemolytic group A streptococcal sore throat
- Distribution and antibiotic sensitivity of uropathogens
- Effect of radiotherapy on tissue damage, innate, and humoral immunity

### Registered Office

Barasat Cancer Research & Welfare Centre, Banamalipur, Barasat, North 24 Parganas, Kolkata 700 124, West Bengal  
T: 033 25522222  
E: cancerbarasat@hotmail.com  
W: www.barasatcancer.com

### Recognition Status

File No.:14/441/2006-TU-V  
Initial Recognition: 2006  
Valid Until: March 31, 2019

### R&D Manpower

Doctorates: 3  
PGs & Graduates: 14

### Research Outcomes

- Papers published: 24



^ Research facilities

## BHAGWAN MAHAVIR MEDICAL RESEARCH CENTRE

### Brief Description

The Bhagwan Mahavir Medical Research Centre, which has genetics, allergy/immunology, and infertility as special areas of focus, is committed to research and diagnosis in the field of tuberculosis, asthma, diabetes, breast cancer, neurodegenerative and cardiovascular diseases, bioinformatics computing, and other such medical diseases.

The centre is registered as a trust under the Andhra Pradesh (Telangana Areas) Public Societies and Registration Act, 1350.

### R&D Set-up

The research facilities and infrastructure comprise the following:

- The centre has three major departments—genetics, environmental toxicology and immunology, and molecular biology.
- Research is facilitated with equipment, such as flow cytometer, cold centrifuge, Elisa washer, magnetic stirrer, data management server system, electrophoretic apparatus, nanodrop, spectrophotometer, electrophoresis unit with power pack, biophotometer, and several others.

### Sources of income for R&D

- Government grants
- International funding

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 25.36

FY 2015-16 = 13.18

FY 2016-17 = 57.72

### R&D Achievements

#### Processes developed

Directly Observed Treatment, Short Course (DOTS) public–private mix (PPM) treatment for patients with tuberculosis

#### Research projects

The major research projects undertaken by the organization are:

- Identify immunological markers of persons at a highest risk of progression of latent tuberculosis infection to tuberculosis
- A virtual centre of excellence on multi-disciplinary approaches aimed at inter-venations against *Mycobacterium tuberculosis*
- Genotoxicity studies in women occupationally exposed to pesticides in Nalgonda and Guntur Districts of Andhra Pradesh

### Technical Collaborations

#### National

Hyderabad Central University, Hyderabad, Telangana

#### International

National Institute of Health, Texas, USA

### Registered Office

Bhagwan Mahavir Medical Research Centre, 10-1-1, Mahavir Marg, A C Guards, Masabtank, Hyderabad 500 004, Telangana  
T: 040 23497360  
E: bmmrc.hyd@gmail.com  
W: themahavirhospital.com/

### Recognition Status

File No.: 14/126/1989-TU-V  
Initial Recognition: 1989  
Valid Until: March 31, 2020

### R&D Manpower

Doctorates: 9  
PGs & Graduates: 17

### Research Areas

- Tuberculosis and human immunodeficiency virus (HIV): immunology and immunogenetics
- Leprosy
- Asthma: immunology and immunogenetics
- Reproductive medicine (male and female infertility)
- Diabetes and cancer
- Neuropathy and heart diseases
- Genetic and environmental toxicology


### Research Outcomes

- Papers published: 97

### Societal Relevance

- DOTS PPM programme for the control of tuberculosis, covering a population of 500,000 and has earned acceptance by the state and central government, and

other international agencies, such as World Health Organization and the World Bank.

- Over 1,000 dialysis are carried out every month out of which 40%, that is, 400 cases are taken up under the Aarogyasri Scheme. 



^ Drug standardization laboratory of integrated cancer treatment and research center

### Registered Office

Bharatiya Sanskriti Darshan Trust,  
"Vishwashanti Dham", Wagholi,  
Tal: Haveli, Dist Pune 412 207,  
Maharashtra  
T: 020 67346000  
E: bsdtdadar@gmail.com  
W: www.ayurved-for-cancer.org

### Recognition Status

File No.: 14/336/2001-TU-V  
Initial Recognition: 2001  
Valid Until: March 31, 2019

### R&D Manpower

Doctorates: 12  
PGs & Graduates: 13

## BHARATIYA SANSKRITI DARSHAN TRUST

### Brief Description

The Bharatiya Sanskriti Darshan Trust is managing the Ayurved Hospital and Research Center. The objective of the research activities at the trust is dedicated to establishing the efficacy of Ayurved in giving relief to the patients suffering from cancer.

The institute is registered as a non-governmental trust.

### R&D Set-up

The research infrastructure of the institution comprise the following well-equipped facilities:

- Integrated cancer treatment and research centre
- Ayurvedic Medical College and Ayurvedic Hospital
- Cottage Hospital, Panchakarma Hospital & Ayurveda Pharmacy
- Digital X-ray and sonography unit
- Radiotherapy and chemotherapy departments
- Cell biology, molecular biology, tissue culture, and immunology laboratory
- Drug standardization laboratory
- R&D equipment include multiparameter monitor and pulse oximeter, Beckman coulter, digital X-ray Inverters, digital X-ray machines, Asha treatment planning system, bio-chem analysers, Elisa reader, electrolyte analyser with accessories, extraction heater, and several others.

### Sources of income for R&D

- Donations
- Government funds

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 66.79

FY 2015-16 = 256.80

FY 2016-17 = 547.92

### R&D Achievements

#### Products developed

- Formulation for the management of brain tumours and process of preparation thereof
- Role of RG4 (an Ayurvedic formulation) in the management of the side - effects of radiotherapy of oral cavity cancers
- Assessment of effect of CG4 (an Ayurvedic formulation) in the management of the side effects of chemotherapy in breast cancer

### Technical Collaborations

#### National

Curie Manavata Cancer Centre, Nashik, Maharashtra; Sahyadri Specialty Hospital, Pune, Maharashtra; The Advanced Centre for Treatment, Research and Education in Cancer, Kharghar, Navi Mumbai, Maharashtra

### Societal Relevance

The trust's integrated cancer treatment and research center regularly organizes cancer awareness



### Research Areas

- Cancer
- Ayurved
- Integration
- Immunomodulation
- Quality of life

### Research Outcomes

- Papers published:
  - » National: 11
  - » International: 4
- IPRs held
  - » Patents filed: 1

programmes in the form of free cancer consultation camps, cancer detection camps, exhibitions,

lectures, articles in newspapers and periodicals, talk shows on television, and book publications. 🔍



Research infrastructure

## BREACH CANDY MEDICAL RESEARCH CENTRE

### Brief Description

Breach Candy Medical Research Centre aims to provide comprehensive healthcare and medical expertise along with state-of-the-art technical facilities. Through Breach Candy hospital, the centre is committed to quality health and diagnostics services.

The centre is registered as a trust.

### R&D Set-up

The following research infrastructure is available at the centre:

- R&D equipment, such as Genexpert system, Esco class IIA 2 biosafety cabinet, Bio-oxygen Demand (BOD) incubator, thermo scientific refrigerated centrifuge, analytical weighing balance, magnus epi-LED reflected fluorescence attachment, and others.

### Sources of income for R&D

- Donations
- Grants from government

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 31.83

FY 2015-16 = 50.23

FY 2016-17 = 27.97

### R&D Achievements

#### Processes developed

- Comparison of two decontamination procedures for tuberculosis cultures modified

Petroff's method versus OMNI gene sputum

- Quantification of effect of various surgical steps (such as soft-tissue release, osteophyte and bone resection) performed during primary total knee arthroplasty (TKA) – radiographic and computer navigation analysis
- Analysis of variation in gap balance and kinematics during navigated TKA
- Clinical and radiographic analysis of revision TKAs.

### Societal Relevance

- Through Breach Candy hospital, the centre provides healthcare treatment to the underprivileged sections of society at a nominal charge or free of cost.
- The centre undertakes corporate-social responsibility initiatives in accordance with the terms of the Companies Act, 2013.

### Registered Office

Breach Candy Medical Research Centre, 60-A, Bhula Bhai Desai Road, Mumbai 400 026, Maharashtra  
 T: 22 23667788  
 E: info@breachcandyhospital.org  
 W: www.breachcandyhospital.org

### Recognition Status

File No.: 14/72/1988-TU-V  
 Initial Recognition: 1988  
 Valid Until: March 31, 2019

### R&D Manpower

Doctorates: 1  
 PGs & Graduates: 9

### Research Areas

- Orthopedics
- Biochemistry
- Microbiology
- Infection control
- Cardiology

### Research Outcomes

- Papers published: 10



Research facility

## CACHAR CANCER HOSPITAL & RESEARCH CENTER

### Brief Description

The Cachar Cancer Hospital & Research Center was established with the objective to combat the growing occurrence of cancer and not letting the socio-economic condition of patients get in the way of medical aid. The centre serves economically impoverished patients from the Barak valley, other districts of Assam, and from the states of Tripura, Manipur, Meghalaya, and Mizoram. The non-governmental organization is registered as a society.

### R&D Set-up

The research infrastructure at the centre comprise the following facilities:

- More than 2,000 sq. ft of building space is earmarked for developing a sophisticated research centre—Dr S Krishnamurthi Centre for Research & Education in Cancer—in Cachar Cancer Hospital and Research Centre.
- Research biomedical instruments include flow cytometer, qPCR, thermalcycler, Millipore water purification system, chemiluminescence, centrifuge, gel doc, automated cell counter, laminar air flow, -20 deep freezer and biorepository facility.

### Sources of income for R&D

Government funds

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 28.38

FY 2015-16 = 22.19

### R&D Achievements

#### Products developed

- Esophageal brush and stents: Development of self-examining esophageal brush for the early screening of esophageal cancer.

#### Processes developed

- Cell cycle analysis to predict tumour spread: Optimization of the protocol for the detection of malignant cells in the body fluids through flow cytometer.

### Technical Collaborations

#### National

Assam University, Assam; Department of Atomic Energy, Government of India, New Delhi; Department of Biotechnology, Government of India, New Delhi; Indian Council of Medical Research, New Delhi; Medgenome Pvt Ltd, Bengaluru, Karnataka

#### International

INDOX, UK

### Societal Relevance

- The centre is connected to National Cancer Grid, India, and impart the objectives of equitable and accessible cancer care to all without any discrimination of their socio-economic status in North-east India
- Standardization of in-house molecular and immunophenotypic tests for predictive markers for breast cancer, leukemia panel and various tumour markers making them easily accessible and affordable to all patients.

### Registered Office

Cachar Cancer Hospital & Research Center of The Cachar Cancer Hospital Society,  
Meherpur, Silchar 788015,  
Cachar, Assam  
T: +91 3842 224795  
E: admin@cacharcancerhospital.org  
W: cacharcancerhospital.org

### Recognition Status

File No.: 14/677/2015-TU-V  
Initial Recognition: 2015  
Valid Until: March 31, 2017

### R&D Manpower

PGs & Graduates: 3

### Research Areas

- Basic and translational cancer research
- Medical biotechnology

### Research Outcomes

- Papers published:
  - » International: 3

- Two telemedicine-based satellite clinics have been initiated as a pilot project that has subsequently become permanent, thus enhancing patient compliance to screening, treatment, and follow-up.
- Health worker (ASHA)-based pilot screening project for oral, breast, and cervical cancer in Cachar, a socio-economically backward district of Assam in association with the ICMR
- Tri district population-based cancer registry covering a population of about 40 lakh set up to generate cancer incidence and mortality data in Karimganj, Haikandhi, and DimaHasao, the last being a district that represents a distinct set of tribal population. 🔍



^ Cryotherapy being conducted as part of the study on cervical cancer control

### Registered Office

Cancer Foundation of India,  
47/2D Selimpur, Kolkata 700031,  
West Bengal  
T: 3364503131  
E: cancer.foundation.india@gmail.com  
W: www.cancerfoundationofindia.org

### Recognition Status

File No.: 14/492/2009-TU-V  
Initial Recognition: 2009  
Valid Until: March 31, 2018

### R&D Manpower

Doctorates: 3  
PGs & Graduates: 9

## CANCER FOUNDATION OF INDIA

### Brief Description

The Cancer Foundation of India is dedicated to cancer prevention and control in India. Through its activities, the organization tries to bridge the gap that exists in cancer-related health, education, training and human resource development, population research, and cancer survivor issues in the country.

The foundation is registered as a society under the West Bengal Societies Registration Act XXVI of 1961.

### R&D Set-up

The following research facilities and infrastructure are available at the institution:

- Basic laboratory equipment for processing blood samples and clinical equipment and the associated infrastructure for cancer screening including colposcopy facility.
- For all sophisticated tests and where state-of-the-art analytical equipment are required, the foundation outsources the work to collaborators laboratories and private research labs.

### Sources of income for R&D

- Government grants
- National and international funds

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 32.59

FY 2015-16 = 36.51

FY 2016-17 = 13.19

### R&D Achievements

#### Processes developed

- Randomized trial of 2 versus 3 doses of HPV vaccine in India
- Dedicated breast clinics in three major government hospitals in Shillong (Meghalaya), Aizawl (Mizoram), and Agartala (Tripura): These dedicated breast clinics in these 3 major government hospitals in the north-east region will allow women to receive priority clinical follow up if detected with any breast abnormality during the community screening or on self-detection. In addition, customized, high-impact material, developed during the course of this project (flip charts, posters and brochures etc.), is available for educating women who visit the clinic.

### Technical Collaborations

#### National

Department of Biotechnology, Ministry of Science & Technology, Government of India; Department of Science and Technology, Ministry of Science & Technology, Government of India; Indian Council of Medical Research (ICMR), Ministry of Health Research

#### International

American Cancer Society, USA;  
Bloomberg Initiative, USA;

### Research Areas

- Cancer prevention and screening
- Cancer epidemiology
- Human papilloma virus vaccination
- Anti-tobacco research
- Lifestyle and cancer
- Cancer public health

### Research Outcomes


- Papers published:
  - » International: 5

International Agency of Research on Cancer, Lyon, France; World Health Organisation, Geneva, Switzerland

### Societal Relevance

- Dedicated breast clinics set up in the north-eastern region of the country that allow women to receive priority clinical follow-up if detected with any breast abnormality during community screening or on self-detection; cervical cancer screening of women in rural south Bengal (approx. 10,000 beneficiaries);

started-free-of-charge cancer screening centre in Kolkata for the underprivileged and underserved sections in 2016. The foundation helpline is an ongoing cancer information service to community since November 2002.

- Patient Assistance Programmes are held in collaboration with the pharmaceutical industry
- The foundation conducts various public interest activities in cancer prevention—films, exhibition, and media sensitization meetings. 



^ P16 ELISA kit

### Registered Office

Cancer Institute (WIA)  
No 1, East Canal Bank Road,  
Gandhi Nagar, Adyar,  
Chennai 600 020, Tamil Nadu  
T: 044 22209150  
E: director@cancerinstitutewia.org  
W: www.cancerinstitutewia.in

### Recognition Status

File No.: 14/93/1988-TU-V  
Initial Recognition: 1988  
Valid Until: March 31, 2020

### R&D Manpower

Doctorates: 11  
PGs & Graduates: 14

### Research Areas

- Cancer, genomics
- Proteomics
- Immunotherapy
- Drug discovery
- Biomarker discovery

## CANCER INSTITUTE (WIA)

### Brief Description

The Cancer Institute (WIA) is a comprehensive cancer centre comprising of a hospital of 535 beds, a research division, a college of oncological sciences, and a division of preventive oncology. The institute provides scientific treatment and promotes health education amongst all sections of the people.

The institute is public the funded, voluntary charitable organization registered under the societies Registration Act XXI of 1860.

### R&D Set-up

The main research laboratory is equipped with Centrifuge, Gel Electrophoresis, Illumina hybridization oven, Hybex microsample incubator, and many more. Other research infrastructure include the following facilities:

- Proteomics facility
- Flow cytometer facility
- Diagnostics lab
- Thermal cycler room
- Instrumentation room

### Sources of income for R&D

- Donations
- Government and foundation grants

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 67.54

FY 2015-16 = 11.58

FY 2016-17 = 7.6

### R&D Achievements

The R&D Achievements of the institute comprise the following:

### Products developed

- Developed a double antibody sandwich ELISA for PI6 protein, which would help screen women for cervical dysplasia and cancer
- Biomarkers for cervical cancer
- Biomarkers for an early diagnosis of ovarian cancer
- Targeted therapy for Ewing, sarcoma

### Commercialization potential of products/processes developed


- Memorandum of understanding signed for the transfer of the technology for the development of the PI6 ELISA kit for cervical cancer screening.

### Technical Collaborations

#### National

HLL Lifecare Ltd, Uttar Pradesh

#### Societal Relevance

- P16 ELISA kit has the potential to be used in the national-control programme for population-based screening for cervical cancer
- Dendritic cell vaccine for the treatment of cervical cancer has been developed
- Peptide developed for therapy for Ewings sarcoma
- Biomarkers detection developed for an early diagnosis of epithelial ovarian cancer. 

### Research Outcomes

- Papers published: 24
- IPRs held
  - » Patents filed: 3
- Technologies transferred: 1



^ IoT-based medical device for remote monitoring

# CARDIAC RESEARCH AND EDUCATION FOUNDATION

## Brief Description

The mission of Cardiac Research and Education Foundation is to make advanced comprehensive healthcare affordable and accessible to all. The foundation promotes the development of indigenous products and systems, adapting appropriate technologies, generating clinical skills, and removing barriers before patients accessing it through institutional partnerships.

The foundation is a non-profit organization and is registered as a Society under the Andhra Pradesh Society Act 1365F.

## R&D Set-up

The following research facilities are available:

- A dedicated wing for research and the Pan-African network and a virtual classroom
- Research infrastructure is shared with the industry partners for IoT-based medical devices

## Sources of income for R&D

- Technical fee and services
- Clinical research fee

## R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

- FY 2014-15 = 64.28
- FY 2015-16 = 95.28
- FY 2016-17 = 99.38

## R&D Achievements

### Products developed

- Design and development of IoT-based medical devices that can be monitored remotely
- Tele-medicine application that supports mobile architecture
- Community-based Care Rural Health Programme
- Developing a repository of computed tomography (CT) brain images of over 15,000 patients to develop machine learning programmes that help in predicting specific disease conditions using artificial intelligence principles

### Commercialization potential of developed products/processes

- Picture Archiving and Communication System, Telemedicine, Medical record scanning
- Teleconsultation, teleradiology, remote monitoring

## Technical Collaborations

### National

Indian Institute of Chemical Technology, Hyderabad, Telangana; International Institute of Information Technology, Hyderabad, Telangana

### International

- VIOS Medical Devices, USA

### Registered Office

Cardiac Research and Education Foundation, 8-2-595/2/B, Road No 10 Banjara Hills, Hyderabad 500 034, Telangana  
 T: 040 39116125  
 E: info@carefoundation.org.in  
 W: www.carefoundation.org.in

### Recognition Status

File No.: 14/426/2006-TU-V  
 Initial Recognition: 2006  
 Valid Until: March 31, 2018

### R&D Manpower

Doctorates: 2  
 PGs & Graduates: 8



### Research Areas

- Internet of Things (IoT)-based sensor for vital parameters monitoring
- Point of care devices for rural health setting
- Telemedicine (tele-radiology, tele-cardiology, Tele-dermatology, etc.)
- Machine learning programme and artificial intelligence
- Picture archiving and communication system
- Tele-education
- Care Rural Health Mission

### Research Outcomes

- Papers published: 1
- Total products commercialized: 3
- Total services for commercialization: 3

### Societal Relevance

The organization is involved in national and societal missions, these are enumerated as follows:

- IoT-based remote monitoring device provides continuity of care to chronic patients
- Tele-consultations and tele-radiology provides access of specialists to patients
- Awareness programmes and camps are held for chronic and non-communicable diseases. 🔍



^ Isotope-ratio mass spectrometry

## CBCI SOCIETY FOR MEDICAL EDUCATION

### Brief Description

The objectives of CBCI Society for Medical Education include striving for excellence in all fields of health care education, fostering the dimensions of participatory team work and striving towards promoting holistic health. St John's Research Institute, a unit of CBCI Society for Medical Education, facilitates staff within the academy in terms of planning research, fund raising, legal reviews and contracts administration, generation of reports, and peer reviewed publications and in general, in education and programme building.

The institute is a registered Society.

### R&D Set-up

The following research facilities are available:

- Research units include stable isotope and analytical bio-chemistry unit, human nutrition biology research unit, human physiology unit
- State of the art center of excellence facility for micronutrients research
- Biorepository area for a secure and ethical storage of biological samples
- Research equipment include GCMS - gas chromatograph mass spectrometer, high pressure liquid chromatography, triton thermal ionization mass spectrometry, dexta system ELISA, thermo forma double door freezer, roche Real Time PCR with accessories, HPLC systems with accessories, Mass

spectrometer with accessories, Mastercycler CP Gradient with accessories, gel documentation system, HD3 Color Doppler System with accessories, bone mineral densitometry systems, and several others.

### Sources of income for R&D

- Donations
- Governmental grants
- Funds from national and international organizations

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 1598

FY 2015-16 = 1527

FY 2016-17 = 1709

### R&D Achievements

#### Products developed

- Infant whole-body calorimeter
- Simulator mannequins for clinical training in critical care settings
- Natural language processing for unstructured healthcare data
- Culturally appropriate iron-fortified biscuits to reduce maternal and perinatal anemia in women
- Mobile Soundproof audiology unit

#### Processes developed

- State-of-the-art novel stable isotopic techniques for use in medical research and public health
- Techniques for body composition studies (deuterium-dilution techniques, Whole body potassium counter)

### Registered Office

CBCI Society for Medical Education  
St John's National Academy of Health Sciences, Sarjapura Road, Bengaluru 560034, Karnataka  
T: 080-25505555, 26274010  
E: dirsjnahs@gmail.com  
dirsjnahs@stjohns.in  
W: www.stjohns.in

### Recognition Status

File No.: 14/445/2006-TU-V  
Initial Recognition: 2006  
Valid Until: March 31, 2018

### R&D Manpower

Doctorates: 27  
PGs & Graduates: 235

## Research Areas

- Cardiovascular diseases
- Infectious diseases
- Maternal and child health
- Mental health, neurosciences nutrition, and metabolism
- Society and health (health and humanities)
- Medical informatics, health, and Internet of Things
- Clinical research and training
- Molecular medicine and proteomics
- Epidemiology, population health, and biostatistics

## Research Outcomes

- Papers published : 885
- IPRs held:
  - » Patents filed: 4
  - » Patents awarded: 2

- Techniques to measure mineral bio-availability, infection of H.pylori using stable isotopes, human breast milk output
- Generation of scientific evidence to inform policy
- Developed studies which provided the much needed data on human protein requirements, which was adopted by the Food and Agriculture Organization of the United Nations
- Developed studies on iron bio-availability in Indian foods, which helped define the Recommended Dietary Allowance for iron in India.

### New theories/models developed

- Remote Bio-monitoring project: Development of Kangaroo Mother Care (KMC) sensor for position and temperature
- Community testing model for HIV/AIDS
- Application study for reducing stigma towards HIV amongst health professionals

## Technical Collaborations

### National

All India Institute of Medical Sciences, New Delhi; Department of Biotechnology, Government of India; Department of Science and Technology, Government of India; Indian Institute of Science, Bengaluru, Karnataka; Indian Council of Medical Research, New Delhi; Indian Society for Critical Care Medicine, Mumbai, Maharashtra; Ministry of AYUSH, Government of India; National Institute of Nutrition,

Hyderabad, Andhra Pradesh; Rajiv Gandhi University of Health Sciences, Karnataka; Tata Institute of Fundamental Research, Bengaluru, Karnataka

### International

Baylor College of Medicine, USA; Food and Agriculture Organization of the United Nations, Italy; Harvard T H Chan School of Public Health, USA; Maastricht University, Netherlands; Mahidol University, Thailand; Tufts University, USA; Umeå University, Sweden; University of California, USA; University of Miami, USA; University of Stirling, Scotland, UK; University of Toronto, Canada

## Societal Relevance

The following R&D outcomes are of national or societal significance:

- Amino acid requirement studies have led to the formulation of policy on the human amino acid requirements and the stable isotopic studies conducted on iron bio-availability has helped formulate the new recommended dietary allowance for Indians.
- The KMC Remote Bio-monitoring device has helped to flag non-compliance to KMC in community settings in pre-term.
- Studies on iron bio-availability in Indian foods has been developed that helps to determine the recommended dietary allowance in India. These studies have helped change policy and suggest dietary guidelines for the Indian population. 🔍



^ Seed culture, nodal culture and Rhizogenesis in Gambhari: *Gmelina arborea Roxb.*

## CENTRAL COUNCIL FOR RESEARCH IN AYURVEDIC SCIENCES

### Brief Description

The Central Council for Research in Ayurvedic Sciences is an apex body in India for the formulation, coordination, development, and promotion of research on scientific lines in Ayurveda and Sowa-Rigpa system of medicine. The Council has been executing its research programmes with a network of 30 peripheral institutes/centres/units with the official headquarters assuming responsibility for control, monitoring, and supervision.

The Council is an autonomous body under Ministry of AYUSH, Government of India.

### R&D Set-up

Out of the 30 Council institutes, clinical research facilities /OPD/IPD are available in 24, animal houses are available in 4 institutes, and 4 institutes have drug standardization facility. One institute is dedicated for literary research while there is an Ayurvedic pharmacy in three institutes.

### Sources of income for R&D

- Government funding

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 15,687

FY 2015-16 = 16,521

FY 2016-17 = 16,965

### R&D Achievements

#### Processes developed

- AYUSH MANAS: A process for preparation of an ayurvedic herbal compound for mental retardation
- AYUSH QOL-2C: A process for the preparation of an Ayurvedic herbal compound Capsule Supportive therapy for improving the quality of life of cancer patients
- AYUSH Rasayan A & B: Development of an Ayurvedic product for accelerated and appropriate nutrition to improve the biological competence of body
- AYUSH A: A herbal formulation for the treatment of Asthma
- CARCTOL-S: Development of an Ayurvedic product for the treatment of cancer
- C1 Oil: A process for wound healing
- AYUSH SL: A process for the management of Filariasis
- AYUSH K-1: A process for the management of Chronic Kidney Disease

#### Prototypes developed

- Developed an automatic working prototype model for preparation of Kshara sutra (unique Ayurveda parasurgical procedure) for the management of anorectal disorders in collaboration with IIT Delhi

### Registered Office

Central Council for Research in Ayurvedic Sciences,  
J.L.N.B. Chikitsa Evam Homeopathy Anusandhan Bhawan, Instt. Area,  
No.61-65, Opposite "D" Block, Janakpuri, New Delhi 110 058  
T: 011 28525862, 28525897  
E: dg-ccras@nic.in, ccra\_tec@nic.in  
W: www.ccras.nic.in

### Recognition Status

File No.: 14/137/1990-TU-V  
Initial Recognition: 1990  
Valid Until: March 31, 2020

### R&D Manpower

Doctorates: 101  
PGs & Graduates: 394

## Research Areas

- Medicinal Plant Research (Medico-ethno Botanical survey, cultivation, Pharmacognosy), drug standardization research
- Pharmacology Research (Pre-clinical Safety/Toxicity and Biological Activity Studies)
- Clinical Research Programme
  - » Intra Mural Clinical Research
  - » Collaborative Clinical Research
- Literary Research & Documentation

## Research Outcomes

- Papers published: 462
- IPRs held
  - » Patents filed: 3
- Technologies transferred/commercialized: 3

Commercialization potential of products/processes developed

- Three products of the council—AYUSH 64, AYUSH 82, and AYUSH SG—have been commercialized to various industries

## Technical Collaborations

### National

Akums Drugs & Pharmaceuticals Ltd, New Delhi; Bundelkhand University, Uttar Pradesh; Dabur India Ltd, New Delhi; Guru Angad Dev Veterinary and Animal Sciences University, Punjab; Indian Council of Forestry Research & Education, Dehradun, Uttarakhand; Indian Council of Medical Research, New Delhi; Jiwaji University, Gwalior, Madhya Pradesh; Nagaland University, Nagaland; National Research Development Corporation, New Delhi; OUSHADHI The Pharmaceutical Corporation (1M) Kerala Ltd, Kerala

### International

The Medical Research Infrastructure and Health Services Fund of The Tel Aviv Sourasky Medical Center, Israel; University of Alberta, Canada;

University of Debrecen, Hungary; University of Latvia, Latvia

## Societal Relevance

The following R&D outcomes are of national/societal significance:

- The Council has developed the National AYUSH Morbidity and Standardized Terminology Portal (NAMSTP) for inclusion of Ayurveda in the chapter of traditional medicine of International Classification of Diseases. This will be the first ever initiative by the government for uniform centralized collection of AYUSH morbidity statistics.
- During the last three years, three technologies, namely AYUSH-64 an anti-malarial preparation; AYUSH-82 an anti-diabetic preparation; and AYUSH-SG for rheumatoid arthritis, have been transferred to several pharmaceutical companies for the welfare of the society, especially in the treatment of health-related diseases. 🔍



^ Virology Laboratory

### Registered Office

Central Council for Research  
in Homoeopathy,  
Jawahar Lal Nehru Bhartiya  
Chikitsa Avum Homoeopathy  
Anusandhan Bhawan,  
61-65, Institutional Area,  
Opposite D-Block, Janakpuri,  
New Delhi 110 058  
T: 011-28525523  
E: ccrh@del3.vsnl.net.in  
W: www.ccrhindia.nic.in

### Location of R&D Units

- Agartala, Tripura
- Chennai, Tamil Nadu
- Gangtok, Sikkim
- Gudivada, Andhra Pradesh
- Guwahati, Assam
- Hyderabad, Telangana
- Imphal, Manipur
- Kolkata, West Bengal  
and others

### Recognition Status

File No.: 14/251/1995-TU-V  
Initial Recognition: 1995  
Valid Until: March 31, 2018

### R&D Manpower

Doctorates: 3  
PGs & Graduates: 299

## CENTRAL COUNCIL FOR RESEARCH IN HOMOEOPATHY

### Brief Description

The Central Council for Research in Homoeopathy is an apex research organization which undertakes, coordinates, develops, disseminates, and promotes scientific research in homoeopathy. The Council is an autonomous organization, registered under the Societies Registration Act XXI, 1860, fully funded/controlled by the Ministry of AYUSH, Government of India.

### R&D Set-up

The research facilities and infrastructure available in the organization are detailed as follows:

- Multi-centric research is conducted through a network of 23 institutes/units all over India.
- These include 8 Regional Research Institutes, 11 Clinical Research Units, 2 Drug Standardization Units, Homoeopathic Drug Research Institute, Clinical Verification Unit, Drug Proving Unit, Centre of Medicinal Plants Research in Homoeopathy, and Homoeopathic Treatment Centre.

### Sources of income for R&D

Government funds

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D

FY 2014-15 = 6,957.95

FY 2015-16 = 8,699.41

FY 2016-17 = 8,285.77

### R&D Achievements

#### Products developed

Nosodes for Malaria, Leishmaniasis, Escheirchia coli and Vibrio cholera

#### Processes developed

Nosodes for Malaria, Leishmaniasis, Escheirchia coli, Vibrio cholera, Dengue viruses, Rota virus

#### Commercialization potential of Products/Processes developed

Commercial potential will be realized in partnership with National Research Development Corporation after patents are accepted, which is in pipeline of filing.

#### Research projects

- Management of Polycystic Ovarian Syndrome with homeopathic intervention versus placebo- A Randomized Controlled pilot study
- Efficacy of homoeopathic medicine Belladonna 200 in preventing Acute Encephalitis Syndrome in children residing in an endemic region - A cluster randomized, double blind, double arm, placebo, controlled trial
- The drug proving research protocol of the Council has been modified and is in consonance with the guidelines given by international organizations for carrying out Homoeopathic Pathogenetic Trials. Further, Drug proving Training Manual and Module has been published. The protocol and the training manual have been kept in public domain

### Research Areas

- Drug standardization
- Drug proving
- Clinical verification
- Epidemic research
- Public health programmes

### Research Outcomes

- Papers published: 49

## Technical Collaborations

### National

Government Homoeopathic Medical College, Bhopal, Madhya Pradesh; Homoeopathy University, Rajasthan; RBTS Homoeopathic Medical College, Bihar; Dr M L Dhawale Trust, Mumbai, Maharashtra; Motiwala Homoeopathic Medical College, Nasik, Maharashtra; Society for Welfare of Handicapped Persons, Durgapur, West Bengal; National Institute for Empowerment of Persons with Multiple Disabilities, Chennai, Tamil Nadu

### International

Federal University of Rio de Janeiro, Brazil; Scientific Society for Homoeopathy (WissHom), Germany; Institute for the History of Medicine, Robert Bosch Foundation, Germany; Homoeopathic Pharmacopoeia, USA; Universidad Maimonides, Argentina; Yerevan State Medical University, Government of Armenia; College of Homeopaths of Ontario, Canada; Royal London Hospital for Integrated Medicine, United Kingdom; University of Mississippi, USA; Instituto Politecnico Nacional, Mexico

## Societal Relevance

The following R&D outcomes are of national/societal significance:

- Products: The partially or fragmentarily proved drugs when undergo systematic proving following the standardized protocol developed by the Council, helps in knowing the pathogenetic power of the drugs by the symptoms generated in the volunteers/provers.
- Services: The symptoms are further clinically verified. Dissemination of the information, that is, proving and clinically verified data will enhance the therapeutic utility of the drug in the treatment of patients and society at large. Products are used for research purpose and for treatment of patients.
- Awareness programme: Orientation programmes/ workshops for the faculty/ students are regularly conducted in homoeopathic medical colleges. 🔍



^ Research laboratory

### Registered Office

Central Council for Research in Siddha, SCRI Building, Anna Hospital Campus, Arumbakkam, Chennai 600106, Tamil Nadu  
 T: 04426211621, 26212421  
 E: ccrschennai@gmail.com, dgccrs@hotmail.com  
 W: siddhacouncil.com

### Location of R&D Units

- Chennai
- Puducherry
- Tirunelveli
- Mettur
- Tamil Nadu
- Thiruvananthapuram and others

### Recognition Status

File No.: 14/657/2014-TU-V  
 Initial Recognition: 2014  
 Valid Until: March 31, 2020

### R&D Manpower

Doctorates: 14  
 PGs & Graduates: 72

## CENTRAL COUNCIL FOR RESEARCH IN SIDDHA

### Brief Description

Central Council for Research in Siddha aims to undertake scientific research work in Siddha in a time-bound and cost-effective manner, to coordinate, aid, promote, and collaborate research with different units of sister councils and research organizations.

The Institute is registered as an autonomous body under the Ministry of AYUSH, Government of India, as per the Societies Act.

### R&D Set-up

The following research facilities are available:

- The research infrastructure of all peripheral institutes/units is utilized for research taking into account the available expertise and the sophisticated instruments
- Equipment include stereo microscope, ESR Vesmatic 20 Analyser, fully automated analyser, high-performance thin-layer chromatography, UV-visible spectroscopy, liquid chromatography–mass spectrometry, inductively coupled plasma optical emission spectroscopy, microwave digester, and others

### Sources of income for R&D

- Government grants-in-aid

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2015-16 = 201

FY 2016-17 = 365

### R&D Achievements

#### Products developed

- Coded drug D5 chooranam was formulated and standardized as per AYUSH guidelines
- Simple and low cost process for the preparation of synergistic Bio-active compound Jacom for the management of H1N1 influenza virus infection

#### Commercialization potential of developed products/processes

The two products are ready for commercialization.

#### Consultancy services rendered

Consultancy services provided for research projects and drug development, adopting classical and modern techniques/equipment for diagnosis, evolving evidence-based Siddha drug treatment/therapy, and promoting Siddha drug manufacturing in collaboration with the other technical organizations.

### Technical Collaborations

#### National

- College of Pharmacy, Sri Ramachandra University, Chennai, Tamil Nadu; East West Integrative Medicine Hospital and Research Institute, Chennai, Tamil Nadu; Manipal University, Manipal, Karnataka; Mother Theresa Post Graduate and Research Institute of Health Sciences, Puducherry; National Institute of Epidemiology, Chennai, Tamil Nadu; Pondicherry University, Puducherry; Rajiv Gandhi Centre for Bio Technology,



### Research Areas

Research pertaining to the Siddha system of medicine in the fields of:

- Literary research
- Medicinal plant research
- Drug research
- Clinical research

### Research Outcomes

- Papers published: 100
- IPRs held
  - » Patents awarded: 2

Thiruvananthapuram, Kerala; Santhigiri Health Care and Research Organization, Thiruvananthapuram, Kerala; Swami Vivekananda Yoga AnusandhanaSamsthana, Bengaluru, Karnataka; Tamil Nadu Veterinary and Animal Sciences University, Chennai, Tamil Nadu; The Tamil Nadu Dr. M.G.R. Medical University, Chennai, Tamil Nadu; VELS Institute of Science, Technology and Advanced Studies, Chennai, Tamil Nadu; Vellore Institute of Technology, Vellore, Tamil Nadu

### Societal Relevance

The following R&D outcomes are of national or societal significance:

- The Ministry of AYUSH's Swasthya Rakshan Programme (SRP) is effectively implemented by the council's peripheral institutes.
- The Central Council for Research in Siddha provides training to its officers, scientists, and all stakeholders concerned through various seminars, conferences, and workshops periodically. 🔍



▲ National seminar on the emerging trends of research in yoga and naturopathy

## CENTRAL COUNCIL FOR RESEARCH IN YOGA AND NATUROPATHY

### Brief Description

The Central Council for Research in Yoga and Naturopathy is an autonomous organization under the Ministry of AYUSH, Government of India. The aim of the council is to conduct scientific research in the fields of Yoga and Naturopathy.

The foundation is registered as a society.

### R&D Set-up

Research facilities/infrastructure of this Council are under construction

### Sources of income for R&D

Government funds

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 625.49

FY 2015-16 = 1,067.00

FY 2016-17 = 2,565.00

### R&D Achievements

#### Products developed

- Study of the efficacy of yogic and naturopathy measures in varicose veins
- Effect of yoga on physical, cognitive, and emotional development in children
- The effect of yoga therapy on coagulation profile, lipid profiles, lung diffusion capacity, and the quality of life in patients with coronary artery disease

- Effect of yoga and hydratic application on migraine—a clinical, electrophysiological, and Immunological study

### Societal Relevance

The following R&D outcomes are of national or societal significance:

- Yoga and naturopathy treatment facilities and services are provided to the public for the maintenance of health and treatment of diseases through government hospitals and outdoor patient departments (OPDs).
- Various programmes, such as International Day of Yoga, Yoga festivals, seminars, workshops, Arogyas, and health camps are being organized throughout the the country to create awareness amongst the masses.
- The Council has published 12 research monographs so far for the benefit of researchers and scholars in the field. 🔍

### Research Areas

- Collaborative clinical research to establish efficacy of Yoga and Naturopathy

### Research Outcomes

- Papers published: 54

### Registered Office

Central Council for Research in Yoga and Naturopathy,  
61-65, Institutional Area,  
D-Block, Janakpuri,  
New Delhi 110 058  
T: 01128520430  
E: ccryn.goi@gmail.com  
W: www.ccryn.org

### Recognition Status

File No.: 14/300/1999-TU-V  
Initial Recognition: 1999  
Valid Until: March 31, 2020

### R&D Manpower

Doctorates: 2  
PGs & Graduates: 2



^ Animal cell culture facility

## CENTRAL INDIA INSTITUTE OF MEDICAL SCIENCES

### Brief Description

The Central India Institute of Medical Sciences is a medical research institute with a medical services wing (hospital) as part of infrastructure for research. The basic life sciences research centre undertakes research activities in biochemistry, microbiology and biotechnology on the problems faced on clinical side in diagnosis, pathogenesis and treatment.

The institute is registered as a Trust.

### R&D Set-up

The following research facilities are available:

- The research facilities are equipped with various equipment including Animal cell culture laboratory, proteomic facility, microbiology laboratory, molecular biology laboratory, and Animal house facility
- Outsourcing of research facility

### Sources of income for R&D

- Donations
- Project grants
- Hospital consultations

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 276.01

FY 2015-16 = 281.76

FY 2016-17 = 320.20

### R&D Achievements

#### Products developed

- Genus-based nested Polymerase Chain Reaction (PCR) diagnostic method has been developed to identify the organisms of bacterial meningitis
- Test developed to identify Mycobacterium tuberculosis latency regulon protein that is RV 2623 in clinical samples, such as cerebrospinal fluid (CSF), blood and other bodily fluids of tuberculosis patients
- Developed an assay based on PCR for the diagnosis of tuberculosis and herpes simplex virus infection by analysing blood, CSF, and other bodily fluids
- A method using synthetic peptides of viral antigenic target proteins is being developed for the detection of IgM and IgG antibodies against 7 neurotropic viruses in a single run

#### Commercialization potential of developed products/processes

Besides the four above-mentioned products, the following products are ready for commercialization:

- Conventional PCR method has been developed to test Listeria and brucella infection in blood and CSF samples, respectively.
- Developed synthetic peptides of bacterial antigenic target proteins for the detection of IgM antibodies against the Listeria genus in blood and CSF.

#### Registered Office

Central India Institute of Medical Sciences,  
88/2 Bajaj Nagar,  
Nagpur 440 010  
Maharashtra,  
T: 0712 6687777  
E: ciimsgnp@gmail.com,  
W: www.ciimsnagpur.com/

#### Recognition Status

File No.: 14/14/1988-TU-V  
Initial Recognition: 1988  
Valid Until: March 31, 2020

#### R&D Manpower

Doctorates: 6  
PGs & Graduates: 19

### Research Areas

- Pulmonary and extra-pulmonary tuberculosis
- Immunodiagnosics
- Other bacterial and viral infections
- Stroke
- Thrombosis

### Research Outcomes

- Papers published:
  - » International: 4
- IPRs held
  - » Patent filed: 1
  - » Patents awarded: 4

- IgG detection of brucella infection in serum and CSF samples by designing synthetic peptides of the brucella antigenic proteins.
- A rapid and cost effective immuno diagnostic ELISA has been developed by analysing 30kD protein comprising Ag85 complex of *Mycobacterium tuberculosis* in CSF, blood, and other bodily fluids for the diagnosis of tuberculosis meningitis and also for diagnosis of pulmonary and extra-pulmonary tuberculosis.
- An in vitro test tube model has been developed to screen herbal preparation for the lytic activity of human blood clot.
- Developed a diagnostic protocol by analysing inter-alpha trypsin inhibitor heavy chain in serum of patients suffering from acute Ischemic stroke.
- An experimental protocol is developed to analyse heat shock protein (65kDa) in the diagnosis and pathogenesis of tuberculosis.
- A test developed for the diagnosis of chikungunya infection by detecting viral antigen in blood and CSF samples.
- A duplex PCR test has been developed to detect *M Bovis* infection targeting two virulent region of differentiation in blood samples and CSF sample.
- A PCR test has been developed to detect MDR Tb (rifampicin and isoniazid) cases in sputum and blood samples

### Consultancy services rendered

- Research consultation provided to student research scholars for R&D project designing, writing, and implementation.

## Technical Collaborations

### National

- Bhat Biotech India Pvt Ltd, Bengaluru, Karnataka; Maharashtra Animal and Fishery Sciences University, Nagpur, Maharashtra; Meditation, AIDS, Health, Addiction & Nutrition (Mahan) Trust, c/o Mahatma Gandhi Tribal Hospital, Amravati, Maharashtra; National Environmental Engineering Research Institute, Nagpur, Maharashtra; National Institute of Miners Health, Nagpur, Maharashtra; Shri Ayurvedic College, Nagpur, Maharashtra

### International

- Nottingham Digestive Diseases Centre and NIHR Nottingham Digestive Diseases Biomedical Research Centre, UK

## Societal Relevance

The following R&D outcomes are of national or societal significance:

- The Biochemistry Research Laboratory of the Institute has developed various cost-effective kits for the diagnosis of CNS and extra CNS in human infection by bacteria and viruses. The developed test is used for analysis of different bodily fluids for the detection of neuro-infectious cases and other disorders at minimal charges.
- Research consultation to research scholars; conducts hand on training on advanced research methodology available for post graduate students, research scholars, and faculties.
- Awareness camps for tuberculosis and zoonotic disorders. 🔍



^ Awareness programme

### Registered Office

Centre for Brain Research,  
CV Raman Avenue, SID Complex,  
Indian Institute of Science,  
Bengaluru 560 012, Karnataka  
T: 08022933588  
E: office.cbr@iisc.ac.in  
W: www.cbr.iisc.ac.in

### Recognition Status

File No.: 14/705/2016-TU-V  
Initial Recognition: 2016  
Valid Until: March 31, 2019

### R&D Manpower

Doctorates: 6  
PGs & Graduates: 12

### Research Areas

- Neurodegenerative diseases related to age
- Population health
- Population genetics

## CENTRE FOR BRAIN RESEARCH

### Brief Description

The Centre for Brain Research fosters focussed research programmes and builds capacity for interdisciplinary neuroscience research in the country in order to set the stage to contribute in a significant manner to the endeavour of discovering rational therapies for dementia.

The centre is registered as a society under the Government of Karnataka. It is an autonomous centre of the Indian Institute of Science.

### R&D Set-up

The following research facilities are available:

- Research facilities for high throughput genetic studies include facilities for blood sample storage, DNA isolation, genetic studies, and long-term storage of DNA samples
- Research infrastructure also comprise behavioural core facility, histology, and ultrastructural imaging platform
- Computational infrastructure includes servers and workstations for large-scale computing and data storage

### Sources of income for R&D

- Donations

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2015-16 = 0.30

FY 2016-17 = 56.44

### R&D Achievements

#### Products developed

- Optimizing machine learning algorithms for cognitive impairment classification

#### Research projects

- Preserving cognitive functions during aging and reducing the burden of dementia through early diagnosis and innovative interventions
- Developing neuromorphic computing and algorithms based on understanding brain function

### Technical Collaborations

#### National

National Institute of Mental Health and Neurosciences (NIMHANS), Bengaluru, Karnataka

#### Societal Relevance

The following R&D outcomes are of national or societal significance:

- The collaborative study—Genome India Project—aims to identify the genetic background of Indians with a final mandate to generate a magnetic chip for a cheap diagnosis of genetic disorders. 🔍

### Research Outcomes

- Papers published:
  - » International: 4



▲ Main lab with equipment on vibration-free floor

## CENTRE FOR CELLULAR AND MOLECULAR PLATFORMS

### Brief Description

The Centre for Cellular and Molecular Platforms seeks to develop and establish new, high-end technologies through research/technology-based collaborations within and outside the Bengaluru bio-cluster. The centre promotes entrepreneurship with strategic nucleation of biotechnology industry with the aim of developing and making available new platforms.

The centre is a private limited company, registered under Section 25 /8 of the Companies Act.

### R&D Set-up

The following are the research facilities available:

- The major focus areas are: advanced microscopy (confocal/sem/tem), flow cytometry, mass spectrometry (proteomics, glycomics, metabolomics, lipidomics), microfluidics and microfabrication, high throughput screening and high content imaging, genomics (next gen sequencing), transgenic animal facilities (drosophila, mouse), spectroscopy (nmr & x-ray), etc.
- All the high-end technology platforms are shared between the centre, National Centre for Biological Sciences, and the Institute for Stem Cell Biology and Regenerative Medicine (together from the Bangalore Life Science Cluster).

### Sources of income for R&D

- Government grants

### R&D Achievements

#### Products developed

- Microfluidic-based flow analyser
- Culture medium for growth and expression of recombinant proteins, methods
- Vector and Enzyme free – cloning
- In vitro production of metabolites from neemendophytes

#### Commercialization potential of products/processes developed

Microfluidic-based flow analyser

### Societal Relevance

The following R&D outcomes are of national or societal significance:

- The centre is an initiative of the Department of Biotechnology, Government of India
- The technological intervention, microfluidic-based flow analyser, has entered the national phase in 10 jurisdictions. 🔍

### Research Areas

- Development of novel technologies and tools
- Development of novel modalities for the existing tools and technologies

### Research Outcomes

- Papers published: 45
- IPRs held
  - » Patents filed: 4
  - » Patents granted: 1

### Registered Office

Centre for Cellular and Molecular Platforms,  
GKVK Post, Bellary Road,  
Bengaluru 560 065, Karnataka  
T: 080 6718 5100, 2308 5100  
E: ccamp@ccamp.res.in  
W: ccamp.res.in

### Recognition Status

File No.: 14/516/2010-TU-V  
Initial Recognition: 2010  
Valid Until: March 31, 2019

### R&D Manpower

Doctorates: 12  
PGs & Graduates: 8



^ Nurse using mPower Heart mHealth system

## CENTRE FOR CHRONIC DISEASE CONTROL

### Brief Description

The mission of the centre for Chronic Disease Control is primarily intended to address the growing challenge of chronic diseases in varied settings of the developing countries through knowledge generation, which can inform policies and empower programmes for the prevention and control of chronic diseases. Through knowledge translation, the centre intends to operationalize research results by bridging the critical gaps between relevant research and effective implementation.

The centre is registered as non-government organization under Society Registration Act XXI of 1860.

### R&D Set-up

The following research facilities are available:

- Establishment of a collaborative unit at the Cardiac Biochemistry Department of AIIMS and South Asia Network for Chronic Disease of Public Health Foundation of India
- The laboratory has equipment, such as auto analyzers, Konelab, Immulyte 2000, hematology cell counters, coagulometer, Thermal cyclers, polyacrylamide gel electrophoresis set-up, and several others

### Sources of income for R&D

Grants

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 60.78

FY 2015-16 = 84.94

FY 2016-17 = 113.99

### R&D Achievements

#### Products developed

- mPower mHealth System for the use of healthcare team at primary care setting for the management of hypertension and diabetes in India
- CARRS Diabetes Translation eHealth System comprising non-physician care coordinators and decision-support electronic health records for efficient diabetes care
- SIMCARD intervention package for high-risk individuals in the rural communities
- Acute coronary syndrome quality improvement toolkit for secondary and tertiary care hospitals

#### Processes developed

- Yoga-CaRe Intervention designed to improve the quality of care and to reduce cardiovascular morbidity and mortality in patients following acute myocardial infarction.
- Living intervention for the prevention of Type 2 diabetes mellitus amongst South Asian women with gestational diabetes mellitus.
- Disha Intervention for non-communicable disease risk

### Registered Office

Centre for Chronic Disease Control, Flat No. 70, Pocket-1, Sector-2, Dwarka, New Delhi 110075  
T: 01141619456, 41618456  
E: ccdc@ccdindia.org  
W: www.ccdindia.org

### Recognition Status

File No.: 14/483/2008-TU-V  
Initial Recognition: 2008  
Valid Until: March 31, 2020

### R&D Manpower

Doctorates: 6  
PGs & Graduates: 18

## Research Areas

- Clinical research with a special emphasis on chronic non-communicable diseases:
  - » Cardiology
  - » Diabetes and metabolic disease
  - » Vascular diseases, and cancers
  - » Mental health
- Basic science research in diet/nutrition and cardiac biochemistry

## Research Outcomes

- Papers published
  - » National: 2
  - » International: 105

reduction through information, education, and communication tools with Anganwadi centres as the centre of knowledge dissemination for hypertension (including hypercholesterolemia and diabetes) risk reduction.

- InterTxt2Heart SMS Bank to improve adherence to medications amongst cardiac patients for the secondary prevention of cardiovascular diseases.

## Technical Collaborations

### National

- All India Institute of Medical Sciences, New Delhi; Christian Medical College, Vellore, Tamil Nadu; Department of Biotechnology, Government of India; Department of Health Research, Ministry of Science and Technology, Government of India; Department of Science and Technology, Government of India; Indian Council of Medical Research, New Delhi; Madras Diabetes Research Foundation, Chennai, Tamil Nadu; Ministry of Health and Family Welfare, Government of India; Post-graduate Institute of Medical Sciences, Chandigarh; Public Health Foundation of India, New


Delhi ; Translational Health Science and Technology Institute, Haryana

### International

- Emory University, USA; George Institute of Global Health, China; Harvard University, USA; Imperial College London, UK; London School of Hygiene and Tropical Medicine, UK; McMaster University, Canada; Northwestern University, USA; University College London, UK; University of Melbourne, Australia; University of Sydney, Australia; University of Washington, USA

## Societal Relevance

The following R&D outcomes are of national or societal significance:

- The technology-enabled interventions developed by the centre facilitate task shifting and delivering chronic disease care at primary and secondary health care levels, thus, reaching out to the vast rural Indian population.
- The mHealth Health System, developed by the Centre, facilitates computing clinical management plan for diabetes and hypertension as part of the national programme for prevention and control of cancer, diabetes, cardiovascular diseases, and stroke. 





Research laboratory

### Registered Office

Centre for Human Genetics,  
Biotech Park,  
Electronic City Phase 1,  
Bengaluru 560 100, Karnataka  
T: 080-28521832, 28521833  
E: info@chg.res.in  
W: www.chg.res.in

### Recognition Status

File No.: 14/301/1999-TU-V  
Initial Recognition: 1999  
Valid Until: March 31, 2020

### R&D Manpower

Doctorates: 8  
PGs & Graduates: 23

### Research Areas

- Human disease genetics
- Human genetics
- Pediatric genetics
- Clinical and molecular cytogenetics

## CENTRE FOR HUMAN GENETICS

### Brief Description

The Centre for Human Genetics is engaged in advanced research, teaching, and training in areas which lie at the interface of modern genetics and medicine. Besides research and teaching, the centre provides comprehensive clinical services, including genetic counselling for a range of genetic disorders and inborn errors of metabolism.

The Centre is registered as society under the Karnataka Societies Registration Act 1960.

### R&D Set-up

The research facilities and infrastructure of the institution are being used by academia for research and teaching purposes at the Centre. These include:

- Cell culture, cell immortalization and cell banking facilities
- DNA sequencing facility
- Lab for studying fly models of human genetic disorders

### Sources of income for R&D

Government agencies

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 550.54

FY 2015-16 = 783.98

FY 2016-17 = 1168.45

### R&D Achievements

#### Products developed

- Development of indigenous monoclonal antibodies for

subtyping certain disfiguring skin disorders of genetic origin

### Processes developed

- Developed and made available low cost procedures for in-situ hybridization for the detection of chromosome errors.

### Research projects

- Genetic and epigenetic landscape of acquired chemoresistance: novel therapeutic approaches
- Investigations into estrogen regulation of tumour cell derived extracellular matrix (ECM) remodeling genes and the role of key transcription factors

### Societal Relevance

The following R&D outcomes are of national/societal significance:

- Genetic counseling is provided to below poverty line (BPL) families
- Assistance is provided to colleges and hospitals for setting up molecular cytogenetic laboratories for diagnosis of chromosomal disorders
- Intensive short-term courses and training programmes are conducted in human disease genetics and molecular cytogenetics. 🔍

### Research Outcomes

- Papers published:
  - » National: 7
  - » International: 18



^ Liquid dosage form unit

## CHALAPATHI INSTITUTE OF PHARMACEUTICAL SCIENCES

### Brief Description

The mission of the Chalapathi Institute of Pharmaceutical Sciences is to inculcate excellence in various fields of pharmacy and mold the institution as a centre of excellence in terms of academics and advanced research.

The institute is registered as a non-government body, affiliated to Acharya Nagarjuna University and accredited by National Assessment Accreditation Council 'A' grade. The institute is recognized by the University Grants Commission under Sections 2(f) and 12 B.

### R&D Set-up

The research facilities and infrastructure available in the organization are as follows:

- Laboratories include the central instrumentation laboratory, Industrial pharmacy/ machine room, Pharmacology laboratory, Pharmaceutical chemistry laboratory, Biochemistry laboratory, Microbiology/ Biotechnology laboratory, and others.
- The research infrastructure comprises various equipments, such as Refractometer, Polarimeter, Dissolution test apparatus, Karl-Fischer titrimeter, High performance liquid chromatography, Nephelometer, Flame photometer, Haemocytometer, Analgesimeter, Kymograph assembly, Hebb's William Maze, and several others.

### Sources of income for R&D

Funds

#### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 8.78

FY 2015-16 = 16.45

FY 2016-17 = 9.26

### R&D Achievements

#### Products developed

- Studies on the development of poloxamer coated anti-retroviral nanoparticles
- Impact of aluminium adjuvant particle size on recombinant protein antigen adsorption in vaccine formulation
- Formulation and evaluation of Carvedilol transdermal patches for mitigation in hypertension
- Formulation and evaluation of Pulsatile drug delivery system of Montelukast
- Formulation, development, and optimization of fast disintegrating oral film of Rizatriptan benzoate
- Design and development of Costus igneus oral fast hebaecutical films for diabetes
- Design and characterization of desvenlafaxine succinate microcapsules

#### Processes developed

- Analytical method development and validation of Tolvaptan and its related substances in drug product by Reversed-

### Registered Office

Chalapathi Institute of Pharmaceutical Sciences,  
Chalapathi Nagar,  
Lam, Guntur 522 034,  
Andhra Pradesh  
T: 0863-252 4124, 2524125  
E: nadendla2000@yahoo.co.in  
W: www.chalapathipharmacy.in

### Recognition Status

File No.: 14/672/2014-TU-V  
Initial Recognition: 2014  
Valid Until: March 31, 2018

### R&D Manpower

Doctorates: 10  
PGs & Graduates: 38

## Research Areas

- Synthesis and characterization of medicinal bioactive compounds
- Analytical method development and validation
- Bio-analytical method development and chemometrics
- Development and characterization of novel drug delivery systems
- Photochemical screening and pharmacological evaluation

## Research Outcomes

- IPRs held
  - » Patents filed: 8
- Papers published:
  - » National: 65
  - » International: 160

phase high-performance liquid chromatography (RP-HPLC)

- Method development and validation for estimation of Dorzolamide and Timolol in ophthalmic solution by RP-HPLC
- Method development and validation for estimation of Clopidrogel bisulphate in solid dosage form by RP-HPLC
- Analytical method development and validation of Doxazosin mesylate in presence of its related compounds in its tablet dosage form by RP-HPLC
- Analytical method development and validation of Epirubicin Hydrochloride and its related substances in drug product by RP-HPLC method

### Consultancy services rendered

The research facilities are being utilized for consultancy projects of industry and other institutes. Such projects include:

- Estimation of D&L Aspartic acid in human teeth by RP-HPLC
- Estimation of eletriptan and quercetin in rabbit plasma samples by RP-HPLC
- Fourier Transform-Infrared Spectroscopy (FTIR) sample analysis
- Ultraviolet-visible spectrophotometry (UV-VIS) spectroscopy sample analyses
- Viscosity sample analysis

### Technical Collaborations

#### National

Andhra Pradesh State Skill Development Corporation;

Ann Pharmacare and Wellness LLP, Karnataka; Arsvil Research Labs, Andhra Pradesh; Biophore Pharmaceuticals Ltd, Hyderabad, Telangana; Darwin Formulations Pvt Ltd, Andhra Pradesh; Darwin Research and Ayur Pharma, Andhra Pradesh; Darwin Research Laboratories, Uttarakhand; Government General Hospital, Guntur, Andhra Pradesh Kelvin Labs, Kerala; PVS Laboratories Ltd, Andhra Pradesh; Srinija Parenterals, Andhra Pradesh

#### International

Spartan Health Sciences University, St Lucia; University of Maryland Eastern Shore, USA

### Societal Relevance

The following R&D outcomes are of national/societal significance:

- The institute has signed a Memorandum of Understanding (MoU) with Andhra Pradesh State Skill Development Corporation and has organized Pradhan Mantri Kaushal Vikas Yojana (PMKVY)—skill development programme for IV/IV Bachelor of Pharmacy students on the topics of healthcare and pharmaceutical ecosystem, regulatory authorities and policies, disease management, orientation of pharmacovigilance, therapeutic drug class and categories, etc.
- Awareness programmes and special camps were conducted on various issues, such as creating awareness on health issues, environmental hazards, pollution, and sanitation. 🔍



^ Validating mobile technology to improve Integrated Management of Childhood Illness compliance

### Registered Office

Charutar Arogya Mandal,  
H M Patel Centre for Medical  
Care & Education, Gokal Nagar,  
Karamsad 388 325, Anand,  
Gujarat  
T: 2692 228411  
E: research@charutarhealth.org  
W: www.charutarhealth.org

### Recognition Status

File No.: 14/474/2008-TU-V  
Initial Recognition: 2008  
Valid Until: March 31, 2018

### R&D Manpower

Doctorates: 6  
PGs & Graduates: 87

### Research Areas

- Medical education
- Public health
- Epidemiology
- Non-communicable diseases
- Neonatal pain
- Hypothermia
- Kangaroo mother care
- Maternal, child, and adolescent health
- Tribal health
- Monitoring and evaluation

## CHARUTAR AROGYA MANDAL

### Brief Description

The Charutar Arogya Mandal comprises a college recognized by Medical Council of India, hospital, an institute of postgraduate studies, school of nursing, college of physiotherapy, institute of medical technology, cardiac centre, and cancer centre. The Central Research Services of the institute focusses on teaching (empowering people in research methods and biostatistics), epidemiological research, and community oriented primary care.

Charutar Arogya Mandal is a public trust registered under Section 29 of Mumbai Public Trust Act 1950.

### R&D Set-up

The research facilities and infrastructure include electrical and medical equipment.

### Sources of income for R&D

- Research grants
- International receipts

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 44.97

FY 2015-16 = 54.13

FY 2016-17 = 9.00

### R&D Achievements

#### Processes developed

- Identification and management of neonatal pain: Worked extensively on this neglected yet important area. Successfully tried KMC (Kangaroo Mother Care), sucrose, music therapy to reduce neonatal

pain during various invasive procedures.

- Neonatal resuscitation: The institute is acknowledged research centre for neonatal resuscitation in India. One of the publications from the institution is cited in all national and international resuscitation guidelines.
- SPARSH: A comprehensive programme for prevention, early detection, and local management for addressing growing epidemic of NCDs is being established in rural communities.

### Technical Collaborations

#### National

SP University, Anand, Gujarat;  
Foundation for Diffusion of  
Innovations, Vadodara, Gujarat

#### International

Boston University, USA; University of  
Massachusetts, USA

### Societal Relevance

- Ongoing projects related to cancer and non-communicable disease have been disseminated through villages in and around Charutar Arogya Mandal using peer educators, videos, and trained counsellors. These deal with smoking, menstruation, control of blood sugar, and blood pressure. 🔍

### Research Outcomes

- Papers published:
  - » National: 127
  - » International: 58



^ Research facility

## CHELLARAM DIABETES INSTITUTE

### Brief Description

The Chellaram Diabetes Institute strives to serve the underprivileged sections of society by providing support to organizations that are creating an impact in areas of education, health, and research. It is geared to create an impact on the alarming diabetes scenario, by providing unique and state-of-the-art services under one roof.

The institute is registered as not-for-profit organization under Section 25 of the Companies Act, 1956.

### R&D Set-up

The research facilities and infrastructure are enumerated as follows:

- Research facilities are shared with collaborating institutes with a total area designated for R&D of around 4,500 sq. ft.
- Research laboratories are equipped with equipments, such as Cobas Integra 400 bio-analyser, immunoassay analyser, hematology analyser, LA62 I - 25 litre docking vessel, VL electrolyte analyser, and several others

### Sources of income for R&D

- Research funds

### R&D expenditure (₹ in lakhs)

The Institute has initiated the process to maintain separate accounts for R&D activities.

FY 2014-15 = 15.63

FY 2015-16 = 19.70

FY 2016-17 = 19.12

### R&D Achievements

#### Products developed

- Mass spectrometry-based evaluation of AGE modified haemoglobin (AGE-HbA) as an alternative biomarker for glycemic status in diabetes
- Biomarker development in diagnosing pre-diabetes and diabetes

#### Research projects

- Evaluation of Serum 1,5 Anhydroglucitol levels in western Indian subjects with pre-diabetes.
- A pilot of a model for enhanced diabetes care in rural community of district Pune, Maharashtra, leading to understanding the effect of creating awareness, early diagnosis, treatment, and care among rural public.
- Study of glucose metabolism in Indian subjects with prediabetes will provide an understanding on mechanistic links between prediabetes, diabetes, obesity, and other metabolic disorders.

### Technical Collaborations

#### National

Center for Chronic Disease Control, New Delhi; Directorate of Health, Government of Maharashtra; Docplexus, Pune, Maharashtra; Ministry of Health and Family Welfare, Government of India; National Chemical Laboratory, Pune, Maharashtra; Public Health Foundation of India, New Delhi

### Registered Office

Chellaram Diabetes Institute,  
1st floor, Lalani Quantum Lalani  
Quantum, Pune-Bangalore  
Highway, Bavdhan Budruk,  
Pune 411 021, Maharashtra  
T: 020-66839777  
E: mail@cdi.org.in  
W: www.cdi.org.in

### Recognition Status

File No.: 14/645/2013-TU-V  
Initial Recognition: 2013  
Valid Until: March 31, 2020

### R&D Manpower

Doctorates: 1  
PGs & Graduates: 5

### Research Areas

- Epidemiology
- Pathophysiology
- Genetics
- Immunology
- Cell biology and other related features

### Research Outcomes

- Papers published:
  - » National: 48
  - » International: 11

### International


Mayo Clinic, USA; World Heart Federation, Switzerland

### Societal Relevance

The following R&D outcomes are of national/societal significance:

- Results from ongoing research projects are expected to make an overall impact in diagnosis and therapeutics of pre-diabetes and diabetes.
- Educating and empowering accredited social health activists and through them all affected with diabetes to participate in

their own healthcare management in a public–private partnership.

- Conducting free healthcare camps and lectures on diabetes, thereby, diagnosing diabetes and its complication in the vulnerable groups and empowering them to understand implications of the disease.
- Through rural outreach programme, the institute is conducting awareness sessions through educational videos and distributing handouts to the population, especially those living in rural areas. 



^ Research facility

### Registered Office

Chennai Dental  
Research Foundation  
No. 56, Dr R K Salai, 6th Floor,  
Mylapore, Chennai 600 004,  
Tamil Nadu  
T: 044-4210 3440  
E: dental.cdrf@gmail.com  
W: cdrf.org.in/

### Recognition Status

File No.: 14/521/2010-TU-V  
Initial Recognition: 2010  
Valid Until: March 31, 2019

### R&D Manpower

PGs & Graduates: 1

### Research Areas

- Oral and dental research
- Cancer and Pre-cancer treatment
- Curcumin

## CHENNAI DENTAL RESEARCH FOUNDATION

### Brief Description

The Chennai Dental Research Foundation aims to promote basic and applied dental research. The research activities of the foundation encompass areas of dentistry and oral sciences. The institute provides assistance to thesis and research protocol analysis. The foundation is registered as a trust.

### R&D Set-up

The foundation has a well-equipped tissue culture and biochemistry lab. The institute has basic and sophisticated instruments, such as laminar chamber, carbon dioxide incubator, autoclave, centrifuge, deep freezers, inverted phase contract microscope, fluorescent microscope, etc.

### Sources of income for R&D

Governmental grants

### R&D Achievements

#### Processes developed

- Characterization of dental pulp cells for stem cell markers and differentiation of dental pulp cells to corneal epithelial cells.

#### Research projects

The major research projects undertaken by the organization are:

- Determine the Clinical Efficacy and Safety of Curcumin in Oral Premalignant Lesions, Phase II
- Open-label, randomized,

assessment-blinded clinical trial to compare the safety and efficacy of topical Gentian Violet to that of Nystatin Oral Suspension for the treatment of oropharyngeal candidiasis in HIV-1 infected participants in non-US settings, Phase III

### Technical Collaborations

#### National

Karpaga Vinayaga Institute of Medical Sciences, Tamil Nadu; Life Med Hospitals, Tamil Nadu; Sankalp Beautiful World, Tamil Nadu; Shankar Nethralaya, Tamil Nadu

#### Societal Relevance

- The foundation is one of the nine international centres recognized for a randomized clinical trial comparing zygomatic implants vs conventional implants in augmented maxilla, a study co-ordinated by Cochrane Oral Health Group.
- Screening camps are held for cancer and pre-cancer treatment
- Cancer awareness programmes for school students, factory, and industry workers. [Q](#)

### Research Outcomes

- Papers published
  - » International: 1



^ Research laboratory

## CHEST RESEARCH FOUNDATION

### Brief Description

The Chest Research Foundation focusses on creating awareness around the prevention and cure of airways diseases in India and clinical evaluation of drugs for the treatment of these diseases.

The foundation is registered as a trust.

### R&D Set-up

The research facilities and infrastructure available in the organization are as follows:

- Research infrastructures comprise Pulmonary Function Testing laboratory, Molecular Biology laboratory, Bio-analytical laboratory, Sputum Induction laboratory, Data management cell, and other research facilities
- Research equipments include Seahorse extracellular flux analyzer, Nanodrop Lite Spectrophotometre, Lab SAFE Aspirating system, Liquid nitrogen container, and others

### Sources of income for R&D

- Donations
- Research grants
- Clinical trials
- Medical fees

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 412.56

FY 2015-16 = 575.60

FY 2016-17 = 586.68

### R&D Achievements

#### Products developed

- Nation-wide health data for chronic respiratory diseases for the Global Burden of Diseases
- Advocacy for national COPD Prevention & Control Programme
- Development of automated algorithms for identification of specific lung sounds using novel mobile-attached stethoscope

#### Research projects

- Development of automated algorithms for identification of specific lung sounds using a novel mobile-attached stethoscope (smart stetho).
- Nationwide point prevalence study (the POSEIDON study) to assess symptoms and medical conditions in patients visiting primary health-care practitioners in India.
- Use of spirometry among chest physicians and primary care physicians in India.

### Technical Collaborations

#### National

Allergy Asthma Associates, Mysore, Karnataka; CSIR-Institute of Genomics and Integrative Biology, New Delhi; International Institute of Population Sciences, Mumbai, Maharashtra; Public Health Foundation of India, Gurugram, Haryana; Symbiosis International University, Pune, Maharashtra

#### Registered Office

Chest Research Foundation,  
Survey No. 15, Marigold Premises,  
Behind Gold AD Labs, Kalyani  
Nagar, Pune 411 014, Maharashtra  
T: 020-49134343  
E: crf@crfindia.com  
W: www.crfindia.com/  
CommonCMS/Home.aspx

#### Recognition Status

File No.: 14/545/2011-TU-V  
Initial Recognition: 2011  
Valid Until: March 31, 2020

#### R&D Manpower

Doctorates: 7  
PGs & Graduates: 22



### Research Areas

- Obstructive lung diseases
- Asthma
- Chronic Obstructive Pulmonary Disease (COPD)
- Air pollution
- Chronic lung disease

### Research Outcomes

- Papers published: 50

### International

Imperial College, UK; International Primary Care Respiratory Group, UK; John Hopkins University, USA; Massachusetts University of Technology, USA; McMaster University, Canada

### Societal Relevance

The following R&D outcomes are of national/societal significance:

- The POSEIDON study aimed to record the prevalence of

symptoms and medical conditions for which patients visit a primary health-care practitioner in India. This knowledge aids in sharing health policy decisions at the state and central levels and design medical curricula for medical students.

- Awareness programmes for asthma and COPD for doctors, patients, and the common people. 🔍



^ In vivo Imaging System

## CHETTINAD ACADEMY OF RESEARCH & EDUCATION

### Brief Description

The Chettinad Academy of Research & Education offers 60 academic programmes in the faculty of medicine, nursing, and allied health sciences. The mission of the Academy is to assemble talented faculty and students to address key and emerging biomedical problems with implications in human health.

Chettinad Academy of Research & Education is registered as a private university.

### R&D Set-up

The academy has research facilities that are used by the academia. These include equipments, such as Cardio vascular echocardiography machine, Automatic biocarbonate mixture, UV transilluminator, Fingertip pulse oximeter, Spinwin Microcentrifuge, Spinix vortex shaker, Magnetic stirrers, High speed homogenizer, Electrophoresis apparatus, Pro-respiratory analysis system, Orbital incubator shaker, and others.

### Sources of income for R&D

- Donations
- Funds

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D activities.

FY 2014-15 = 261.48

FY 2015-16 = 264.15

FY 2016-17 = 294.88

### R&D Achievements

#### Products developed

- Cost-effective process of stem cell generation
- TAZ as regulator of stemness
- Increased efficacy of zinc oxide nanoflowers as antoamyloid compound
- Enhanced osteogenic potentials of lithium and quercetin
- Fabrication of nanostructures based on plasmonic photothermal principles for targeted drug delivery
- Novel nanoscaffold engineered to promote wound healing
- Anti-cancer activity of low molecular weight derived from the posterior salivary gland of cuttle fish
- Development of cost-effective DNA-based diagnostics for monitoring environmental pollution
- Paper-based analytical device for the detection of salivary biomarkers in chronic periodontitis
- Sensitive amyloid sensor designed based on zinc oxide nanoflower platform
- Novel biocompatible nanoclusters for multimodal imaging
- Synaptosome-associated protein of 25 kDa (SNAP-25) as a diagnostic and prognostic marker for cancer
- Gold nanoparticle-based

### Registered Office

Chettinad Academy of Research & Education,  
Chettinad Health City,  
Rajiv Gandhi Salai (OMR),  
Kelambakkam 603 101,  
Kanchipuram District, Tamil Nadu  
T: 044-4741 1000  
E: vc@chettinadhealthcity.com  
W: www.chettinadhealthcity.com

### Recognition Status

File No.: 14/512/2010-TU-V  
Initial Recognition: 2010  
Valid Until: March 31, 2019

### R&D Manpower

Doctorates: 33  
PGs & Graduates: 104

## Research Areas

- Molecular diagnostics of infectious & lifestyle diseases
- Nanotechnology in diagnostics, targeted drug delivery & vaccination
- Native medicine, marine pharmacology & drug discovery
- Environment, pollution & lifestyle disease epidemiology
- Bio-informatics and computational biology
- Innovation, import substitution & diagnostics

## Research Outcomes

- Papers published: 405
- IPRs held
  - » Patents filed: 17

biosensor for diabetic nephropathy detection

- Methods development for early toxicity assessment of nanoparticle in topical application
- Process for extraction of anti-cancer activity from jack fruit waste

## Technical Collaborations

### National

Aditya Jyot Vision Science and Research, Mumbai, Maharashtra; Banyan Academy of Leadership In Mental Health, Tamil Nadu; Hindustan Institute of Technology and Science, Tamil Nadu; India Cements, Tamil Nadu; Madras Diabetes Research Foundation, Tamil Nadu; Reliance Life

Sciences, New Delhi; Wockhardt Ltd, New Delhi

### International

Emory Vaccine Centre, Emory University, USA; National Geographic Society, USA; NICHE, Malaysia; ReGenera Research Group for Aging Intervention, Italy

## Societal Relevance

The following R&D outcomes are of national/societal significance:

- Educational videos for Diabetes mellitus health care
- Creation of cardio gene database
- Development of the Chettinad Learning Management System
- Academic programmes for skill development in health care. 🔍



^ Research instruments

## CHITTARANJAN NATIONAL CANCER INSTITUTE

### Brief Description

Chittaranjan National Cancer Institute is one of the 26 Regional Cancer Centres of India. The major objectives of the Institute include improving research in oncology using cutting-edge technology and ensuring best possible diagnosis and treatment to the cancer patients.

The Institute is registered as an autonomous society under Ministry of Health & Family Welfare, Government of India.

### R&D Set-up

The research facilities and infrastructure available in the organization are as follows:

- The research wing is a fully equipped seven storied building, including animal maintenance, library, central research instrument facility, tissue culture facility, radioisotope facility, immunodiagnostic facility, spectrophotometry facility, HPLC facility, molecular biology laboratory, cold room (4°C), anti-cancer and anti-carcinogenesis drug screening facility, clinical cancer research facility.
- Major equipments include HD Digital Video Colposcope, Hysteroscope Instrument, Diathermy machine, Hybrid capture 2 modular System, Pulse oximeter with multipara Monitor, and others.

### Sources of income for R&D

- Donations
- Grants

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D activities.

FY 2014-15 = 257.32

FY 2015-16 = 233.33

FY 2016-17 = 246.35

### R&D Achievements

#### Products developed

Process of isolating glycoprotein from neem leaf and its characterization to define the immunomodulatory and cancer preventive functions of this glycoprotein

#### Commercialization potential of products/processes developed

Extensive research on the immunomodulator, known as Neem Leaf Glycoprotein, has led to identification of its immunotherapeutic applicability as reported in about 50 international publications. This development has led to the collaboration with some pharmaceutical/biotechnological companies for commercial development. Currently, structural analysis is underway to place an application for the same to the Drug Controller General of India.

### Technical Collaborations

#### National

Assam University, Silchar, Assam; Bose Institute, Kolkata, West Bengal; Cancer Centre and Research Institute, Kolkata, West Bengal; Indian Institute of Chemical Biology, Kolkata, West Bengal; Indian Institute of Technology, Guwahati, Assam; Institute of

#### Registered Office

Chittaranjan National  
Cancer Institute,  
37 S P Mukherjee Road,  
Kolkata 700 026, West Bengal  
T: 033-2476 5101  
E: ckpanda.cnci@gmail.com  
W: www.cnci.org.in

#### Recognition Status

File No.: 14/273/1997-TU-V  
Initial Recognition: 1997  
Valid Until: March 31, 2020

#### R&D Manpower

Doctorates: 24  
PGs & Graduates: 65

### Research Areas

- Cancer epidemiology, cancer screening & biostatistics
- Molecular diagnostics of cancer
- Molecular mechanism of cancer development
- Anti-cancer drug development & cancer therapy
- Preventive oncology
- Clinical cancer research

### Research Outcomes

- Papers published: 100
- IPRs held
  - » Patents awarded: 1

Postgraduate Medical Education and Research, Kolkata, West Bengal; Medical College and Hospital, Kolkata, West Bengal; National Centre for Cell Science, Pune, Maharashtra; National Chemical Laboratory, Pune, Maharashtra; National Institutes of Bio-Medical Genomics, Kalyani, West Bengal; Presidency University, Kolkata, West Bengal; R G Kar Medical College and Hospital, Kolkata, West Bengal; Vidyasagar University, West Bengal

### International

Deakan University, Australia; University of Pittsburgh, USA

### Societal Relevance

The following R&D outcomes are of national/societal significance:

- Cancer awareness programmes organized 3–4 times every year.
- Special initiatives and awareness programmes organized on 7 November, Cancer Awareness Day, and 4 February, World Cancer Day.
- According to the directive of the Ministry of Health & Family Welfare, Government of India, awareness camps also arranged with various other organizations. 🔍



^ Patch clamp set-up

## CHRISTIAN MEDICAL COLLEGE AND HOSPITAL ASSOCIATION

### Brief Description

The Christian Medical College and Hospital Association, seeks to impart education in the art and science of medicine and nursing. The research activities are aimed at gaining knowledge of the fundamental basis of health and disease, at improving interventions and optimizing the use of resources. The institute aims to generate and advance knowledge, thereby improve the provision of curative and preventive medical services. The non-governmental organization is registered as a society.

### R&D Set-up

The research facilities available at the institute comprise the following:

- Research infrastructure including cell culture equipment, next generation sequencing facility, laboratory animal facility, patch clamp electrophysiology of single cells, Illumina Miseq Sequencing system, Current Good Manufacturing Practice Facility, and others
- Equipments, such as freeze dryer, flow cytometry, Qubit Fluorometer, imaging, isolated tissue experiments, realtime qPCR systems for molecular testing, histopathology, radio Isotopes Lab, capnograph and oxygen meter, phytochemistry techniques, applied biosystems, and many more.

### Sources of income for R&D

- Government funds
- Funds from international bodies

### R&D Achievements

#### Products developed

- Molecular identification of hookworm isolates in humans, dogs, and soil in a tribal area in Tamil Nadu, India
- Dlk1-Gtl2 locus preserves LT-HSC function by inhibiting the PI3K-mTOR pathway to restrict mitochondrial metabolism
- Pseudoaneurysm following transradial coronary angiogram
- Comprehensive mutational analysis of primary and relapse acute promyelocytic leukemia

#### Commercialization potential of products/processes developed

Technology for CMCdaq—a computerized data recording system for physiological measurement—transferred to TMI-Systems, Bengaluru, in September 2014

### Technical Collaborations

#### National

Atomic Energy Regulatory Board, Mumbai, Maharashtra; Council of Scientific and Industrial Research, New Delhi; Department of Atomic Energy, Government of India, New Delhi; Department of Biotechnology, Government of India, New Delhi; Department of Electronics, Government of India, New Delhi; Department of Science and Technology, Government of India, New Delhi; Defence Research and Development Organization, New Delhi

#### Registered Office

Christian Medical College and Hospital Association,  
Ida Scudder Road,  
Vellore 632 004, Tamil Nadu  
T: 0416-2281000  
E: pro@cmcvellore.ac.in  
W: www.cmch-vellore.edu/

#### Recognition Status

File No.: 14/111/1988-TU-V  
Initial Recognition: 1988  
Valid Until: March 31, 2018

#### R&D Manpower

Doctorates: 12  
PGs & Graduates: 122

### Research Areas

- Community research
- Stem cell research
- Clinical research

### Research Outcomes

- Papers published
  - » National: 459
  - » International: 834
- IPRs held
  - » Patents filed: 11

### International

Department for International Development, UK Government; Howard Hughes Medical Institute, USA; National Institutes of Health, USA; The Wellcome Trust, UK

### Societal Relevance

The following R&D outcomes are of national societal significance:

- Training programmes and workshops are held to disseminate knowledge on medical sectors

- The institute performed the first reconstructive surgery for leprosy in the world (1948), performed the first successful open heart surgery in India (1961), performed the first kidney transplant in India (1971), and several other achievements. 🔍



^ SpectraView Hyperspectral Imaging System

## CHRISTIAN MEDICAL COLLEGE LUDHIANA SOCIETY

### Brief Description

The Christian Medical College Ludhiana Society has been involved in the field of medical and allied sciences education seeking to contribute to the health needs of India by training young men and women as competent, committed, and compassionate health workers. The institute provides comprehensive training to graduate and postgraduate students for advancement of medical knowledge and research to make a significant contribution to the health standards of all communities. The institute is registered as an autonomous body under Societies Registration Act 1860.

### R&D Set-up

The research facilities and infrastructure available at the institute include the following:

- Autonomic function laboratory, Microbiology laboratory, Cardio electrophysiology laboratory, and Biochemistry laboratory.
- Research equipment, such as Flowcytometry Rotor Gene Q, Spectra View Hyperspectral imaging system, Nano Drop 2000c spectrophotometer, Leica rotary microtome, Leica slide waterbath, Thermomixer comfort, Mixmate, Benchtop refrigerated centrifuge, Benchtop autoclave, Digital hybridization oven direct Q, O3 Water purification system, Airocide air purification system, and others.

### Sources of income for R&D

Funds

#### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 22.37

FY 2015-16 = 12.17

FY 2016-17 = 9.16

### R&D Achievements

#### Products developed

- Establishing 'Indian Stroke Clinical Trial Network (INSTRUCT)' to integrate pharmacological and non-pharmacological stroke clinical trials
- SPRINT– Secondary Prevention By Structured Semi-Interactive Stroke Prevention Package
- ATTEND – Family-led Rehabilitation After Stroke in India
- Remote ischemic conditioning device
- Point of care for diagnosis of neurocysticercosis with Indian Institute of Technology, Mandi
- Robotic exoskeleton for stroke rehabilitation with Indian Institute of Technology, Kharagpur

#### Processes developed

- Bioimaging of blood smears using routine pathology dyes to distinguish blood cells from 'healthy' patients versus those from cancer patients.
- Clinically validate the ischemia modified albumin as a diagnostic

### Registered Office

Christian Medical College  
and Hospital,  
Brown Road, Ludhiana 141 008,  
Punjab  
T: 161 2229011  
E: directorcmcl@gmail.com  
W: cmcludhiana.in/index.php

### Recognition Status

File No.: 14/392/2004-TU-V  
Initial Recognition: 2004  
Valid Until: March 31, 2019

### R&D Manpower

PGs & Graduates: 30



## Research Areas

- Health care services
- Community intervention
- Epidemiology
- Clinical trials
- Medical education
- Clinical bioinformatics
- Bioimaging with hyperspectral system

## Research Outcomes

- Papers published: 157

marker for coronary artery disease and its comparison with established cardiac markers

### Prototypes developed

- Effectiveness of Mirror Therapy in stroke patients with unilateral neglect - A Randomized Controlled Trial

## Technical Collaborations

### National

Indian Council of Medical Research, New Delhi; National Health Mission, Government of India; Department of Biotechnology, Government of India

### International

Florey Institute of Neuroscience and Mental Health, Australia; Henry Ford

Hospital, USA; Population Health Research Institute, Canada; University of Central Lancashire, UK; University of Sydney, Australia

## Societal Relevance

The following R&D outcomes are of national/societal significance:

- Project on 'Population-Based Stroke Registry', linked with Indian Council of Medical Research, was part of the National Health Mission to develop a model of data collection to calculate stroke incidence in urban area
- ATTEND trial has made it possible to offer home-based physiotherapy for patients who have limited access to physiotherapists. 🔍



^ Research laboratory

## DABUR RESEARCH FOUNDATION

### Brief Description

Dabur Research Foundation conducts research services in drug discovery and development, ranging from the identification of potential lead molecules, drug development to investigating new drug enabling studies. The foundation provides pre-clinical services to global biotech, pharma, phytopharmaceuticals, cosmeceuticals, and academic sectors.

The foundation is registered as a company under Section-25 of the Companies Act, 1956.

### R&D Set-up

The research facilities and infrastructure of the foundation are being used by the industry, individuals, and academicians.

These include:

- Research facility spread across an area of approximately 60,000 sq. ft.
- Laboratories comprise in vitro/in vivo pharmacology, cell biology, genotox lab, toxicology, drug Metabolism and pharmacokinetics (DMPK) lab, three tissue culture facilities, cold rooms, server rooms, etc.
- State-of-the-art GLP/AALAC-Complaint 'Small Animal Facility' spread across 20,000 sq. ft., which has 19 animal rooms with ante room, separate procedure rooms, and an independent quarantine wing
- Six state-of-the-art in vivo experimental suites (therapeutic area wise) consisting of two experimental rooms and procedure room. This facility complies with AALAC norms

### Sources of income for R&D

- Donations
- Project grants
- Central research

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 972

FY 2015-16 = 1,275

FY 2016-17 = 1,606

### R&D Achievements

#### Products developed

- Method developed for treating cancer
- Method developed for investigating potential anti-inflammatory molecules
- Development of novel anti-ageing cream in partnership with a stem cells-based bio-pharmaceutical company

#### Processes developed

- Developed no-animal based method for evaluating safety of cosmetic products as per internationally accepted regulatory guidelines
- Improved currently existing in situ model for evaluating hair growth promoters using excised hair follicles
- Developed novel techniques for predicting clinical toxicity of cytotoxic drug in humans

### Registered Office

Dabur Research Foundation,  
22, Site IV, Sahibabad 201 010,  
Ghaziabad, Uttar Pradesh  
T: 0120 3378640  
E: contact@daburresearch.in  
W: www.daburresearch.in/

### Recognition Status

File No.: 14/703/2016-TU-V  
Initial Recognition: 2016  
Valid Until: March 31, 2019

### R&D Manpower

Doctorates: 11  
PGs & Graduates: 50

## Research Areas

- New drugs for the treatment of diseases, such as cancer, inflammation, metabolism, and skin disorders

## Research Outcomes

- Papers published:
  - » National: 2
  - » International: 7
- IPRs held
  - » Patents awarded: 28

## Technical Collaborations

### National

Banaras Hindu University, Uttar Pradesh; Cipla Ltd, Mumbai, Maharashtra; Emcure Pharmaceuticals, Pune, Maharashtra; Fresenius Kabi, Gurugram, Haryana; Indian Institute of Integrative Medicine, Jammu, Jammu & Kashmir; Issar Pharmaceuticals, Hyderabad, Telangana; National Innovation Foundation, Ahmedabad, Gujarat; Stempeutics Research Pvt. Ltd., Bengaluru, Karnataka; Translational Health Science and Technology Institute, Faridabad, Haryana; Unichem Ltd, Ghaziabad, Uttar Pradesh

### International

- Bionorica SE, Germany; Covidien, USA; Follicum, Sweden; Lipocure, Israel; Materia Medica, Russia; Orion Pharma, Finland; Promega Corporation, USA; SignalChem Lifesciences, Canada; Sirbal Limited, Israel; Trivedi Science, USA

### Societal Relevance

- The foundation's research in the field of lifestyle diseases aims to develop safer, cheaper, and more efficacious drugs for human use.
- The foundation is engaged with the National Innovation Foundation, Ahmedabad, an autonomous body of the Department of Science and Technology, Government of India, for developing various herbal products. 🔍



^ Photograph display of Research projects

### Registered Office

Dayanand Medical College & Hospital Managing Society,  
Tagore Nagar, Ludhiana 141 001,  
Punjab  
T: 0161 2304282  
E: contact@researchatdmch.com  
W: researchatdmch.com/

### Recognition Status

File No.: 14/586/2011-TU-V  
Initial Recognition: 2011  
Valid Until: March 31, 2020

### R&D Manpower

PGs & Graduates: 42

### Research Areas

- Epilepsy
- Hepatitis C
- Heart failure
- Ulcerative colitis
- Hypertension
- Diabetes
- Coronary artery disease

## DAYANAND MEDICAL COLLEGE & HOSPITAL MANAGING SOCIETY

### Brief Description

Dayanand Medical College & Hospital Managing Society manages the Dayanand Medical College & Hospital which is a tertiary care teaching hospital in North India. The institution is equipped with modern facilities for providing care to patients and training to the undergraduate and postgraduate students.

The society is registered as a trust.

### R&D Set-up

The following research facilities are available:

- Dedicated research and development centre
- Archival facility for closed out studies
- Upcoming molecular genetics laboratory with equipments such as nano-drop spectrophotometer, electrophoresis, cold centrifuge, vortex, laminar flow, and others
- Memorandums of Understanding (MoUs) in place to facilitate the sharing of research facilities

### Sources of income for R&D

- Donations
- Research funds

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 1085.42

FY 2015-16 = 1509.40

FY 2016-17 = 1699.80

### R&D Achievements

#### Processes developed

- In vitro and in vivo analysis of wheat varieties for potential

variability in immunogenicity to celiac disease patients

- Bronchial artery embolization in massive Hemoptysis
- Role of nano-nutraceuticals from citrus (*kinnow*) peels in patients with liver disease
- Use of crossword as an interactive learning tool for paramedical students

### Technical Collaborations

#### National

Guru Angad Dev Veterinary University, Ludhiana, Punjab; Punjab Agricultural University, Ludhiana, Punjab

#### International

The Rubin Institute for Advanced Orthopedics, USA; William Olser Health Systems, Canada

### Societal Relevance

The following R&D outcomes are of national or societal significance:

- Organizing epilepsy awareness and treatment programmes
- Establishment of hypertension clinics at various centres and providing medicines free of cost
- Awareness programmes on Hepatitis C, organ donation, female foeticide, girl child discrimination, and epilepsy. 🔍

### Research Outcomes

- Papers published:
  - » National: 190
  - » International: 212



^ Research infrastructure

## DEENANATH MANGESHKAR HOSPITAL AND RESEARCH CENTRE

### Brief Description

Deenanath Mangeshkar Hospital and Research Center is a charitable, multi-specialty hospital offering state-of-the-art diagnostic, therapeutic and intensive care facilities. The institute provides medical care in cancer, voice disorders, cardiology and cardiothoracic surgery, gastroenterology, joint replacement, urology, nephrology, and neurology. The institute is registered as a trust.

### R&D Set-up

The following research facilities are available:

- A dedicated space of 18,000 sq. ft area is exclusively for research and academic activities that includes space for hospital library, lecture halls/conference rooms, auditorium, research, and academic departments.
- Research instruments include Neodymium-doped yttrium aluminum garnet (ND YAG) laser, electronic tourniquet, high performance liquid chromatography (HPLC) with fluorescence and autosampler, cold centrifuge, and others.

### Sources of income for R&D

- Donations
- Government funds

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 305

FY 2015-16 = 347

FY 2016-17 = 358

### R&D Achievements

#### Products developed

- Body image perception amongst Indian adolescents and its association with their body mass index
- Pilot study to determine the prevalence of obesity in children aged 10–15 years from the rural areas of Pune district, Maharashtra
- Retrospective study to determine whether special peri-operative management is required for patients with systemic co-morbidities undergoing cataract surgeries
- Role of Pirani score for predicting the likelihood of the need for performing a tenotomy of the Achilles tendon and number of casts required during the course of treatment of idiopathic clubfeet by the Ponseti technique

### Technical Collaborations

#### National

DE Society's Brijlal College of Physiotherapy, Pune, Maharashtra; Digital Pathology, Optra Systems, Pune, Maharashtra; Institute of Bioinformatics and Biotechnology, Pune, Maharashtra; Jawaharlal Nehru Centre for Advanced Scientific Research, Bengaluru, Karnataka ; National Centre for Cell Science, Pune, Maharashtra; National Institute of Virology, Pune, Maharashtra; Indian Pediatric Oncology Group

#### International

- Aarhus University, Denmark; University of California, Los Angeles, USA

### Registered Office

Deenanath Mangeshkar Hospital and Research Centre, 14th floor C wing, Erandawane, Pune 411 004, Maharashtra  
T: 020 40151000  
E: info@dmhospital.org  
W: www.dmhospital.org

### Recognition Status

File No.: 14/454/2007-TU-V  
Initial Recognition: 2007  
Valid Until: March 31, 2020

### R&D Manpower

Doctorates: 1  
PGs & Graduates: 7


### Research Areas

- Biomedical research
- Clinical research
- Human research
- Translational research
- Public health
- Psychosocial research

### Research Outcomes

- Papers published:
  - » National: 35
  - » International: 45

### Societal Relevance

The data and results of various research programmes of the Centre has the potential to further improve societal health issues. 



^ Research laboratory

## DHARAMSHILA CANCER FOUNDATION AND RESEARCH CENTRE

### Brief Description

Dharamshila Cancer Foundation and Research Centre is state-of-the-art comprehensive cancer care and research centre. The Dharamshila Narayana Superspeciality Hospital is a unit of the centre.

Dharamshila Cancer Foundation and Research Centre, an NGO, is registered under the Societies Registration Act XXI of 1860.

### R&D Set-up

The research facilities and infrastructure comprise:

- Departments for radio diagnostic, medical oncology, radiotherapy, surgical oncology, preventive oncology, Bone Marrow Transplantation (BMT) Centre, BMT Lab, and allied specialties.
- Medical research equipment include gamma camera, dual-energy X-ray absorptiometry (DEXA) scan, linear accelerator, radiation field analyser (RFA) dosimetry system, treatment planning system, video bronchoscope with std. set, flow cytometer, nitrogen (liquid) storage system, and others.

### Sources of income for R&D

- Donations
- Government grants

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 145.23

FY 2015-16 = 189.01

FY 2016-17 = 163.05

### R&D Achievements

#### Prototypes developed

- Haploidentical BMT for advanced hematological malignancies using post-transplant adoptive immunotherapy
- A single-centre phase II study of haploidentical, hematopoietic stem cell transplantation for patients with malignant and non-malignant disorders: safety and feasibility of CTLA4Ig medicated T cell co-stimulation blockade combined with post-transplantation cyclophosphamide as prophylaxis for graft-versus-host disease

#### Research projects

- Prospective study comparing hypofractionation versus conventional fractionation schedule of adjuvant radiotherapy after breast conservation surgery: early skin reactions and cosmetic results
- Comparative study of Nab Paclitaxel-Carboplatin/Cisplatin with Gemcitabine-Carboplatin/Cisplatin as first line palliative chemotherapy in metastatic squamous cell carcinoma of lung
- First line afatinib in epidermal growth factor receptor positive non-squamous non-small cell lung cancer - a prospective phase II single arm study among Indian patients
- Study of the impact of addition of Platinum to neo adjuvant chemotherapy protocol on

### Registered Office

Dharamshila Cancer Foundation and Research Centre,  
Dharamshila Marg, Vasundhara Enclave, Delhi 110 096  
T: 011 43066368  
E: contact@dhrc.in  
W: www.dhrc.in/

### Recognition Status

File No.: 14/220/1993-TU-V  
Initial Recognition: 1993  
Valid Until: March 31, 2019

### R&D Manpower

PGs & Graduates: 172

### Research Areas

- Medical oncology
- Surgical oncology
- Radiation oncology
- Clinical trials

### Research Outcomes

- Papers published: 41

pathological complete response and its correlation with BRCA positivity in Triple- Negative Breast Cancer.

- Evaluation of Prognostic Indicators for Early Metabolic Response as Judged by Interim PET-CT in Patients with Lymphoma.

### Technical Collaborations

#### National

Narayana Hrudayalaya Ltd, Bengaluru, Karnataka; National Cancer Grid, Mumbai, Maharashtra

### Societal Relevance

- The centre has organized 354 cancer awareness and warning campaigns.
- Free and subsidized medical treatment is offered by the centre to economically weaker sections and lower middle class people. 🔍





^ Health awareness programme for children underway

### Registered Office

Diabetes Foundation,  
Plot no. 3 Pocket B-11,  
Vasant Kunj, New Delhi 110 070  
T: 011 41345550  
E: info@diabetesfoundationindia.org  
W: www.diabetesfoundationindia.org

### Recognition Status

File No.: 14/500/2009-TU-V  
Initial Recognition: 2009  
Valid Until: March 31, 2018

### R&D Manpower

Doctorates: 4  
PGs & Graduates: 14

## DIABETES FOUNDATION

### Brief Description

The objectives of the Diabetes Foundation are to conduct research on the problem of diabetes in India and to provide comprehensive clinical care for diabetics.

The Foundation is registered as a non-governmental Society.

### R&D Set-up

The following research facilities are available:

- R&D facilities include equipment, such as Laryngoscope, cold centrifuge, calipers, Sphygmomanometers, body composition analyzer, body composition analyzer, Elisa Reader, Sphygmocor, Suction machine, Stadameter, and others.
- Consistent efforts to share with government and non-government agencies.

### Sources of income for R&D

- Government sources
- International agencies

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 267.18

FY 2015-16 = 63.18

FY 2016-17 = 114.69

### R&D Achievements

#### Processes developed

- Developed guidelines for dyslipidemia along with the Lipid Association of India

- Established clinical beneficial effect of cinnamon in subjects with metabolic syndrome
- Established pancreatic and liver fat as markers of diabetes
- Established that a combination of waist circumference and waist-to-height ration has better clinical utility than body mass index and waist-to-hip ration in identifying individuals with cardio-metabolic risk factors in Asian Indians.

### Technical Collaborations

#### National

All India Institute of Medical Sciences, New Delhi; Department of Science and Technology, Government of India; Herbalife India, Karnataka; Indian Council of Medical Research, New Delhi; Indian Institute of Technology Delhi, New Delhi; Institute of Home Economics, New Delhi; Nestle India Ltd

#### International

Almond Board of California, USA; Mater Medical Research Institute, Australia; University of Colombo, Sri Lanka; Wayne State University, Michigan, USA; World Diabetes Foundation, Denmark

### Societal Relevance

The following R&D outcomes are of national or societal significance:

- Organized health camps and diabetes care at the doorstep for the underprivileged population of Delhi

### Research Areas

- Dietary interventions
- Obesity, childhood obesity
- Dyslipidemia
- Metabolic syndrome
- Hypertension
- Diabetes
- Cardiovascular disease
- Prevention, education, and awareness
- Genetics

### Research Outcomes

- Papers published
  - » International: 37

- Involvement in the National Programme of Prevention and Control of Diabetes in India
- Established the benefits of-high protein diet and cinnamon. 🔍



^ Research infrastructure

## DIABETIC ASSOCIATION OF INDIA

### Brief Description

The Diabetic Association of India caters to the care of diabetes and other specialties, including oncology, cardiology, and orthopedic surgery. The association has over 12,000 members and 41 branches all over the country.

The non-governmental organization is registered as a trust.

### R&D Set-up

The following research facilities are available:

- Well-equipped laboratory, histopathology department, and blood bank
- The research infrastructure is used by the S L Raheja Hospital and academia

### Sources of income for R&D

- Donations
- Government funds

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 9,965.81

FY 2015-16 = 11,164.25

FY 2016-17 = 11,751.47

### R&D Achievements

#### Processes developed

- Evaluation of the Endocrine pancreas regeneration process utilizing human pancreatic tissue

- Observational study to estimate the expression of growth factors and antigen positivity in 50 consecutive gastric cancer patients
- Interventional placebo-controlled randomized, double blinded, dose comparison phase I/II study to determine the safety and efficacy of a new gel formulation of Esmolol Hydrochloride (Galnobax) for the treatment of diabetic foot ulcer

### Technical Collaborations

#### International

International Diabetes Federation, Belgium

### Societal Relevance

The organization is involved in various societal missions, outlined as follows:

- Awareness programmes were held on the Swachh Bharat Mission.
- S L Raheja Hospital has been certified by the Maharashtra Energy Development Agency for energy conservation and management. [Q](#)

### Research Areas

- Diabetic in foot
- Oncology
- Critical care medicine

### Research Outcomes

- Papers published: 34

### Registered Office

Diabetic Association of India,  
S L Raheja Hospital, Raheja  
Rugnalaya Marg, Mahim West,  
Mumbai 400 016, Maharashtra  
T: 022 24442476  
E: info@dairaheja.org  
W: www.idf.org

### Recognition Status

File No.: 14/90/1988-TU-V  
Initial Recognition: 1988  
Valid Until: March 31, 2018

### R&D Manpower

Doctorates: 7  
PGs & Graduates: 7



^ Panchkarma

## DIVYA YOG MANDIR TRUST

### Brief Description

The main aim of Divya Yog Mandir Trust is to impart the practical and functional training of Ashtanga Yoga, Raj Yoga, Dhyana Yoga, Hath Yoga, Ashana, Pranayama, etc., as received from the ancient tradition to make an end to extreme suffering to cure diseases and receive a calm stage of mind and extreme happiness.

Divya Yog Mandir is registered as a trust.

### R&D Set-up

The research facilities and infrastructure available in the trust are as follows:

- The trust has 4 laboratories which are equipped with instruments, such as brain imaging system, neuro-psychological equipment, body composition analysis, physiological data acquisition system, hand dynamometer, digital clock counter, galvanic skin resistance, Quark CEPT, Dauler inclinometer, leg dynamometer, digital sound level meter, etc.

### Sources of income for R&D

- Donations
- Government grants

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D activities.

FY 2014-15 = 27.44

FY 2015-16 = 50.38

FY 2016-17 = 396.86

### R&D Achievements

#### Products developed

- Randomized control trial

completed on patients with MRI-approved disc herniation

### Research projects

- Correlation of self-evaluation of discomfort and heart rate variability in patient's population
- Effect of kapalabhati on hemodynamic changes using functional near infrared spectroscopy

### Technical Collaborations

#### National

Central Scientific Instruments Organization, Chandigarh

#### International

International Society for Scientific Interdisciplinary Researches in the field of Yoga, Serbia

### Societal Relevance

The following R&D outcomes are of national or societal significance:

- Significance of yoga for improved heart rate variability in the patients with chronic low back pain associated with altered alignment of intervertebral discs
- Ayurvedic doshas is the predictor of quality of sleep
- Merits of practicing high frequency yoga breathing or kapalabhati at the rate of 1.0 Hz to increase energy expenditure 🔍

### Registered Office

Divya Yog Mandir Trust,  
Maharishi Dayanand Gram,  
Delhi–Hardwar National Highway,  
Near Bahadrabad,  
Hardwar 249 405, Uttarakhand  
T: 1334 240008  
E: divyayoga@divyayoga.com  
W: www.divyayoga.com

### Recognition Status

File No.: 14/682/2015-TU-V  
Initial Recognition: 2015  
Valid Until: March 31, 2018

### Research Areas

- Ayurveda
- Yoga

### Research Outcomes

- Papers published: 13



^ Awareness programme

## DR. JIVARAJ MEHTA SMARAK HEALTH FOUNDATION

### Brief Description

Dr. Jivaraj Mehta Smarak Health Foundation is engaged in clinical, laboratory, and community field research, encompassing urban, especially the urban slum and rural population of Gujarat. The emphasis of the research has been the in-depth identification and investigation of the health problems of the community, with emphasis on cardio-respiratory and other disorders, and with a view to prevent and study the means and methods for their alleviation.

The non-governmental institute is registered as a Trust.

### R&D Set-up

The institute has access to equipments, such as automated electronic cell counters/Sysmex, pulmonary ventilators, spirometer (computerized), colour Doppler with 2D ECHO, peripheral Doppler, LAPA test machine, cardiac defibrillators, computerized refraction machine, direct laryngoscope, orthopaedic and ophthalmic equipment, and several others.

All infrastructure and facilities are being used by academia, researchers, and clinical research coordinators of pharmaceutical industries sponsoring the research.

### Sources of income for R&D

- Donations
- Government grants
- International funds

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D activities.

FY 2014-15 = 356.62

FY 2015-16 = 290.86

FY 2016-17 = 429.21

### R&D Achievements

#### Products developed

- Efficacy and safety of semaglutide in diabetes mellitus
- Efficacy and safety of Insulin detemir in diabetes mellitus
- Long acting analog Ly2963016 in diabetes mellitus
- Efficacy, safety, and tolerability of Bococizumab in cardiovascular events
- Safety and efficacy of Synriam (R) in the treatment of Plasmodium vivax malaria
- Efficacy and safety of the fixed dose combination of arterolane maleate and piperazine phosphate
- Evaluate the effect of ticagrelor in reduction of complication in diabetes mellitus
- Safety and efficacy of saroglitazar in diabetes mellitus
- Safety and efficacy of lixisenatide in diabetes mellitus subjects who fast during Ramadan
- Efficacy and safety of faster-acting insulin

### Registered Office

Dr. Jivaraj Mehta Smarak Health Foundation, Ratubhai Adani Arogyadham, Nr. Ayojannagar, Ahmedabad 380 007, Gujarat  
T: 079-26639839  
E: info@jivrajhealthcare.org  
W: jivrajhealthcare.org/

### Recognition Status

File No.: 14/127/1989-TU-V  
Initial Recognition: 1989  
Valid Until: March 31, 2018

### R&D manpower

PGs & Graduates: 18

### Research Areas

- Clinical research:  
Phase III and IV drug trials
- Community-based surveys and observational studies
- Observational studies for diseases and management patterns

### Research Outcomes

- Papers published:
  - » National: 6

### Technical Collaborations

#### National

- Gujarat Mineral Development Corporation, Ahmedabad, Gujarat; Indian Space Research Organisation, Bengaluru, Karnataka; Institute for Plasma Research, Gandhinagar, Gujarat; Physical Research Laboratory, Ahmedabad, Gujarat

### Societal Relevance

The following R&D outcomes are of national/societal significance:

- Educational programmes (workshops and lectures) by consultants, researchers, medical, and paramedical staff are regularly organized. 🔍



- ▲ Novel instrument belt to lift patient from operation table to shifting trolley

### Registered Office

Dr. Mane Medical Foundation  
& Research Center,  
Dhanore, Tal. Rahuri, Dist.  
Ahmednagar 413 705,  
Maharashtra  
T: 0242-6235500  
E: drswapnil117@yahoo.com  
W: www.manemedicalfoundation.  
com

### Recognition Status

File No.: 14/653/2014-TU-V  
Initial Recognition: 2014  
Valid Until: March 31, 2018

### R&D Manpower

PGs & Graduates: 8

### Research Areas

- Obstetric and gynaecological disorder
- Orthopaedic disorders
- Surgical disorders
- Infertility

## DR. MANE MEDICAL FOUNDATION & RESEARCH CENTER

### Brief Description

Dr. Mane Medical Foundation & Research Center is dedicated towards the control of cancer disease. The centre facilitates advocacy research against cancer and creates awareness on prevention and cure of the disease.

The centre is a registered as a non-government organization.

### R&D Set-up

Research facilities and infrastructure includes equipment, such as multipara monitor, fraction collector C-660, operative manual instruments, Cautery 250D, foetal Doppler, alpha dual halogen light source, CO<sub>2</sub> insufflator-digital 25 liters, alpha cut smart plus, Medex pressure bag, and others.

### Sources of income for R&D

Donations

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D activities.

FY 2014-15 = 6.60

FY 2015-16 = 8.40

FY 2016-17 = 12.00

### R&D Achievements

#### Products developed

- Novel instrument belt to lift patient from operation table to shifting trolley
- Novel treatment of Ksharaplota for non-healing wounds and ulcers

### Processes developed

- Novel treatment of Uttarbasti in cases of benign enlargement of prostate
- Novel treatment method of intra-uterine insemination in infertility cases in females

### Technical Collaborations

#### National

The Advanced Centre for Treatment, Research and Education in Cancer, Navi Mumbai, Maharashtra

### Societal Relevance

The newer concept of Ksharaplota preparation and its clinical application is expected to open new research paths to promote wound healing with Ayurvedic remedies in modern surgical practice. 🔍

### Research Outcomes

- Papers published: 3
- IPRs held
  - » Patents filed: 5



^ Research facility

### Registered Office

Dr. P. B. Homeopathic Research Foundation, 10/3/1 Elgin Road, Kolkata 700 020, West Bengal  
T: +91 33 2287 1091/92/93  
E: info@pbhrfindia.org  
W: http://www.pbhrfindia.org

### Recognition Status

File No.: 14/355/2003-TU-V  
Initial Recognition: 2003  
Valid Until: March 31, 2018

### R&D Manpower

PGs & Graduates: 4

### Research Areas

- Data recording of the treatment of cases of various types of cancer and other life-threatening diseases, such as renal failures, multiple sclerosis, etc.

## DR. P. B. HOMEOPATHIC RESEARCH FOUNDATION

### Brief Description

Dr. P. B. Homeopathic Research Foundation aims to include homeopathy as a scientific and effective mode of alternative medicine. The foundation offers comprehensive health care as well as scientific establishment to offer homeopathy as the medicine of the masses.

The foundation is registered as a trust.

### R&D Set-up

The following are the research facilities available:

- Research is primarily of a clinical nature. Therefore, the most necessary part of the equipment is the media for recording cases. Such research facilities comprise a computerized data entry system with its customized software.
- Laboratory equipment necessary for cell cultures, in vitro studies, etc., are mainly situated with collaborators.

### Sources of income for R&D

- Donations
- Research funds

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 8.10

FY 2015-16 = 10.63

### R&D Achievements

#### Processes developed

- The Banerji Protocol of treatment utilizing homeopathic medicines
- The patient database, running on customized software, with more than 27,000 cases inputted is the epicenter of the foundation. The database is applied for research in premier institutions.

### Technical Collaborations

#### International

MD Anderson Cancer Centre, Houston, USA; National Cancer Institute, USA

### Societal Relevance

- The research foundation finances pathological tests for the aid of underprivileged patients. 🔍

### Research Outcomes

- Papers published : 2





^ Research facility

## DR. REDDY'S INSTITUTE OF LIFE SCIENCES

### Brief Description

Dr. Reddy's Institute of Life Sciences is a non-profit institute with a goal to conduct innovative research in unifying areas of chemistry, biology, and chemical biology. The objective is to create and foster a research culture where chemists and biologists work together to generate original ideas and generate knowledge which can lead to novel therapies for human disease and an improvement in the quality of life.

The Institute is registered as an autonomous entity under Section 25 of Companies Act, 1956.

### R&D Set-up

The research facilities and infrastructure available in the organization are as follows:

- Two-storied modern building with a built up area of 130,000 sq. ft
- Fifteen laboratories, four support labs and four specialized facilities:
  - » BSL-2 tissue culture
  - » Zebrafish
  - » High potency chemical synthesis
- Standard research facilities include Cold room, Dark room, Mammalian cell culture, Nuclear magnetic resonance spectroscopy, and High-performance liquid chromatography-mass spectrometry (HPLC-MS).
- Equipments include CO<sub>2</sub> Incubators, Bacteriological Incubators, High Speed Floor Centrifuge, Refrigerated Benchtop

Centrifuges, Electrophoresis Gel Documentation System, PCR machines, UV Spectrophotometer, Fluorescence Spectrometer, Luminometer Sonicator, and others.

- Research infrastructure used by in-house and collaborating scientists, students, and researchers from academia and industry.

### Sources of income for R&D

Grants

### R&D expenditure (₹ in lakhs)

The organization is a non-profit entity established solely for the purpose of R&D. Only R&D activities are performed in the organization, and therefore, all expenditure is treated as R&D expenditure.

FY 2014-15 = 1,214

FY 2015-16 = 1,321

FY 2016-17 = 1,468

### R&D Achievements

#### Processes developed

- Mechanism and pathway-based analysis of biological events that regulate the physiology of a cell
- Discovery of novel small molecules that can be used for the potential treatment of diseases, such as inflammation, tuberculosis, and obesity/diabetes
- Synthesis of Cy-Red and nanonization of the almost insoluble chromophore helped to convert it into fluorescent organic nanoparticles (nano-Cy-Red).
- Study of the function and

### Registered Office

Dr. Reddy's Institute of Life Sciences, University of Hyderabad Campus, Gachibowli, Hyderabad 500 046, Telangana  
T: 040-66571500  
E: info@drils.org, venkata@drils.org  
W: www.drils.org

### Recognition Status

File No.: 14/383/2004-TU-V  
Initial Recognition: 2004  
Valid Until: March 31, 2019

### R&D Manpower

Doctorates: 36  
PGs & Graduates: 53

### Research Areas

- Disease biology
- Cellular signaling
- Molecular biology
- Medicinal chemistry
- Organic chemistry
- Nanochemistry

### Research Outcomes

- Papers published: 86
- IPRs held
  - » Patents awarded: 3

expression of a tyrosine kinase splice variant in the cancer population in Hyderabad, India

#### Principle/theory developed

- Identification of a new cellular location of an important biological molecule. The presence and function of cyclic AMP in endosomes, known as endosomal cyclic AMP, has been identified for the first time

#### Commercialization potential of products/processes developed

- One of the focus areas is to discover better drugs for auto-immune disorders which includes diseases, such as rheumatoid arthritis and psoriasis
- Development of technology platform that can be used across multiple therapy areas, with a focus on translational research.

#### Technical Collaborations

##### National

Central Drug Research Institute, Lucknow, Uttar Pradesh; Jai Research Foundation, Gujarat; Lonza India Pvt. Ltd, Mumbai, Maharashtra; Manipal University, Manipal, Karnataka; Nirma University, Ahmedabad, Gujarat; Transcell Biologics Pvt.


Ltd, Hyderabad, Telangana; Vellore Institute of Technology, Vellore, Tamil Nadu

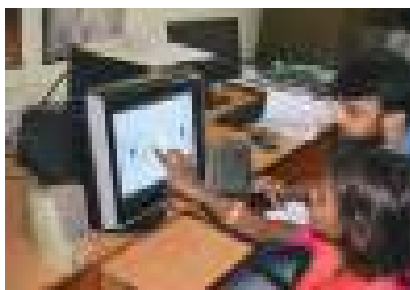
##### International

KarolinskaInstitutet, Stockholm, Sweden; McGill University, Montreal, Canada; Sanofi-Aventis, Paris, France; ZeClinics, Barcelona, Spain

#### Societal Relevance

The following R&D outcomes are of national/societal significance:

- Research activities of the Institute fit into the vision of Swasthya Bharat and Skill India
- Research is focussed on uncovering new knowledge and understanding the disease processes, and developing new strategies for chemical synthesis towards therapy, using a combination of the disciplines of biology and chemistry.
- Training of present and future generations of students and imparting crucial skills involved in original, innovative research focussing on quality and global standards, is an ongoing and important part of the activities at the institute. 



▲ Project PRAKASH: Enlightening our understanding of vision

## DR. SHROFF CHARITY EYE HOSPITAL

### Brief Description

Dr. Shroff Charity Eye Hospital provides global standards in quality eye and ear-nose-throat (ENT) care to all economic sections of the society. The institution was established in 1914 and has National Accreditation Board for Hospitals & Healthcare (NABH) Accreditation.

The Institution is registered as a trust.

### R&D Set-up

- Research facilities, including an archival facility, are shared by individuals and academia. The facilities are equipped with equipment, such as 20D and 90 D Volk lens, Applanation Tonometer Appa, direct ophthalmoscope beta 200, indirect ophthalmoscope wire model, pulse oxymeter, motorized LED vision drum, and several others.

### Sources of income for R&D

- Project grants
- Donations
- Hospital receipts
- Bank interest

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 45.00

FY 2015-16 = 80.00

FY 2016-17 = 95.00

### R&D Achievements

#### Products developed

- Project Chakshjyoti aims to increase the optical conversion rate using the Define, Measure, Analyze, Improve, and Control (DMAIC) methodology
- The output of project PRAKASH marks a unique combination of service delivery coupled with scientific knowledge that may revolutionize the understanding of blindness and intervention techniques in the coming years
- Increase the surgical conversion rate through intervention strategies
- Multicentre, randomized study of the efficacy and safety NVC-422 ophthalmic solution for the treatment of adenoviral conjunctivitis

### Technical Collaborations

#### International

CBM Germany; John Hopkins University, USA; Massachusetts Institute of Technology, USA; Medtronic Corporation, USA; Orbis International, USA; World Diabetes Foundation, Denmark

### Societal Relevance

The following R&D outcomes are of national/societal significance:

- The Institution is associated with the National Programme for Control of Blindness of the Government of India and the Eye Bank Association of India

#### Registered Office

Dr. Shroff Charity Eye Hospital,  
507, Kedarnath Road, Daryaganj,  
New Delhi 110 002  
T: 011-43524444  
E: sceh@sceh.net  
W: www.sceh.net/

#### Recognition Status

File No.: 14/514/2010-TU-V  
Initial Recognition: 2010  
Valid Until: March 31, 2019

#### R&D Manpower

PGs & Graduates: 53

### Research Areas

- Ophthalmology (prospective, retrospective, Phase II and IV studies/trials)
- ENT (prospective and retrospective)

### Research Outcomes

- Papers published: 61

- Satellite hospitals in rural parts of the country provide easy access to medical treatment.
- Awareness creation of eye donation, training of ophthalmic paramedics, and vision technicians
- Community-based rehabilitation programme for inclusive development of people with disabilities.
- Developed the software for amblyopia management—WIN V Amblyopia Program. 🔍



^ Research equipment

## DURGA CHARITABLE SOCIETY

### Brief Description

The Durga Charitable Society has set up the ITS—The Education Group that includes the ITS Centre for Dental Studies and Research.

The society is registered under the Societies Registration Act.

### R&D Set-up

The research infrastructure includes Centre for Advanced Research, Centre for Advanced Imaging, Centre for Oral Implantology, Laser unit, and CAD Cam Centre.

Research facilities comprise equipments, such as PCR thermocycler, agarose gel electrophoresis, gel documentation system, transilluminator, pH meter, micro centrifuge, heating mantle/hot plate, anaerobic incubator, UV spectrophotometer, and others.

### Sources of income for R&D

Self-financing

### R&D expenditure (₹ in lakhs)

FY 2014-15 = 11.35

FY 2015-16 = 9.46

FY 2016-17 = 12.87

### R&D Achievements

#### Products developed

- Lean mean machine—The green SD printer
- Automated dental products vending machine (T dent)

### Research projects

- Evaluation of familial inheritance patterns among families using cheiloscopy, rugoscopy and dactyloscopy in population visiting a dental school in Ghaziabad, Uttar Pradesh
- Effect of therapeutic ultrasound with soft tissue mobilization on mouth opening, tongue protrusion, cheek flexibility and burning sensation in patients of oral submucous fibrosis.
- Comparative evaluation of ozonated water and chlorhexidine on gingival inflammation in orthodontics patients
- Comparative clinical evaluation of the efficacy of doxycycline hyalite gel & chlorhexidine gel in the treatment of chronic periodontitis.
- Efficacy of two retreatment files with and without supplemental instrumentation in removal of different root canal filling materials- an in vivo study

### Technical Collaborations

#### National

Dharamshila Cancer Hospital & Research Centre, Delhi; Guru Teg Bahadur Hospital, New Delhi; Narinder Mohan Hospital and Heart Centre, Ghaziabad, Uttar Pradesh; National Institute of Cancer Prevention and Research, Noida, Uttar Pradesh; National Institute of Pathology, New Delhi; Rajiv Gandhi Cancer Institute & Research Centre, New Delhi

### Registered Office

ITS Dental College, Murad Nagar,  
Ghaziabad 201 206, Uttar Pradesh  
T: 0844775320  
E: dental@itd.edu.in  
W: www.itsdentalcollege.com

### Recognition Status

File No.: 14/614/2012-TU-V  
Initial Recognition: 2012  
Valid Until: March 31, 2018

### R&D Manpower

PGs & Graduates: 81

### Research Areas

- Molecular biology for early detection of oral cancer
- Microbiologic evaluation of oral flora
- Metallurgical sciences and dental material research
- Biosynthetic evaluation of implants

### Research Outcomes

- Papers published: 263

### International

Tufts University, USA; University of Murcia, Spain

### Societal Relevance

The following R&D outcomes are of national/societal significance:

- The Institute runs various innovative outreach programmes

for the rural masses— establishment of satellite centres through community academic partnership, rural health services programme using mobile dental clinics, dental screening camps, dental health education and motivation programmes, etc. 🔍



Research facilities

## DYSTROPHY ANNIHILATION RESEARCH TRUST

### Brief Description

The Dystrophy Annihilation Research Trust focusses on Duchenne Muscular Dystrophy and works towards achieving realistic treatment options to alleviate and reverse the dystrophy condition at the genetic level, thereby, enhancing the quality of life of affected children. The research focus of the institute is on muscular dystrophy and works towards raising awareness about the disorder. The institute is registered as a trust.

### R&D Set-up

The following research infrastructure is available at the institute:

- Research equipment, such as laminar air flow, hot air oven, centrifuge, electrophoresis system, fume hood, oligonucleotide synthesizer, vertical gel electrophoresis system, chromatography system, imaging system, horizontal gel electrophoresis system, and others.

### Sources of income for R&D

Donations and voluntary contributions

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014–15 = 36.61

FY 2015–16 = 66.87

FY 2016–17 = 76.91

### R&D Achievements

#### Products developed

- Mixmer antisense oligonucleotide
- Human fibroblast cell line

### Processes developed

- Design and synthesis of antisense oligonucleotides
- Establishing and sub-culturing cell lines
- Freezing and storing of cell lines for future usage

### Technical Collaborations

#### National

Indian Institute of Science, Bengaluru, Karnataka; Indian Association for the Cultivation of Science, Kolkata, West Bengal; MEDGENOME, Bengaluru, Karnataka; STRAND Life Sciences, Bengaluru, Karnataka

#### International

Leiden University Medical Center, The Netherlands; Murdoch University, Australia

### Societal Relevance

The following R&D outcomes are of national societal significance:

- Custom-made antisense oligonucleotides
- Antisense therapy for rare monogenic disorders. [Q](#)

### Registered Office

Dystrophy Annihilation Research Trust  
295, 14th Cross Rd, Dollars Colony, RMV 2nd stage, Bengaluru 560 094, Karnataka  
T: 080-23412725  
E: supportus@dartindia.in  
W: <https://dartindia.in/>

### Recognition Status

File No.: 14/700/2016-TU-V  
Initial Recognition: 2016  
Valid Until: March 31, 2019

### R&D Manpower

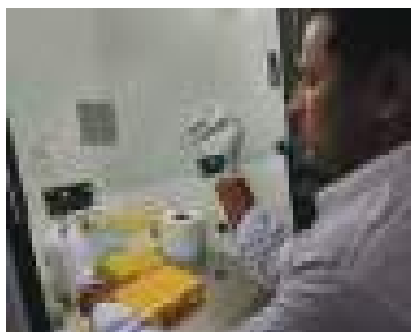
Doctorates: 2  
PGs & Graduates: 4

### Research Areas

- Anti-sense oligonucleotide therapy
- Exon skipping
- Duchenne muscular dystrophy

### Research Outcomes

- Papers published: 1



^ Research facility

### Registered Office

ELLA Foundation,  
Genome Valley, Turkapally,  
Shameerpet (Mandal),  
Hyderabad, Telangana 500 078  
T: 040 23480570  
E: admin@ellafoundation.org

### Recognition Status

File No.: 14/404/2005-TU-V  
Initial Recognition: 2005  
Valid Until: March 31, 2018

### Research Areas

- Development of vectored-vaccine platform
- Vectored and genetic vaccines for foot-and-mouth disease
- Reverse genetics for bluetongue
- Vaccines for bovine staphylococcal mastitis
- Novel vaccines for polio
- Vaccines for brucellosis
- Epidemiology of animal arbovirus

### Research Outcomes

- Papers published:
  - » National: 2
  - » International: 23
- IPRs held
  - » Patents filed: 2

## ELLA FOUNDATION

### Brief Description

ELLA Foundation conducts research on vaccines and other medical services, including clinical trials, which have far reaching benefits to the society. The foundation has taken up research for finding a potential vaccine for the Ebola virus and has successfully completed preliminary studies on the virus. The non-governmental body is registered under the Companies Act.

### R&D Set-up

The R&D facility of the foundation comprises built-up area of around 3,000 sq. ft.

### Sources of income for R&D

Governmental and institutional grants

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 160.06

FY 2015-16 = 122.44

FY 2016-17 = 155.39

### R&D Achievements

#### Products developed

- Development of vaccine for Ebola
- Vectored and genetic vaccines for foot-and-mouth disease
- Laboratory animals health monitoring
- Development of vaccine for brucellosis
- Vaccine platform for bluetongue
- Novel vaccines for bovine staphylococcal mastitis
- Novel vaccine for polio

### Processes developed

- Novel non-radioactive method to study protein turnover in mammalian cells
- Molecular techniques to type BTV
- Affordable virus purification
- Affordable fixed-bed culture for mammalian cell propagation
- Improvement of inactivated polio vaccine production

### Technical Collaborations

#### National

College of Veterinary Science, Hyderabad, Telangana; Institute of Animal Health and Veterinary, Biologicals, Hyderabad, Telangana; Indian Institute of Sciences, Bengaluru, Karnataka; National Institute of Animal Biotechnology, Hyderabad, Telangana; Bharat Biotech International Ltd, Hyderabad, Telangana; Madras Veterinary College, Chennai, Tamil Nadu

#### International

The Pirbright Institute, UK

### Societal Relevance

The following R&D outcomes are of national/societal significance:

- The foundation provides bluetongue diagnostics services for farmers of Andhra Pradesh and Telangana free of cost.
- Affordable virus purification and fixed-bed culture for mammalian cell propagation are implemented in-house and shared with industrial/academic collaborators. 🔍





^ Cell and Tissue Culture Research Laboratory

### Registered Office

Era Lucknow Medical College  
of Era Educational Trust,  
Sarfrazganj, Hardoi Road,  
Lucknow 226 003, Uttar Pradesh  
T: 0522-6600777  
E: admissions@elmcindia.org  
info@elmcindia.org  
W: www.elmcindia.org

### Recognition Status

File No.: 14/496/2009-TU-V  
Initial Recognition: 2009  
Valid Until: March 31, 2018

### R&D Manpower

Doctorates: 19  
PGs & Graduates: 7

### Research Areas

- Cancer—Lung, Oral, Gall bladder, Cervix, Breast, Ovarian, Esophagus, Urinary bladder
- Stem cell
- Alzheimer's Disease
- Diabetes
- Thyroid
- Vitamin D deficiency
- Glaucoma
- Chronic fatigue syndrome
- Hemorrhage

## ERA LUCKNOW MEDICAL COLLEGE OF ERA EDUCATIONAL TRUST

### Brief Description

The Era Educational Trust has conceptualized Era's Lucknow Medical College and Hospital as a 'Centre of Excellence' in medical education, medicare, training, and research. The Era Lucknow Medical College offers comprehensive patient care with a humane touch on charitable basis for the benefit of the poor and needy.

The institute is registered as private university.

### R&D Set-up

The following are the research facilities available:

- Research facilities include departments of Pathology, Biochemistry, Microbiology, and Pharmacology
- Research laboratories comprise Central Research Lab, Hospital Lab Services, Laboratory for Stem Cell and Restorative Neurology, Tissue Culture Research Lab, Protein Biology and Cancer Research Lab, Natural Products Lab
- R&D equipments include High end fluorescent, phase-contrast & microphotography microscope, Penta head teaching microscope, Olympus Ch20i microscope, Ideal respiratory pump, Analgesiometer, Electro convulsometer, Grip dynamometer, Nano-drop for DNA/RNA quantification, Gel electrophoresis, and several others.

### Sources of income for R&D

- Funds
- Government grants

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 4,663.77

FY 2015-16 = 6,206.08

FY 2016-17 = 6,046.09

### R&D Achievements

#### Products developed

- Advanced Manikins simulator for clinical skill development of medical and non-medical students/doctors and nursing staff
- Septem Technology Air Purification and Cooling System
- Air Purification System for operating theaters
- Emergency Medical Management system for mobile ambulance

### Technical Collaborations

#### National

Institute of Nanoscience and Technology, Mohali, Punjab; Sawai Man Singh Medical College, Jaipur, Rajasthan

#### International

Rutgers University, USA; University of Griefswald, Germany; University of Queensland, Australia; University of Virjie, The Netherlands. 🔍

### Research Outcomes

- Papers published:
  - » National: 192
  - » International: 298
- IPRs held
  - » Patents filed: 4
  - » Patents awarded: 2



^ Glued IOL

## EYE RESEARCH CENTRE

### Brief Description

The Eye Research Centre, a unit of Dr Agarwal's Eye Hospital, conducts free eye camps all over Tamil Nadu and neighbouring states. The team of postgraduates, optometrists, and nurses gain wide clinical experience and provide hands-on medical care ranging from treatment to surgeries. The centre is a registered society.

### R&D Set-up

The research facilities include fully sophisticated operation theatres, full-fledged research lab, and 2,500 sq. ft area for the research work.

### Sources of income for R&D

- Donations
- Government grants

### R&D expenditure (₹ lakhs)

FY 2014-15 = 212.10

FY 2015-16 = 222.73

FY 2016-17 = 278.17

### R&D Achievements

#### Products developed

- Trocar Anterior Chamber Maintainer (TACM) for improvised infusion
- Glued capsular hook

#### Processes developed

- Glued IOL technique for deficient capsular support
- Pre Descemets Endothelial Keratoplasty (PDEK)
- Single pass four throw pupilloplasty: post-operative mydriasis and fundus visibility in pseudophakic eyes

- Stag incision glaucoma surgery
- Contact lens assisted collage cross linking
- Minimally invasive micro sclerostomy
- Invasive ocular surface squamous neoplasia in congenital ichthyosiformerythroderma
- Giant eye lid eccrinehydrocystoma induced progressive ptosis in childhood
- Combined lateral rectus augmented transposition and inferior rectus recession for monocular elevation deficiency
- Double infusion cannula technique (DICT) for glued intrascleral haptic fixation of intraocular lens with endothelial keratoplasty
- Smile lenticule assisted sutureless corneal resurfacing with interface tattooing for limbaldermoid

### Principle/theory developed

- Short-term fluctuation of lens corneal distance and clinical correlation with phacodonesis
- Pupilloplasty for pupil size attenuation to prevent pupillary capture in glued IOL
- Corneal regeneration in young donor corneas after PDEK
- Psychosomatic uveitis : effect of alternative treatment
- Presbyopic Allogenic Refractive Lenticule (PEARL) inlay: A new technique for correction of presbyopia under intra-stromal lenticule implantation

### Registered Office

Eye Research Centre,  
19 Cathedral Road,  
Chennai 600 086, Tamil Nadu  
T:1800 3002 3377  
E: patientcare@dragarwal.com  
W: www.dragarwal.com

### Recognition Status

File No.: 14/37/1988-TU-V  
Initial Recognition: 1988  
Valid Until: March 31, 2017

### R&D Manpower

Doctorates: 1  
PGs & Graduates: 15

### Research Areas

- Ophthalmology

### Research Outcomes

- Papers published: 81


### Technical Collaborations

#### National

The Advanced Centre for Treatment, Research and Education in Cancer, Navi Mumbai, Maharashtra

#### Societal Relevance

The following R&D outcomes are of national/societal significance:

- Technologies: Glued IOL technology for treating aphakic patients; Pre Descemets Endothelial Keratoplasty
- Organizing awareness programmes, such as eye donation campaigns, eye screening in schools, etc. 



^ Research infrastructure

### Registered Office

Father Muller Charitable Institute  
Father Muller Road, Kankanady,  
Mangalore 575 002, Karnataka

T: 0824 2238327

E: researchfmmc@fathermuller.in

W: fathermuller.edu.in

### Recognition Status

File No.: 14/93/1988-TU-V

Initial Recognition: 1988

Valid Until: March 31, 2018

### R&D Manpower

Doctorates: 4

PGs & Graduates: 25

### Research Areas

- Biochemistry
- Dermatology
- Homeopathy
- Medicine
- Microbiology
- Nursing
- Orthopaedics
- Paediatrics
- Physiotherapy
- Surgery

## FATHER MULLER CHARITABLE INSTITUTE

### Brief Description

Father Muller Charitable Institute is committed to bring healthcare solace to the suffering humanity. The institute has established Father Muller Research Center to promote research activities among the staff and students of Father Muller Charitable Institutions. The centre is committed to enhancing research support through identifying the thrust areas of research, formulating the study designs, and also guiding in grant applications. The institute is registered as a non-governmental organization.

### R&D Set-up

Following are the research facilities available:

- Research infrastructure includes equipment, such as ANU-photorheograph, impedance vasograph, impedance cardiovasograph, postural analysis lab (DIERS-4D Motion), unweighing system (body weight support), VASOMON with medical analyser application, biosafety cabinet, spectrophotometer, and others.

### Sources of income for R&D

- Donations
- Funds

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 38.29

FY 2015-16 = 67.09

FY 2016-17 = 64.43

### R&D Achievements

#### Products developed

- Identification of specific variability parameters pulse patterns for disease characterization using peripheral pulse analyser
- Anti-fungal drug sensitivity in treatment of dermatophytic infections
- Clinical trial of homoeopathic therapeutic efficacy in changing the level of glycated haemoglobin in diabetes mellitus

### Technical Collaborations

#### National

- Board of Research in Nuclear Sciences, Mumbai, Maharashtra; National Institute of Technology, Karnataka; Rajiv Gandhi University of Health Sciences, Bengaluru, Karnataka

### Societal Relevance

Micro-insurance awareness among population living in rural, semi-urban, and urban areas of Dakshina Kannada District. 🔍



^ USG machine for fetal growth charts

### Registered Office

Fetal Care Research Foundation,  
197, Dr Natesan Road, Mylapore,  
Chennai 600 004, Tamil Nadu  
T: +91 44 28350409  
E: bdri@mediscan.org.in  
W: fcrf.org.in

### Recognition Status

File No.: 14/567/2011-TU-V  
Initial Recognition: 2011  
Valid Until: March 31, 2020

### R&D Manpower

Doctorates: 1  
PGs & Graduates: 5

### Research Areas

- Ultrasound
- Fetal medicine
- Genetics
- Prenatal diagnostics and screening
- Inborn errors of metabolism or metabolic disorders

## FETAL CARE RESEARCH FOUNDATION

### Brief Description

The Fetal Care Research Foundation is involved in clinical research and subsequently developing strategies for preventive, curative, and supportive management of birth defects. The foundation undertakes various community service programmes.

The foundation is registered as a trust.

### R&D Set-up

The following research facilities are available:

- Research facilities include online educational sessions facilities
- Research and teaching sessions are accessed by other professionals across the country and even from abroad

### Sources of income for R&D

Grant-in-aid from government

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 6.04

FY 2016-17 = 25.85

### R&D Achievements

#### Prototypes developed

- Birth Defects Registry of India
- Epidemiological study of the genetic heterogeneity and phenotype-genotype correlation of children and adolescents with tuberous sclerosis complex
- Fetal Growth Charts for the Indian Population

### Technical Collaborations

#### National

Indian Institute of Technology Madras, Tamil Nadu; Healthcare Technology Innovation Centre, Tamil Nadu; Mediscan Systems, Tamil Nadu

#### Societal Relevance

The following R&D outcomes are of national/societal significance:

- Improved fetal outcomes and identification of congenital defects for early prevention and management
- Early detection of congenital heart defects has helped in early initiation of treatment on birth
- Awareness programmes on lysosomal storage disorders, rare diseases, birth defects, breast feeding, and regular ante-natal checkups. 🔍

### Research Outcomes

- Papers published: 17



^ Fluorosis diagnostic laboratory

## FLUOROSIS RESEARCH & RURAL DEVELOPMENT FOUNDATION

### Brief Description

The Fluorosis Research & Rural Development Foundation is committed to fluorosis mitigation in the country. The foundation is providing fluorosis diagnostic services, extending expertise in prevention and control of fluorosis, and providing assistance for hospitals to set up infrastructure for fluorosis diagnosis.

The institute is a registered society under the Societies Registration Act of XXI of 1860.

### R&D Set-up

Research facilities are available for training and skill development of doctors, scientists, researchers, dieticians, and technicians for fluorosis diagnosis.

Research infrastructure include equipment, such as fluoride testing ion meters, micro column chromatography, Mettler balance, and others.

### Sources of income for R&D

- Government grants
- Donations

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 12.87

FY 2015-16 = 12.53

FY 2016-17 = 48.63

### R&D Achievements

#### Products developed

- Fluorosis diagnostic process
- Rectification of anaemia in pregnancy
- Development of a test kit for testing urine fluoride in pregnant women

#### Commercialization potential of products/processes developed

- Diagnostic facilities provided to a large number of anaemic pregnant women and school children through the hospital approach and school approach

### Technical Collaborations

#### National

Department of Health and Rural Water Supply, Government of Rajasthan; Desert Medicine Research Centre, Jodhpur, Rajasthan; Government Medical College, Thiruvananthapuram, Kerala; Guwahati Medical College, Assam; Indian Council of Medical Research, New Delhi; National Institute of Nutrition, Hyderabad, Telangana; SKM Medical College, Pune, Maharashtra

#### Societal Relevance

The following R&D outcomes are of national/societal significance:

- The Ministry of Health & Family Welfare, Government of India, under its Reproduction Maternal, Nutrition and Child health &

### Registered Office

Fluorosis Research & Rural Development Foundation,  
B-1, SARANSH. No.34,  
Indraprastha Extension,  
Patparganj, Delhi 110 092  
T: 011 22731886  
E: fnrddf.aks@gmail.com  
W: www.fluorideandfluorosis.com

### Recognition Status

File No.: 14/291/1998-TU-V  
Initial Recognition: 1998  
Valid Until: March 31, 2018

### R&D Manpower

Doctorates: 3  
PGs & Graduates: 2

### Research Areas

- Fluorosis
- Fluorosis-linked disorders, such as anaemia, blood vessel calcification, rickets in children, resistant to mega dose of calcium and Vitamin D, stroke, and others


### Research Outcomes

- Papers published: 5

Adolescents programme in 184 districts in India is adopting the foundation's protocol for correcting anaemia.

- The foundation's contributions have been introduced to the National Programme on Prevention and Control of Fluorosis, a flagship inter-

ministerial programme of Ministry of Drinking Water, Ministry of Health, Government of India.

- The foundation's contributions have been adopted by the Japan International Cooperative Agency programme, to address fluorosis mitigation and safe water supply in Nagaur District in Rajasthan. 



^ Research infrastructure

### Registered Office

Foundation for  
Environmental Medicine  
404A Sukh Sagar,  
NS Patkar Marg, Chowpatty,  
Mumbai 400007, Maharashtra  
T: 022-43422121  
E: iiembom@gmail.com

### Recognition Status

File No.: 14/361/2004-TU-V  
Initial Recognition: 2004  
Valid Until: March 31, 2019

### R&D Manpower

Doctorates: 4  
PGs & Graduates: 7

### Research Areas

- Environmental quality monitoring.
- Environmental quality-related health problems
- Environmental restoration
- Prevalence of asthma chronic obstructive pulmonary disease (COPD)
- Asthma prevalence in school children

## FOUNDATION FOR ENVIRONMENTAL MEDICINE

### Brief Description

The objective of the Foundation for Environmental Medicine is to promote and undertake research on the impact of economic development on the quality of the environment and its impact on human health, comfort, and safety. Under the umbrella of the Foundation, are the Indian Institute of Environmental Medicine and the National Initiative against Asthma.

The foundation is a registered society.

### R&D Set-up

The research facilities and infrastructure available in the organization are as follows:

- The Analytical Department of the Indian Institute of Environmental Medicine comprise Analytical Laboratory, Aerosol Science Laboratory, Industrial Hygiene Department, Environmental Conservation Department.
- The Medical Research Division includes Occupational Health Clinic, Medical Epidemiology Centre and Cardio-Respiratory Rehab Centre.
- The Division of Education for Water includes Water Lab and Education on water conservation and awareness exhibition.

### Sources of income for R&D

Donations

### R&D expenditure (₹ in lakhs)

FY 2014-15 = 15.67  
FY 2015-16 = 19.64  
FY 2016-17 = 17.60

### R&D Achievements

#### Products developed

- Toxic heavy metal measurement in biological matter as well as environmental samples
- Study on effects of rehabilitation programme using interval training on patients with interstitial lung disease
- Estimation of steroids (qualitative as well as quantitative)

### Technical Collaborations

#### National

Alkyl Amines Chemical Ltd, Maharashtra; Lupin Pharma, Haryana; Rotary Club of Mumbai, Maharashtra

### Societal Relevance

The following R&D outcomes are of national/societal significance:

- Mobile exhibition on water resources was organized by the Foundation in schools, colleges, and social organizations in Lonvala, Pune, and Mumbai.
- The Foundation conducts workshops for dissemination of information about water harvesting and management for volunteers from different NGOs.
- Under the National Initiative on Asthma, the Foundation provides free asthma clinic services.
- The Foundation set up free respiratory health clinic in Talwada village of Maharashtra.
- Field trips for school children are organized to educate them about rainwater harvesting using model constructs. 🔍

### Research Outcomes

- Papers published: 15





^ Research facility

## FOUNDATION FOR RESEARCH IN GENETICS & ENDOCRINOLOGY

### Brief Description

The Foundation for Research in Genetics & Endocrinology (FRIGE) is affiliated with M S University, Vadodara, Gujarat, as a research institute for doctoral programme. The institute is also accredited with European Quality Assurance Laboratory Testing for Lysosomal Storage Disorders: ERNDiM (European Research Network for evaluation and improvement of screening, diagnosis and treatment of inherited disorders of metabolism).

The foundation is registered as a non-government organization.

### R&D Set-up

The research facilities of the departments on cytogenetic, molecular cytogenetic and molecular biology & biochemical genetics are used by the academia and industry. The institute has equipment such as UV Transilluminator, Gel Doc System, Single-strand conformation polymorphism (SSCP) electrophoresis, Electrophoresis System, Thermal Cycler, Photofluorometer, Yorco Incubator, ELISA Reader, QiExpert, Cyclo Mixer, and several more.

### Sources of income for R&D

Grants and corpus

### R&D expenditure (₹in lakhs)

The SIRO maintains separate bank account for R&D activities.

FY 2014-15 = 16.13

FY 2015-16 = 13.18

### R&D Achievements

#### Products developed

Screening for I cell disease

#### Processes developed

- » Chitotriosidase and Urine glycosaminoglycans(GAG) for storage disorders
- » Labelling of FISH probes

#### Prototypes developed

- » Intracellular cholesterol localization by Filipin stain for Niemann Pick C disease

### Technical Collaborations

#### National

All India Institute of Medical Sciences, New Delhi; Centre for DNA Fingerprinting and Diagnostics, Hyderabad, Telangana; Genetic Research Centre, Mumbai, Maharashtra; Kasturba Medical College, Manipal, Karnataka; M S University of Baroda, Vadodara, Gujarat; Maulana Azad Institute of Medical Sciences, New Delhi; National Institute for Research in Reproductive Health, Mumbai, Maharashtra; Sanjay Gandhi Postgraduate Institute of Medical Sciences, Lucknow, Uttar Pradesh; SAT Hospital, Thiruvananthapuram, Kerala; Sir Ganga Ram Hospital, New Delhi

#### International

Institute of Genetic Medicine, Newcastle University, UK

### Societal Relevance

The following R&D outcomes are of national/societal significance:

### Registered Office

Foundation for Research in Genetics & Endocrinology, Institute of Human Genetics, FRIGE House, Jodhpur Village Road, Satellite, Ahmedabad 380 015, Gujarat  
T: 079-26921414  
E: jshethad1@gmail.com  
W: www.geneticcentre.org

### Recognition Status

File No.: 14/409/2005-TU-V  
Initial Recognition: 2005  
Valid Until: March 2017

### R&D Manpower

Doctorates: 4  
PGs & Graduates: 4

### Research Areas

- Lysosomal storage disorders
- Chromosomal disorders
- Array comparative genomic hybridization (CGH)
- Muscular dystrophy
- Neurogenetic disorders
- Mental retardation
- Spinal muscular atrophy
- Congenital anomalies
- Hemoglobinopathies

### Research Outcomes

- Papers published: 22
- IPRs held
  - » Patents awarded: 1
- Technologies transferred/commercialized: 1

- Products: Screening for I-cell disease in children with dysmorphic features, chitotriosidase study in cases with hepatomegaly and urine screening for GAG for screening of mucopolysaccharide disorders
- Technologies: Labelling on endogenous FISH probes, screening of I cell and various metabolic storage disorders
- Awareness programmes: Programmes conducted on rare

disease, neuromuscular disorders, and genetic disorders

### Remarks

The Foundation has developed the technique for the diagnosis of I-cell disease (Mucopolipidosis type II/III) which was colorimetric-enzymatic reaction. The technology was transferred for the diagnosis of the I-cell disease in society for public services. 🔍



^ Limb lengthening operation  
(11 inches shortening)

### Registered Office

Free Polio Surgical and Research Foundation, C/o. PREMA Hospital, D.No.9-1-227, CBM Compound, Rama Talkies Junction, Visakhapatnam 530 003, Andhra Pradesh  
T: 0891 2526791  
E: premahospital@hotmail.com

### Recognition Status

File No.: 14/243/1995-TU-V  
Initial Recognition: 1995  
Valid Until: March 31, 2018

### R&D Manpower

PGs & Graduates: 8

## FREE POLIO SURGICAL AND RESEARCH FOUNDATION

### Brief Description

The Free Polio Surgical and Research Foundation manages the PREMA Hospital that provides medical surgical and therapeutical management for the complete rehabilitation of polio. The foundation's research activities are aimed at polio rehabilitation, research, and management. The foundation is registered as a charitable trust under Public Charitable Trust Act.

### R&D Set-up

The research infrastructure is equipped to carry out research on myopathy, cerebral palsy, artificial limb, congenital deformities, and other degenerative conditions.

### Sources of income for R&D

- Donations
- Government grants

### R&D Achievements

#### Products developed

- Development of prosthesis with aluminum sheet for better mobility

#### Research projects

- Evaluation of Efficacy of intravenous injection of cord blood in myopathy patients.
- Development of prosthesis with aluminum sheet
- Extensive research on Congenital Talipes Equino Varus deformity of foot

- High Tibial Osteotomy restoration the joint space and regeneration of articles surfaces.
- Restoration of the Joint Space Revasculijation Article surfaces working on painless stable hip joint

### Societal Relevance

- The foundation is conducting free polio surgical camps. So far, nearly 752 such camps have been conducted in various parts of operating on 170,000 patients with more than 4 lakh surgical procedures.
- During the last year, 39 free polio surgical camps and 39 review camps have been conducted in various states. [Q](#)

### Research Areas

- Post-polio paralysis with deformities

### Research Outcomes

- Papers published: 17



^ Research infrastructure at the foundation

## GANGA ORTHOPEDIC RESEARCH AND EDUCATION FOUNDATION

### Brief Description

The Ganga Orthopedic Research and Education Foundation facilitates and conducts research in all aspects of orthopedic surgery, in both clinical and basic sciences. The foundation supports the academic training of the Ganga Hospital staff, holding scientific meetings and conferences, funding on-going research activities of the department, providing funds for 'Project Helpline' and the primary education of deserving underprivileged children. The foundation is registered as a trust.

### R&D Set-up

Following are research facilities available:

- Research facilities include Radiological facility and Proteomics laboratory
- The Proteomics laboratory is equipped with deep freezer vertical, vortex mixer, rocker shaker 3D, gel plate shaker, multimode plate reader, varioscan lux, refrigerated centrifuge, magnetic stirrer, deionized water purification system with prefiltration, mini vertical electrophoresis, regular electrophoresis unit, Agarose gel electrophoresis unit, western blot apparatus, and other instruments.
- Usage of research facilities by internal/external manpower is in the ratio 80:20 presently.

### Sources of income for R&D

- Donations
- Government grants
- International funds

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 4.50

FY 2015-16 = 150.00

FY 2016-17 = 80.00

### R&D Achievements

#### Prototypes developed

- Knowledge creation in genetic basis of low back pain, proteomic profiling of intervertebral disc, modern imaging of spinal cord, application of navigation and robotics in spine surgery, and advancement in therapy of spine tuberculosis
- Prospective randomized study comparing the effectiveness of Batroxobin, Tranexamic acid, and a combination in prevention of blood loss in lumbar spine fusion surgery
- Basic research on intervertebral disc disease is in progress.

### Technical Collaborations

#### National

Aravind Medical Research Foundation, Madurai, Tamil Nadu; Centre for Plant and Molecular Biology, Tamil Nadu Agricultural University, Coimbatore, Tamil Nadu; APS Lifetech, Pune, Maharashtra

#### Registered Office

Ganga Orthopaedic Research and Education Foundation,  
313, Mettupalayam road,  
Coimbatore 641 043,  
Tamil Nadu  
T: 0422 2485000  
E: gangaorthoresearch@gmail.com  
W: goref.org

#### Recognition Status

File No.: 14/488/2008-TU-V  
Initial Recognition: 2008  
Valid Until: March 31, 2018

#### R&D Manpower

Doctorates: 2  
PGs & Graduates: 3

### Research Areas

- Low back pain
- Spinal cord injury
- Spine imaging
- Disc degeneration
- Proteomics
- Genomics

### Research Outcomes

- Papers published: 54

### Societal Relevance

The foundation has promoted health awareness in ageing individuals and

reduction of disability in society by rehabilitation of patients with spinal cord injury. 🔍



Research facility: DNA sequencing

## GENOME FOUNDATION

### Brief Description

The Genome Foundation has been set up with the aim of diagnosing and counselling for genetic disorders affecting the Indian population, in particular, the underprivileged residing in rural India.

The foundation is a non-profit organization set up under Section 25/8 of the Companies Act.

### R&D Set-up

The following research facilities are available:

- The institute has equipment, such as Automated DNA sequencer, Automatic karyotyping system, Semi-automated biochemistry analyser, UV Spectrophotometer, Carbon dioxide incubator, and others.

### Sources of income for R&D

- Donations
- Grants

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 21.82

FY 2015-16 = 277.542

### R&D Achievements

#### Processes developed

- Genealogical demographic methods developed and applied in genetic epidemiology of diseases such as thalassemia
- Evaluation of plant-based formulations in the prevention of neuro-degenerative disorders


### Technical Collaborations

#### National

Adesh University, Punjab; Banaras Hindu University, Varanasi, Uttar Pradesh; Centre for Cellular & Molecular Biology, Hyderabad, Telangana; Deccan College of Medical Sciences, Hyderabad, Telangana; Labindia Instruments Pvt. India, Haryana; PPS EnviroPower Pvt. Ltd, Telangana; Rahul Memorial Welfare Society, Jaunpur, Uttar Pradesh; Roche Diagnostics India Pvt. Ltd, Maharashtra; Sickle Cell Institute, Chhattisgarh; Sri Devraj Urs University, Karnataka

### Societal Relevance

The following R&D outcomes are of national/societal significance.

- Genetic diagnostic service for underprivileged and rural poor population
- Awareness and education about genetic disorders such as  $\beta$ -thalassemia. 

### Research Areas

- Epidemiology of rare genetic diseases
- Micro profiling of Beta thalassemia mutations in Telangana region
- Genetics of depression and suicide
- Cancer genetics
- Genetics of cardiomyopathies

### Research Outcomes

- Papers published: 3

### Registered Office

Genome Foundation, First Floor,  
Centre for Plant Molecular  
Biology, Osmania University,  
Amberpet, Hyderabad 500 007,  
Telangana

T: 09666444121

E: genomefoundation@gmail.com

W: genomefoundation.in

### Recognition Status

File No.: 14/706/2016-TU-V

Initial Recognition: 2016

Valid Until: March 31, 2019

### R&D Manpower

Doctorates: 11

PGs & Graduates: 3



^ Design of non-invasive pulse rate detector for detection of heart diseases using LabVIEW

### Registered Office

GHR Labs and Research Centre,  
345 Shradha House,  
6th Floor, Kingsway,  
Nagpur 440 001, Maharashtra  
T: 712 6617181  
E: ghrlabs@raisoni.net  
W: www.ghrlabs.res.in

### Recognition Status

File No.: 14/571/2011 TU V  
Initial Recognition: 2011  
Valid Until: March 31, 2020

### R&D Manpower

Doctorates: 7  
PGs & Graduates: 3

## GHR LABS AND RESEARCH CENTRE

### Brief Description

GHR Labs and Research Centre aims to promote research in various trends of engineering, science, and management, and the innovations in established and newer technologies. It also aims to undertake, promote, study global developments and evaluate new instruments, services, facilities, and disseminate their applications. The centre is registered as a company under Section-25/8 of the Companies Act.

### R&D Set-up

Following are the research facilities available:

- The institute has instruments, such as ANSYS multiphysics, pressure transducers, data acquisition system, development of dye-sensitized solar cells, curve analyser system, solar simulator, pyranometer, 4 channel FFT analyser with accessories, software Opnet IT Guru, software Mathwork product, integrated data analysis and statistical module, and others.

### Sources of income for R&D

Research funds

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 38.15

FY 2015-16 = 46.49

FY 2016-17 = 20.47

### R&D Achievements

#### Products developed

- Manually-operated sprayer cum herbicide applicator

- Foot-operated pesticide sprayer
- Foot-wearable device for diabetic person
- Assistive technique of mouse controlled desktop navigation for visually impaired
- Design and development of prosthetic hand for transradial amputee
- Design and fabrication of cauliflower cutting machine

### Commercialization potential of products/processes developed

Dedicated efforts in the direction to commercialize and to implement the following technologies are in process:

- Design and modelling of vermicompost sieving machine
- Design and fabrication of lemon juice making apparatus
- Design and development of garlic peeler machine
- Tree transplanter for agricultural/nursery implementation

### Technical Collaborations

#### National

Acharya Nagarjuna University, Andhra Pradesh; Central Institute for Cotton Research, Nagpur, Maharashtra; Daksh Foundation, Pune, Maharashtra; Mahatma Phule Krishi Vidyapeeth Rahuri, Maharashtra; Swami Ramanand Teerth Marathwada University, Maharashtra; V Life Technologies, Pune, Maharashtra

#### International

HiTeg Research Group, Rome; University of Murcia, Spain

### Research Areas

- Electrical engineering
- Civil engineering
- Mechanical engineering
- Computer science and engineering
- Electronics engineering
- Electronics and telecommunications

### Research Outcomes

- Papers published: 26
- IPRs held
  - » Patents filed: 153

### Societal Relevance

The following R&D outcomes are of national/societal significance.

- Method for efficient regeneration of potential energy of wastewater in high-rise buildings
- Design and fabrication of road dedusting system for four-wheelers
- Efficient biometric security system for SIM card allotment
- Secured computerized voting system
- GSM-based bank locker security system
- Water quality monitoring system using IoT
- Automatic challan system. 🔍





^ Medical services

### Registered Office

Global Hospital and Research Centre, Dilwara Road, Mount Abu 307 501, Rajasthan  
T: 2974 228600  
E: ghioabu@gmail.com  
W: www.ghrc-abu.com

### Location of R&D Units

Mount Abu, Rajasthan

### Recognition Status

File No.: 14/393/2004-TU-V  
Initial Recognition: 2004  
Valid Until: March 31, 2019

### R&D Manpower

PGs & Graduates: 31

### Research Areas

- Ophthalmology
- Internal medicine
- Cardiology
- Occupational medicine
- Community medicine
- General surgery
- Nursing
- De-addiction
- Cleft lip & palate
- Raja yoga meditation

## GLOBAL HOSPITAL AND RESEARCH CENTRE

### Brief Description

The Global Hospital and Research Centre is committed to uphold holistic health care based on the understanding that lasting solutions to health problems require the healing of mind, body, and spirit. Global Hospital also offers holistic health care by provisioning courses in positive thinking, meditation, and spiritual awareness to admitted patients and outpatients to complement their holistic care.

The centre is registered as a public charitable trust under the provision of the Mumbai Public Trust Act.

### R&D Set-up

The research infrastructure includes laboratories, slice CT scan, fully automated bio-chemistry analysers, five part differential full automated haematology analyser, electrolyte analyser, chemiluminescence hormonal assay, and coagulometer.

### Sources of income for R&D

- Donations
- Funds from foundations and institutions

### R&D expenditure (₹ in lakhs)

The centre has no specific income or expenditure for research. Research costs are absorbed into day-to-day expenditure.

### R&D Achievements

#### Products developed

- Clinico-microbiological study of chronic otitis media with reference

to pseudomonas and related species

- Surgical outcome of incomitant exotropia in patients with third nerve palsy

### Technical Collaborations

#### National


Give India, Maharashtra; India Care Trust; Sitaram Jindal Foundation, Karnataka

#### International

Fundacion Ananta, Spain; The Janki Foundation for Health Care, UK; The Smile Train, USA; Zorg van de Zaak Foundation, The Netherlands

### Societal Relevance

The following R&D outcomes are of national/societal significance:

- Coronary Artery Disease Regression Project: Helping thousands of patients reverse and prevent the disease
- Diabetic Retinopathy Project: Education, identification, treatment, and rehabilitation of patients affected by Diabetic Retinopathy in District Pali
- Holistic Approach to Diabetes Project: Hundreds of awareness camps held all over India in the last 5 years. 

### Research Outcomes

- Papers published in peer reviewed journals
  - » National: 13
  - » International: 3



^ Research facility at the university

## GUJARAT AYURVED UNIVERSITY

### Brief Description

Gujarat Ayurved University imparts teaching, training, and research in various specialities of Ayurveda. Apart from undergraduate education, the university is conducting post graduate programmes in different subjects of Ayurveda and high level clinical and experimental research in the field.

The university was established under an Act in the Assembly of state of Gujarat (Gujarat Ayurved University Act, 1965).

### R&D Set-up

The research facilities and infrastructure of the institution include the following:

- Equipments such as refractometer, electric muffle furnace horizontal, telethermometer, synergy water purification system, medicraft elevated plus maze, biosafety cabinate, atomic absorption spectrometer, appilatontanometer, etc.

### Sources of income for R&D

Grants from government ministry

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 177.86

FY 2015-16 = 258.78

FY 2016-17 = 235.34

### R&D Achievements

#### Processes developed

- Integrate Ayurveda into

mainstream contemporary biology and achieve global acceptability of the concepts and science of Ayurveda

- Clinical treatment protocol for Photodermatosis
- Identification of genomic correlates of Prakriti in healthy individuals among the west Indian population of Gujarat

### Technical Collaborations

#### National

Academy of Naturopathy, Gujarat; CSIR-Institute of Genomics and Integrative Biology, New Delhi; Ministry of AYUSH, Government of India; Gujarat State Biotechnology Mission, Gujarat; Saurashtra University, Gujarat; Ayurchem Products, Mumbai; Mercury Laboratories, Gujarat; Vasu Research Centre, Gujarat; Zoetic Ayurvedic Pvt. Ltd, Gujarat

#### International

Brazilian Association of Ayurveda, Brazil; European Academy of Ayurveda, Germany; Fundacion De Salud Ayurveda Prema, Argentina; Jeonju University, South Korea; Gulf Medical University, UAE; International Institute of Ayurveda, Canada; Natura Farm GMBH, Germany; Peoples' Friendship University of Russia, Russia; Reidmann International College for Complimentary Medicine, Israel; Tapovan Ayurveda & Yoga Center, France; The NPO Japan Ayurveda Institute, Japan; Bastyr University, USA; University of Debrecen, Hungary; Universitas Hindu Indonesia, Indonesia

### Registered Office

Gujarat Ayurved University,  
Post Box No.4, Jamnagar 361 008,  
Gujarat

T: 02882552014

E: directoripgt@ayurveduniversity.com

W: www.ayurveduniversity.edu.in

### Recognition Status

File No.: 14/296/1999-TU-V

Initial Recognition: 1999

Valid Until: March 31, 2019

### R&D Manpower

Doctorates: 95

PGs & Graduates: 149

### Research Areas

- Fundamental and literary research in Ayurveda
- Clinical research on Ayurvedic drugs and formulations
- Medicinal plants

### Research Outcomes


- Papers published: 724

### Societal Relevance

The following R&D outcomes are of national/societal significance:

- Hospital services are provided on nominal/free basis to the needy.
- Under the extension activities, the institution serves all the three

major defence forces (Army, Navy, and Air Force) with extension outpatient services (OPD). The extension OPDs are run in old age home and in the district jail as well.

- Need-based rural and urban free health camps are arranged on a regular basis. 



^ Awareness creation

## GUJARAT METHODIST CHURCH CARDIOTHORACIC AND VASCULAR RESEARCH SOCIETY

### Brief Description

The mission of Gujarat Methodist Church Cardiothoracic and Vascular Research Society is to undertake scientific research in the field of cardiology, cardiovascular surgery, and its allied fields that translate into alleviating the suffering associated with these disorders through prevention and improved, more cost-effective care of persons suffering from disorders in these fields.

The society is registered as a non-governmental body.

### R&D Set-up

Research facilities and infrastructure in the organization comprise dedicated research wing and seminar room, conference room, research officer room, etc.

### Sources of income for R&D

- Donations
- Grants

### R&D expenditure (₹ in lakhs)

FY 2014-15 = 115.82

FY 2015-16 = 104.34

FY 2016-17 = 62.92

### R&D Achievements

#### Products developed

- Community-based study on pharmacoconomics
- Ten-year patency of radial artery conduits in coronary artery bypass surgery
- Community-based drug utilization research of cardiovascular risk modifying drugs at the household level in Kheda district of Gujarat
- Correlation of combined cell index with quality parameter of red blood cell component. 🔍

### Research Areas

- Population based and clinical research studies
- Cardiovascular research
- Cardiology research

### Research Outcomes

- Papers published
  - » National: 8

### Registered Office

Gujarat Methodist Church  
Cardiothoracic and Vascular  
Research Society, Mission Road,  
Nadiad 387 002, Gujarat  
T: 2682555510  
E: info@ddmmheart.org  
W: www.ddmmheart.com/  
research/

### Recognition Status

File No.: 14/517/2010-TU-V  
Initial Recognition: 2019  
Valid Until: March 31, 2019

### R&D Manpower

PGs & Graduates: 10



^ Research facilities

### Registered Office

GVK Emergency Management and Research Institute,  
Devar Yamzal, Medchal Road,  
Secunderabad 500 078, Telangana  
T: 040 23462222  
E: info@emri.in  
W: www.emri.in

### Recognition Status

File No.: 14/569/2011-TU-V  
Initial Recognition: 2011  
Valid Until: March 31, 2019

### R&D Manpower

Doctorates: 1  
PGs & Graduates: 30

### Research Areas

- Emergency medical services
- First aid
- Life support skills

## GVK EMERGENCY MANAGEMENT AND RESEARCH INSTITUTE

### Brief Description

GVK Emergency Management and Research Institute is the largest professional emergency service provider in the country operating in the public-private partnership mode. With increased focus on research and analytics, the institute has entered into the arena of protecting law and order in the society. The institute conducts medical research, systems research, and operational research to continually improve their emergency response services. The institute is registered as a society.

### R&D Set-up

The research infrastructure at the institute comprises a research centre. The research centre is equipped to analyse, interpret, and estimate the trends of technology, education systems, training, standards in the speed and quality of patient care in emergencies.

### Sources of income for R&D

- Government grants
- Funds from multilateral and other agencies

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 129.28

FY 2015-16 = 147.20

FY 2016-17 = 175.00

### R&D Achievements

#### Products developed

- Telephone cardiopulmonary resuscitation (T-CPR)

- Cardiac Emergency Monitoring System

### Technical Collaborations

#### National


Osmania University, Telangana; Public Health Foundation of India, New Delhi; Tech Mahindra, Mumbai, Maharashtra

#### International

American Association of Family Physicians, USA; American Heart Association, USA; International Trauma Heart Support, USA; Maastricht University, The Netherlands; National Trauma Research Institute, Australia; Stanford University, USA

### Societal Relevance

The following R&D outcomes are of national societal significance:

- Reduction of infant mortality rate, maternal mortality rate, trauma, and cardiovascular deaths
- Leverages the latest technology to enable precise, speedy, and effective emergency response services
- Undertakes emergency transportation and pre-hospital care as part of the National Health Mission. 

### Research Outcomes

- Papers published
  - » National: 3
  - » International: 10



- ^ (1) Experimental animal facility,  
(2) Bacteriology facility,  
(3) Zebra fish colony,  
(4) Animal tissue culture

### Registered Office

Haffkine Institute for Training,  
Research and Testing, Acharya  
Donde Marg, Parel,  
Mumbai 400 012, Maharashtra  
T: 022-24150826, 9820236692  
E: director.hitrt@gmail.com  
W: www.haffkineinstitute.org

### Recognition Status

File No.: 14/93/1988-TU-V  
Initial Recognition: 1988  
Valid Until: March 31, 2020

### R&D Manpower

Doctorates: 7  
PGs & Graduates: 35

## HAFFKINE INSTITUTE FOR TRAINING, RESEARCH AND TESTING

### Brief Description

The Haffkine Institute for Training, Research and Testing has emerged as a multi-disciplinary, full-fledged bio-medical research institute engaged in various aspects of infectious diseases. The current research areas in the Haffkine Institute include studies of infections occurring in AIDS patients, surveillance and microbiological analysis of brucellosis, leptospira, prevalence of drug resistance in bacteria, and continuous development of newer chemotherapeutic agents to combat microbial and zoonotic infections.

The institute is registered as an autonomous body under Societies Registration Act 1860.

### R&D Set-up

The research infrastructure is used for the industry under commercial specialized testing projects. Major facilities available for research include:

- Laboratories for research on microbiology, serology and hematology, molecular biology, myco-bacteriology, mycology, animal tissue culture, plant tissue culture, organic synthesis, analytical instrumentation, radiation biology, proteomics, HIV, influenza research and diagnostics, and pest repellent (rodenticide/termicide) testing
- Insects breeding and culture facility
- Insecticidal testing (PEET-Grady chamber)
- In-vivo and in-vitro testing of anti-

malarial compounds for research purpose

- Snake Farm

### Sources of income for R&D

Grant-in-aid

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 966.52

FY 2015-16 = 595.64

FY 2016-17 = 668.36

### R&D Achievements

#### Products developed

- Anti-snake bite testing
- Snake repellency testing
- Anti-squirrel testing
- Anti-rodent testing
- Anti-termite testing
- Testing on unknown snake venom sample
- Establishment of efficacy assays for preclinical evaluation of anti-snake venoms
- Evaluation of protective armor against snake bite

#### Processes developed

- New synthesis of Nalbuphine HCL and its impurities with strategy for reduction from process
- Establishment of comparative body profile of venomous snakes

#### Commercialization potential of products/processes developed

- Evaluation of virucidal activity of disinfectants/hygiene products (qualitative)

## Research Areas

- Infectious disease
- Vector-borne diseases
- Antiviral activity
- Tuberculosis
- Nanoparticles
- Diabetes
- Cancer
- Stem cells

## Research Outcomes

- Papers published: 26
- IPRs held
  - » Patents filed: 153

- Evaluation of virucidal activity of disinfectants/hygiene products (quantitative)
- Evaluation of anti-rabies antibody titer from antirabies serum
- Determination of cytotoxicity using MTT assay
- Validation of a newly developed qPCR thermal cycler for detection of pH1N1 influenza genome
- Analytical testing of physiological parameters from human serum/plasma samples from clinical research
- In vitro cytotoxicity assay and cell migration assay


## Technical Collaborations

### National

Central Drug Research Institute, Lucknow, Uttar Pradesh; Institute of Bioinformatics, Bengaluru, Karnataka; Institute of Chemical Technology, Mumbai, Maharashtra; King Edward Memorial Hospital and Seth Gordhandas Sunderdas Medical College, Mumbai, Maharashtra; Kundnani College of Pharmacy, Mumbai, Maharashtra; National Centre for Disease Control, New Delhi; National Institute for Research in Reproductive Health, Mumbai, Maharashtra; National Institute of Mental Health and Neurosciences, Bengaluru, Karnataka; Oct therapies Pvt. Ltd, Mumbai, Maharashtra

## Societal Relevance

The following R&D outcomes are of national/societal significance.

- Epidemiology studies help in identifying the currently co-circulating strains of the viral agents in the geographical region, which is important for areas such as vaccine development.
- Research on computer-aided drug design (CADD) for neuraminidase inhibitors in influenza will help in the intervention/control/therapy of the respective diseases.
- Evidence-based disease pathogenesis using gene and protein profiling will provide an insight into how to control the disease clinically.
- The institute provides testing facilities for carrying out bacteriological examination of water samples from various industrial and household sources which is relevant to public health.
- The pre-clinical toxicity testing helps to study adverse effects of pharmaceuticals, agrochemicals, biocides, cosmetics, chemicals, and related products. The information could be extrapolated to understand their effect on human beings and animals, and is needed to initiate their clinical evaluation. 



^ Saantwanam care givers team

### Registered Office

Health Action by People,  
TC 1/ 1706, 'Chemmanam',  
Navarangam Lane, Opp. Third  
Men's Hostel, Medical College PO,  
Thiruvananthapuram 695 011,  
Kerala  
T: 0471 255 2774  
E: info@hapkerala.org  
W: hapkerala.org/index.php

### Recognition Status

File No.: 14/476/2008-TU-V  
Initial Recognition: 2008  
Valid Until: March 31, 2020

### R&D Manpower

PGs & Graduates: 24

### Research Areas

- Chronic diseases including non-communicable and communicable diseases/ disorders
- Health inequity
- Health policy

## HEALTH ACTION BY PEOPLE

### Brief Description

The mission of Health Action by People is to encourage people's action to promote health and development. The organization is in the forefront in health education, public health research, and health policy interventions in Kerala.

The organization is a non-governmental organization registered under the Travancore Cochin Literary, Scientific and Charitable Societies Act 1955.

### Sources of income for R&D

- Government grants
- International funds

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 27.20

FY 2015-16 = 43.76

FY 2016-17 = 29.39

### R&D Achievements

#### Products developed

- 'Saantwanam' training on health screening techniques
- Pulmonary rehabilitation in the management of chronic obstructive pulmonary disease
- Prospective urban-rural epidemiology

#### Consultancy services rendered

- DFID enquiry into Decentralization and Health—Panchayati Raj experiences in Kerala helping panchayats in planning health programmes
- Quality assurance in Indian Hospitals—The World Bank

- Integrated Child Development Services in Kerala, Phase III—The World Bank and Government of India


### Technical Collaborations

#### National

Government of Kerala

#### Societal Relevance

The following R&D outcomes are of national/societal significance.

- The organization has developed a state-level health screening programme, 'Saantwanam', with the collaboration of Kudumbasree, Government of Kerala. This programme aims at providing support to the suffering patients at their home and detection of new cases of diabetes, hypertension, hypercholesterolemia, overweight, and obesity.
- Research methodology workshops are conducted for the postgraduate students of the medical colleges to train them in the field of research. 

### Research Outcomes

- Papers published:
  - » National: 2
  - » International: 9





^ Community-based interventions

### Registered Office

HRIDAY (Health Related Information Dissemination Amongst Youth),  
20, Anand Lok (2nd floor),  
August Kranti Marg,  
New Delhi 110 049  
T: 011-64546720  
E: info@hriday-shan.org  
W: www.hriday-shan.org

### Location of R&D units

New Delhi

### Recognition Status

File No.: 14/643/2013-TU V  
Initial Recognition: 2013  
Valid Until: March 31, 2017

### R&D Manpower

PGs & Graduates: 4

## HEALTH RELATED INFORMATION DISSEMINATION AMONGST YOUTH

### Brief Description

The Health Related Information Dissemination Amongst Youth (HRIDAY) is an organization of public health professionals, social scientists, and lawyers engaged in advocacy and research aiming to promote health awareness and informed health activism among the youth in India.

The non-governmental organization is registered as a society.

### R&D Set-up

- The nature of research carried out is epidemiological and behavioural.
- The research team is supported by the finance and administration departments and the data collection team.

### Sources of income for R&D

- Government funds
- International collaborations

### R&D expenditure (₹in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 39.88

FY 2015-16 = 22.60

FY 2016-17 = 49.41

### R&D Achievements

#### Products developed

- Pilot study 'HRIDAY-CATCH' evaluated the efficacy of a school-based intervention programme for cardiovascular health in 1996, with 30 schools in Delhi
- Collaborative study with University

of Texas, USA, entitled 'MYTRI' (Mobilizing Youth for Tobacco-Related Initiatives in India) was a comprehensive intervention model designed for creating awareness and inculcating advocacy skills among students for tobacco use prevention.

- A social marketing approach was undertaken to address the emerging adolescent obesity in Delhi.
- Reliability and validity of self-reported measures of dietary intake and physical activity were studied among secondary school students in Delhi.

### Technical Collaborations

#### National

Ministry of Health and Family Welfare, Government of India; Ministry of Environment, Forest and Climate Change, Government of India; World Health Organization (India office)

#### International

National Institutes of Health, USA; Centers for Disease Control and Prevention, USA; Research for International Tobacco Control, Canada; United Nations Population Fund

### Societal Relevance

The following R&D outcomes are of national/societal significance:

- HRIDAY programmes involve the families of the youth through information education communication material, regular

### Research Areas


- Infectious disease
- Vector-borne diseases
- Antiviral activity
- Tuberculosis
- Nanoparticles
- Diabetes
- Cancer
- Stem cells

### Research Outcomes

- Papers published
  - » International: 3

interaction with parents during parent-teacher association meetings and at various other foras.

- With the help of schools, HRIDAY organizes community outreach programmes.

- As a result of HRIDAY's proactive approach in school and community-based health education programmes, many schools in India have formed tobacco free school policies and have declared their campuses to be 'Tobacco Free.' 



^ Sanitary manufacturing unit at Hadapsar, Pune

### Registered Office

Help Life,  
108, Sunshree Flower,  
NIBM Road, Kondhwa,  
Pune 411 048, Maharashtra  
T: 020-26850538  
E: helplifepune999@gmail.com  
W: www.helplifeinternational.org

### Recognition Status

File No.: 14/563/2011-TU-V  
Initial Recognition: 2011  
Valid Until: March 31, 2017

### R&D Manpower

PGs & Graduates: 4

## HELP LIFE

### Brief Description

Help Life works for mainstreaming physically handicapped girls into society with an aim to become professionals and independent members of society addressing physical, mental, and social rehabilitation.

The institute is a public charitable trust registered under the Bombay Public Trust Act, 1950.

### R&D Set-up

#### Sources of income for R&D

- Donations
- Research grants from social ventures and funding organizations

#### R&D expenditure (₹in lakhs)

FY 2014-15 = 12.11

FY 2015-16 = 13.20

FY 2016-17 = 28.09

### R&D Achievements

#### Prototypes developed

- Holistic programme for addressing the needs of physically challenged girls in Pune

- Understanding the needs of differently-abled adolescents and young adults with a focus on addressing stigma and discrimination in rural and urban sites in Maharashtra

### Societal Relevance

The following R&D outcomes are of national/societal significance:

- The institute has been associated with the doctors who are academicians and researchers and have made substantial contributions in the field of public health.
- Initiated an internship programme for physically challenged adolescent girls and continues to serve the needs of disabled children. 🔍

### Research Areas

- Women's reproductive and sexual health
- Health of differently-abled adolescent girls and women



^ Health camp

### Registered Office

Hirabai Cowasji Jehangir Medical Research Institute, Jehangir Hospital, 32 Sassoon Road, Lower Ground Floor, Block V, Pune 411 001, Maharashtra  
T: 020 26057004  
E: hcjmri.jehangirpune@gmail.com  
W: hcjmri.org.in/index

### Recognition Status

File No.: 14/237/1995-TU-V  
Initial Recognition: 1995  
Valid Until: March 31, 2018

### R&D Manpower

Doctorates: 3  
PGs & Graduates: 21

### Research Areas

- Children's growth and nutrition
- Calcium and Vitamin D deficiency and related disorders
- Childhood diabetes
- Non-communicable diseases including infections, diabetes, and cardiovascular disease
- Disorders of sexual development in children
- Cervical cancer

## HIRABAI COWASJI JEHANGIR MEDICAL RESEARCH INSTITUTE

### Brief Description

The Hirabai Cowasji Jehangir Medical Research Institute undertakes multi-disciplinary research in various branches of basic and applied clinical research. The institute provides its research expertise on scientific and medical research to its sister concern—Jehangir Hospital. The institute is registered as a trust.

### R&D Set-up

The research facilities/infrastructure at the institute include the following research equipment: Fitmate, auto analyser, Fluorescence microscope model CX-41, biochemistry analyser, body composition analyser, bone bank instrument, bone mineral densitometry system, HB analyser, Holter kit and monitor, and several others.

### Sources of income for R&D

- Government grants
- Corporate funding

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 94.07

FY 2015-16 = 123.41

FY 2016-17 = 213.02

### R&D Achievements

#### Processes developed

- Linkages of nutritional status and infections in rural Indian children and possible role of vitamin D and zinc for promoting immunity

- Effect of micronutrient supplementation on height velocity of underprivileged girls in comparison with un-supplemented health controls.

### Technical Collaborations

#### National

National Chemical Laboratory, Pune, Maharashtra; Bharati Vidyapeeth Medical College, Pune, Maharashtra; VIT Engineering College, Pune, Maharashtra; Sir Ganga Ram Hospital, Delhi; University of Pune, Maharashtra

#### International

Manchester University, UK; University College London, UK; Mayo Clinic, Rochester, USA; Shandong University, China; University of Melbourne, Melbourne, Australia

### Societal Relevance

The following R&D outcomes are of national/societal significance:

- Assessment of bone density for osteoporosis by dual-energy X-ray absorptiometry (DEXA) and Peripheral Quantitative Computed Tomography (pQCT) is being carried out at the centre.
- Awareness programmes on diabetes, childhood nutrition, and osteoporosis are run at the centre. 🔍

### Research Outcomes

- Papers published: 51



^ Research laboratory

### Registered Office

Iladevi Cataract & Intraocular Lens Research Centre  
C/o Raghudeep Eye Hospital,  
Behind Oxford Tower, Gurukul  
road, Memnagar, Ahmedabad 380  
052, Gujarat  
T: +91 79 27490909, 27492303  
E: director@icirc.in  
W: www.raghudeepeyehospital.  
com/icirc-contact-us/

### Recognition Status

File No.: 14/310/2000-TU-V  
Initial Recognition: 2000  
Valid Until: March 31, 2020

### R&D Manpower

Doctorates: 3  
PGs & Graduates: 7

### Research Areas

- Vision
- Eye
- Ophthalmology
- Cataract
- Retina
- Cornea
- Glaucoma
- Cell and Molecular biology
- Genetics
- Microbiology

## ILADEVI CATARACT & INTRAOCULAR LENS RESEARCH CENTRE

### Brief Description

The Iladevi Cataract & Intraocular Lens Research Centre is a premier research centre in the field of eye research burden and explores the Ayurveda—Modern medicine interface for better therapy solutions.

The foundation is registered as a society.

### R&D Set-up

Following are the research facilities available:

- The centre is equipped with instruments, such as Deep freeze refrigerator, Trinocular research microscope video attachment (Fluorescent microscope), Binocular stereo microscope, Sonicator, Surgical operating microscope, Top-pan balance, Image analysis system, Spectrophotometer, Phacoemulsifiers, Electrophoresis apparatus, and others.
- Research facilities are used by different organizations of Ahmedabad area.

### Sources of income for R&D

- Donations
- Government funds

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 72.53  
FY 2015-16 = 59.49  
FY 2016-17 = 48.46

### R&D Achievements

#### Products/processes/ prototypes, etc., developed

- Method for extraction of cataracts from patents with hard cataracts
- Method for isolating ocular epithelial cells

### Technical Collaborations

#### International

Dr Ram Nagaraj laboratory, University of Colorado, USA; Dr Debasish Sinha laboratory, The Johns Hopkins Hospital, USA

### Societal Relevance

The following R&D outcomes are of national/societal significance:

- Developed surgical methods for the easier and safer surgery of childhood and difficult cataracts, which is adopted by several surgeons across the globe
- Developed innovative ideas during surgical maneuvering that can help reducing the incidence of posterior capsular opacification and is now adopted by several surgeons across the globe. 🔍

### Research Outcomes

- Papers published
  - » International: 27



^ Research laboratory

### Registered Office

India Diabetes Research Centre  
No. 28 Marshalls Road, Egmore,  
Chennai 600 008, Tamil Nadu  
T: 044-28414311, 984108060  
E: accounts@ardiabetes.org  
W: indiadiabetesfoundation.org/

### Recognition Status

File No.: 14/548/2011-TU-V  
Initial Recognition: 2011  
Valid Until: March 31, 2020

### R&D Manpower

Doctorates: 4  
PGs & Graduates: 15

### Research Areas

- Epidemiology of diabetes
- Mobile health—use of information and technology
- Study of Pre-diabetes
- Cardiovascular risk factors in Indians
- Genetic studies in Type 1 and Type 2 diabetes
- Economic modelling of diabetes health care
- Insulin metabolism
- Diabetes in children and adolescents
- Primary prevention strategies
- Public health research

## INDIA DIABETES RESEARCH CENTRE

### Brief Description

The India Diabetes Research Centre is involved in multifarious research activities in diabetes health care and in diabetes education, imparting knowledge to students and the general public.

The foundation is registered as a society.

### R&D Set-up

Following are the research facilities available:

- The foundation has equipment, such as Stat Fax 2000-1X1 Chemistry analyser, Deep freezer, Temperature recorder for deep freezer, Haematology analyser, Remi clinical model centrifuge, Binocular microscope, Digital balance, Temperature controlled water bath, Cyclomixer, Electrophoresis—mini sub system, Automated autoanalyser—ELISA, and others.

### Sources of income for R&D

- Donations
- Government sources
- International funds

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 138.03

FY 2015-16 = 201.90

FY 2016-17 = 199.15

### R&D Achievements

#### Products developed

- The role of information technology in the prevention of Type 2 Diabetes—The Indian Diabetes Programme 3
- DIABSMART: Development of

a new generation of DIABetic footwear using an integrated approach and SMART materials

### Technical Collaborations

#### National

Centre for Cellular and Molecular Biology, Hyderabad, Telangana; World Health Organization, Country Office, New Delhi

#### International

International Diabetes Management Practices Study Group, France; Imperial College London, UK; Institute of Metabolic Sciences, MRC Epidemiology Unit, UK; World Health Organisation, Geneva, Switzerland; Staffordshire University, UK; World Diabetes Federation, Denmark

### Societal Relevance

The following R&D outcomes are of national/societal significance:

- The foundation is part of mDiabetes—an initiative of the Ministry of Health and Family Welfare in collaboration with the WHO
- Use of mobile technology as an interventional tool to impart healthy behaviour in the community
- Development of pragmatic strategies in the primary prevention of diabetes and in diabetes management. 🔍

### Research Outcomes

Papers published: 52

## INDIAN BURNS RESEARCH SOCIETY

### Brief Description

Indian Burns Research Society is the promoter of National Burns Centre that is a 50-bedded specialized centre of excellence for research, training, prevention, treatment, and rehabilitation relating to burns. The holistic treatment philosophy covers every aspect of burns starting from acute post-burns treatment to post-burns deformity correction and to help the burns survivors lead a near normal life.

The society is registered as a trust with the Registrar of Charities, Mumbai.

### R&D Set-up

Following are the research facilities available:

- Skin regeneration and processing laboratories
- The institute has equipment, such as air handling unit, phase contrast inverted microscope, carbon dioxide incubator (air jacketed, water jacketed), fluorescent attachment for phase contrast inverted microscope, magnetic stirrer cum hot plate, manual rotary microtome, gel documentation system, electrophoresis apparatus and instruments, Millipore water purification system, and many others.

### Sources of income for R&D

Donations

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 67.54

FY 2015-16 = 11.58

FY 2016-17 = 7.6

### R&D Achievements

#### Products developed

- Development of cultured allogenic keratinocytes
- Characterization of indigenous, cost-effective acellular dermal matrix, which can be used as a dermal scaffold for cell-based tissue engineered skin substitutes
- Development of in vitro assay to assess effect of WNT signalling pathway antagonist/agonist on fibroblasts isolated from post burn hypertrophic scars
- Establishment of in vitro melanocyte-keratinocyte co-culture system to study post burn hypopigmentation


### Technical Collaborations

#### National

The Advanced Centre for Treatment, Research and Education in Cancer, Navi Mumbai, Maharashtra

#### Societal Relevance

The following R&D outcomes are of national/societal significance:

- Products: Keratinocyte spray and acellular dermal matrix
- Services: Keratinocyte spray will help in fast recovery of donor area of burns victim acellular dermal matrix will be used as a scaffold in grafting for a scar free healing. 

### Registered Office

Indian Burns Research Society,  
Sector-13, Airoli, Navi Mumbai  
400 708, Maharashtra  
T: 022-27796660  
E: nbcairoli@gmail.com  
W: www.burns-india.com/

### Recognition Status

File No.: 14/693/2015-TU-V  
Initial Recognition: 2015  
Valid Until: March 31, 2018

### R&D Manpower

Doctorates: 9  
PGs & Graduates: 7

### Research Areas

- Skin research in burns patients
- Keratinocyte spray
- Keratinocyte and melanocyte co-culture
- Acellular dermal matrix
- Pathway analysis for scar formation



^ Comprehensive National Nutrition Survey

## INDIAN INSTITUTE OF HEALTH MANAGEMENT RESEARCH

### Brief Description

The Indian Institute of Health Management Research was established with a fundamental purpose of creating new knowledge and developing alternate modes of improving healthcare to management research, education, and training. The Institute has significantly contributed to the areas of health research management in the country and in South-East Asia Region.

The non-governmental organization is registered as a society.

### R&D Set-up

Following are the research facilities available:

- The building built-up area in the three research locations consist of furnished research and academic blocks, lecture and seminar rooms, training and conference halls, and library and documentation centre.

### Sources of income for R&D

- Government grants
- International funding

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 1676.8240

FY 2015-16 = 2495.4302

FY 2016-17 = 1954.4001

### R&D Achievements

#### Products developed

- Efficacy and impact assessment of novel mobile health solution for vaccination record keeping and camp performance in rural Udaipur
- Research programme consortium on health system economics and financing
- Integrated Programme Strategy for Food Fortification—Fortification of Wheat Flour with Iron, and Milk and Edible Oils with Vitamin A and Vitamin D

### Technical Collaborations

#### National

India Public Health Education Institution Network; National Accreditation Board for Hospitals & Healthcare Providers (NABH), Quality Control of India, New Delhi; Humana People to People in India, New Delhi; National Health Systems Resource Centre (Ministry of Health & Family Welfare), Government of India, New Delhi; National Institute of Health and Family Welfare, New Delhi; International Institute for Population Sciences, Mumbai, Maharashtra; Oxfam India, New Delhi Public Health Foundation of India, New Delhi; Save the Children, Gurugram, Haryana; The United Nations Children's Fund, New Delhi; World Health Organization, Regional Office for South-East Asia, New Delhi. 🔍

#### Registered Office

Indian Institute of Health Management Research  
1 Prabhu Dayal Marg, Sanganer Airport, Jaipur, Rajasthan 302 029  
T: 0141 3924700  
E: iihmr@iihmr.org  
W: www.iihmr.org/

#### Location of R&D Units

Jaipur, Delhi, and Bengaluru

#### Recognition Status

File No.: 14/61/1988-TU-V

Initial Recognition: 1988

Valid Until: March 31, 2020

#### R&D Manpower

Doctorates: 24

PGs & Graduates: 46





^ Inauguration of the new campus

### Registered Office

Indian Institute of Public Health  
Gandhinagar,  
Opposite. Airforce Head Quarters,  
Near Lekawada Bus Stop,  
Lekawada, Gandhinagar 382 042,  
Gujarat  
T: 1244722900  
E: contact@iiphg.org  
W: <http://iiphg.edu.in/v2/>

### Recognition Status

File No.: 14/689/2015-TU-V  
Initial Recognition: 2015  
Valid Until: March 31, 2018

### R&D Manpower

Doctorates: 11  
PGs & Graduates: 12

### Research Areas

- Health system
- Health policy
- Maternal and child health
- Public health nutrition
- Communicable and non-communicable diseases
- Climate change and public health

## INDIAN INSTITUTE OF PUBLIC HEALTH GANDHINAGAR

### Brief Description

The Indian Institute of Public Health Gandhinagar, aims to strengthen the overall health system in the country through education, training, research, and advocacy/policy initiatives. The institute is recognized by the Public Health Foundation of India through the Indian Institute of Public Health Gandhinagar Act, 2015.

The institute is registered as a charitable trust.

### R&D Set-up

The research facilities and infrastructure available in the organization are as follows:

- Skin regeneration and processing laboratories
- The institute has equipment, such as air handling unit, phase contrast inverted microscope, carbon dioxide incubator (air jacketed, water jacketed), fluorescent attachment for phase contrast inverted microscope, magnetic stirrer cum hot plate, manual rotary microtomer, gel documentation system, electrophoresis apparatus and instruments, millipore water purification system, and others.

### Sources of income for R&D

- Government grants
- Funds from national bodies

### R&D expenditure (₹in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 49.76

FY 2015-16 = 130.91

FY 2016-17 = 149.36

### R&D Achievements

#### Products developed

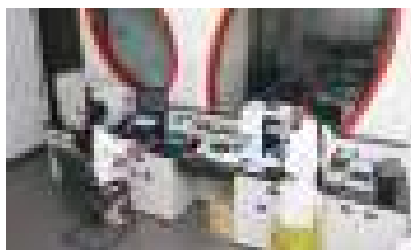
- Development of emission inventory of various criteria pollutants for Ahmedabad Metropolitan Region under SAFAR
- Developing and implementing revised tool box for assessment of water sanitation and hygiene
- GIS mapping for Gopalganj district for health facility mapping
- Epidemiologic study risk factor analysis and impact of health care delivery system on pre-term births in Gujarat
- Climate change and heat health: Research and analysis of mortality related to heat waves

### Societal Relevance

Improved access to healthcare and reduction of inequality in maternal and child health services in tribal areas. 🔍

### Research Outcomes

- Papers published: 207



^ Thalassemia laboratory

## INDIAN MEDICAL SCIENTIFIC RESEARCH FOUNDATION

### Brief Description

Indian Medical Scientific Research Foundation is the first NGO-based thalassaemia counselling and screening centre in Saurashtra and Kutch in Gujarat. So far, the foundation has spread awareness across more than 1,439,000 people, total beneficiaries were more than 653,000, and more than 246,000 Saurashtra university students were screened for thalassaemia.

The institute is a registered charitable trust.

### R&D Set-up

Research facilities and infrastructure available in the organization are as follows:

- Provides field and thalassaemia test data to undergraduate and postgraduate students for their dissertation work as primary research

### Sources of income for R&D

- Government grants

### R&D expenditure (₹in lakhs)

FY 2014-15 = 43.04

FY 2015-16 = 52.85

FY 2016-17 = 43.54

### R&D Achievements

#### Products developed

- Screening of thalassaemia by two methods: red blood cell indices and high performance liquid chromatography by variant
- Testing of blood donors about haemoglobinopathies and provide counselling about positive result of haemoglobinopathies

### Societal Relevance

The following R&D outcomes are of national/societal significance:

- Seminars for college students on 'Awareness of Thalassaemia' were conducted at various colleges in Saurashtra
- Developed effective awareness and prevention programme for thalassaemia. 🔍

### Research Areas

- Thalassaemia
- Haemoglobinopathies

### Registered Office

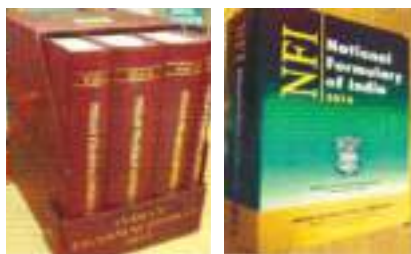
Indian Medical Scientific Research Foundation,  
Ajay Mansion,  
Opp. Saurashtra Cold Storage,  
Gondal Road, Rajkot 360 002,  
Gujarat  
T: 223 424243  
E: savelife@999life.org  
W: www.999life.org

### Recognition Status

File No.: 14/164/1991-TU-V  
Initial Recognition: 1991  
Valid Until: March 31, 2017

### R&D Manpower

Doctorates: 1  
PGs & Graduates: 1



^ Indian Pharmacopoeia 2014: Book of Standards for Drugs and Pharmaceuticals

^ National Formulary of India 2016

## INDIAN PHARMACOPOEIA COMMISSION

### Brief Description

The Indian Pharmacopoeia Commission promotes public and animal health in India by bringing out authoritative and officially acceptable standards for quality of drugs including active pharmaceutical ingredients, excipients and dosage forms, used by health professionals, patients, and consumers. The basic function of the Commission is to regularly update the standards of drugs commonly required for treatment of diseases prevailing in this region.

The commission is registered as autonomous society of the Ministry of Health and Family Welfare, Government of India.

### R&D Set-up

The research divisions/programmes equipped with modern analytical instruments for developing analytical methods for drugs and pharmaceuticals include the analytical R&D division, reference standard division, biologics division, phytopharmaceuticals, microbiology division, and pharmacovigilance programme of India. Research students from various pharmacy, science, and medical colleges and universities are utilizing the research facilities.

### Sources of income for R&D

- Grants-in-aid

### R&D expenditure (₹ in lakhs)

The SIRO does not maintain separate bank account for R&D activities.

FY 2014-15 = 478.71

FY 2015-16 = 785.57

FY 2016-17 = 765.43

### R&D Achievements

#### Products developed

- Around 391 new monographs developed, validated, and published as *Indian Pharmacopoeia* (IP) 2014, IP addendum 2015, IP addendum 2016, and IP 2018, including active pharmaceutical ingredients, pharmaceutical aids, and dosage forms in last three years
- 19 Impurity Standards were synthesized and characterized in-house which were sold as Reference Standards in last three years
- New 288 IP Reference Substances and 74 new Impurity Standards were developed in last three years
- Drug safety risks identified through Pharmacovigilance Programme of India were communicated to National Drug Regulatory Authority
- Development of mobile app for adverse drug reactions (ADRs) reporting

#### Revenue earned by way of licensing Products/Processes/Prototypes, etc., developed

- ₹55.96 crore generated by way of products commercialized during last three years

### Registered Office

Indian Pharmacopoeia Commission, Ministry of Health & Family Welfare, Government of India, Sector-23, Raj Nagar, Ghaziabad 201 002, Uttar Pradesh  
T: 0120-2783400  
E: ipclab@vsnl.net  
W: www.ipc.gov.in

### Recognition Status

File No.:14/696/2015-TU-V  
Initial Recognition: 2015  
Valid Until: 2018

### R&D Manpower

Doctorates: 18  
PGs & Graduates: 170

### Research Areas

- Develop and validate monograph for drugs to be included in *Indian Pharmacopoeia*
- Elucidate structure of chemical entities falling under pharmaceuticals, chemicals, phytochemicals, and biotech product categories
- Synthesis impurity standards and their characterization
- Evaluate new drugs comprising basic moiety and efficacy

### Research Areas

- Papers published : 104

## Technical Collaborations

### National

Adverse Events Following Immunization (AEFI) Secretariat, New Delhi; Central Drugs Standard Control Organization, New Delhi; Delhi Pharmaceutical Sciences and Research University, New Delhi; Indian Institute of Chemical Technology, Hyderabad, Telangana; National Chemical Laboratory, Pune, Maharashtra

### International

United States Pharmacopoeia, USA

### Societal Relevance

The following R&D outcomes are of national/societal significance:

- Under 'Make in India' programme, the Commission has provided cost effective Indian Pharmacopoeia Reference Standards and Impurity Standards for stakeholders.

- Under 'Skill India' programme, the Commission has organized various training and awareness programmes.
- National Coordination Centre-Pharmacovigilance Programme of India is integrated with the National Health Programmes.

### Remarks

- The Commission publishes the *Indian Pharmacopoeia* on behalf of the Ministry of Health & Family Welfare, Government of India, in fulfillment of the requirements of the Drugs and Cosmetics Act, 1940, and the Rules there under. It intends to help in the licensing of manufacturing, inspection, and distribution of medicines.
- The Commission also publishes *National Formulary of India* that aims to promote rational use of medicines by healthcare professionals, such as clinicians, pharmacists, nurses, dentists, etc. 🔍



^ Moxa stick

## INDIAN RESEARCH INSTITUTE FOR INTEGRATED MEDICINE

### Brief Description

The Indian Research Institute for Integrated Medicine is devoted to the development and propagation of an integrated system of medicine by exploiting the wisdom and scope of the traditional system of therapy (such as acupuncture, yoga, naturopathy, etc.) and integrating it, whenever necessary, with alternative therapy (such as homeopathy) and conventional (such as allopathy and allied modern medicine) therapeutic methods for the benefit of common people of India through practice, research, and training.

The institute is a society registered under West Bengal Societies Registration Act XXVI of 1961.

### R&D Set up

The institute has instruments such as data recording equipment, short wave diathermy, Moxa making instrument & accessories, and others.

### Sources of income for R&D

Donations

### R&D expenditure (₹ in lakhs)

FY 2014-15 = 52.96

FY 2015-16 = 60.10

FY 2016-17 = 50.74

### R&D Achievements

#### Products developed

- Improvements in existing products
- Upgradation & easy application of Moxa Machine, wrapping paper of stick & improved quality of wool

- Acupuncture Hammer: Improved with good quality fibre
- Module of naturopathic organic diet developed for holistic health management, especially for stress disorder and pain relief
- Integrated pro-nature therapeutic protocol supported by traditional tongue and pulse diagnosis for treatment and prevention of Coronary Artery Disease

### Commercialization potential of developed products/processes

- Moxastick, rubber cup, traditional tongue & pulse diagnostic technique, and integrated treatment protocol

### Technical Collaborations

#### National

Central Council for Research in Yoga-Naturopathy, Ministry of Health and Family Welfare, Government of India; Council of Acupuncture Therapy, Government of West Bengal; Dev Sanskriti Viswa Vidyalaya, Haridwar, Uttarakhand; Indian Institute for Engineering Science & Technology, Howrah, West Bengal; Indian Institute of Technology, Kharagpur, West Bengal; Indian Yoga Association, New Delhi; International Naturopathy Organisation, Delhi; Ministry of Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homoeopathy (AYUSH), Government of India; National Institute of Naturopathy, Pune, Maharashtra; West Bengal Council of Yoga and Naturopathy, Government of West Bengal

### Registered Office

ASHA Foundation  
No.42, 4th Main, SBM Colony,  
Anand Nagar, Bengaluru 560 024,  
Karnataka  
T: 3326696671  
E: iriim@rediffmail.com  
W: www.iriim.org

### Recognition Status

File No.: 14/255/1995-TU-V  
Initial Recognition: 1995  
Valid Until: March 31, 2019

### R&D Manpower


PGs & Graduates: 11

### Research Areas

- Integrated Yoga-Naturopathy-Diet
- Acupuncture therapy
- Traditional medicine

### Societal Relevance

The following R&D outcomes are of national/societal significance:

- Drugless therapy tools have been developed in order to extend the benefit to all sections of the society.
- The integrated traditional diagnosis and therapeutic protocols developed are environment and user friendly. 



Research laboratory

### Registered Office

Indo-American Cancer Hospital and Research Institute,  
Road #14, Banjara Hills,  
Hyderabad 500 034, Telangana  
T: 040-2354 2120  
E: info@induscancer.com  
W: induscancer.com/

### Recognition Status

File No.: 14/447/2006-TU-V  
Initial Recognition: 2006  
Valid Until: March 31, 2018

### R&D Manpower

Doctorates: 5  
PGs & Graduates: 4

### Research Areas

- Novel/Alternative therapies for cancer
- Cancer Genomics
- Cancer Metabolism
- Tumour Cell Banking

## INDO-AMERICAN CANCER HOSPITAL AND RESEARCH INSTITUTE

### Brief Description

The objective of Indo-American Cancer Hospital and Research Institute is to provide world-class cancer treatment at affordable cost to patients. The hospital was established by Nandamuri Basavataraka Ramarao Memorial Cancer Foundation under the aegis of Indo American Cancer Organization, USA. The research at the institute focusses on developing newer and better strategies to identify cancer susceptible population to intervene and treat cancer patients so as to alleviate their pain and suffering. The institute is registered as Public Charitable Trust.

### R&D Set-up

The research facilities and infrastructure available at the institute include the following:

- Research equipments include Biospectrometer/Fluorescence analyser, Real Time polymerase chain reaction (PCR) machine, Tissue Homogenizer, 1-D Electrophoresis unit, Vertical Electrophoresis unit, Sorvall Refrigerated Ultracentrifuge, and others.
- Other research facilities comprise Central and Departmental Library, room for cleaning /autoclaving labwares, Liquid Nitrogen Cell storage systems for Tissue Culture and primary tumour cell banking.

### Sources of income for R&D

Project funds

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 27.65

FY 2015-16 = 65.94

FY 2016-17 = 63.60

### R&D Achievements

The major research projects undertaken by the organization are:

- Combinatorial approaches to elevate levels of intracellular ceramide in drug resistant head and neck cancer cells
- Role of chloramphenicol-florfenicol resistance (cfr) gene in 23s ribosomal ribonucleic acid (rRNA) methylation in drug resistant bacteria isolated from ocular infections
- Gene expression, regulators (boundary elements, miRNA) and polymorphisms, and gene abnormalities in relation to cancer

### Technical Collaborations

#### National

Indian Institute of Technology Hyderabad, Telangana; Tata Memorial Hospital, Mumbai, Maharashtra

### Societal Relevance

The following R&D outcomes are of national or societal significance:

- Development and innovation of cancer preventive strategies
- Cancer awareness and preventive initiatives. 🔍

### Research Outcomes

- Papers published: 4



^ Research facility

## INDRAPRASTHA CANCER SOCIETY AND RESEARCH CENTRE

### Brief Description

Besides patients' care, one of the main objectives of the Indraprastha Cancer Society and Research Centre is to study and undertake scientific research on all aspects of cancer and in particular to investigate its incidence, prevalence, distribution, cause, symptoms, and to promote its prevention and providing cure. Rajiv Gandhi Cancer Institute and Research Centre is a project of Indraprastha Cancer Society and Research Centre that is aimed at providing the best of oncological care. The centre is registered as a trust under the Societies Registration Act, 1860.

### R&D Set-up

The research infrastructure comprises equipment such as: Cytogenetics workstation, Fluorescence in situ hybridization (FISH) microscope, Droplet digital QX200 PCR system, Applied biosystems verity 96-well thermal cycler make, Micro centrifuge, Vertical freezer, and others

### Sources of income for R&D

- Donations
- Royalty/license fee

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 40.49  
 FY 2015-16 = 55.96  
 FY 2016-17 = 69.97

### R&D Achievements

#### Processes developed

- Method for computing pharmacokinetic parameters in magnetic resonance imaging (MRI)

### Technical Collaborations

#### National

Amity University, Noida; Indraprastha University, Delhi; National Institute of Cancer Prevention and Research, Noida, Uttar Pradesh

#### International

Fox Chase Cancer Centre, Philadelphia, USA; Repro Cell, Boston, USA

### Societal Relevance

The following R&D outcomes are of national societal significance:

- The institute offers comprehensive services from prevention to palliation at an affordable price
- Establishment of a world-class biorepository to meet the needs of scientific community focussed on cancer and allied research. 🔍

### Registered Office

Indraprastha Cancer Society and Research Centre,  
 Sector 5, Rohini, Rohini Institutional Area, Sector 5, Rohini, New Delhi 110085  
 T: 01147022222  
 E: info@rgcirc.org  
 W: www.rgcirc.org/about-icsrc/

### Recognition Status

File No.: 14/271/1992-TU-V  
 Initial Recognition: 1992  
 Valid Until: March 31, 2020

### R&D Manpower

Doctorates: 1  
 PGs & Graduates: 30

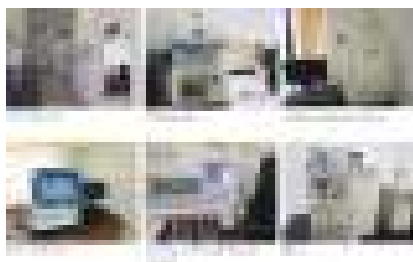
### Research Areas

- All areas of oncology

### Research Outcomes

- Papers published
  - » National: 3
  - » International: 105
- IPRs held
  - » Patents filed: 1
  - » Patents awarded: 1





^ Core facilities: Genetics and Biochemistry Lab

### Registered Office

Institute for Communicative & Cognitive Neurosciences,  
Kavalappara, Shoranur,  
Palakkad 679 523, Kerala  
T: 0466-2224869  
E: iconssrr@gmail.com  
W: <http://www.iccons.co.in>

### Recognition Status

File No.:14/697/2016-TU-V  
Initial Recognition: 2016  
Valid Until: March 31, 2019

### R&D Manpower

Doctorates: 4  
PGs & Graduates: 6

### Research Areas

- Cognitive neuroscience
- Molecular genetics
- Cytogenetics
- Epigenetics
- Biochemistry
- Epidemiology

## INSTITUTE FOR COMMUNICATIVE & COGNITIVE NEUROSCIENCES

### Brief Description

The Institute for Communicative & Cognitive Neurosciences is the first institute of its kind in Asia for comprehensive multidisciplinary management, research, and rehabilitation of cognitive and communicative disorders affecting all age groups. The Institute has established its activities in the fields of autism, learning disability, developmental language disorders, mental retardation, cerebral palsy, hearing impairment, adult stroke and related problems, Parkinson's Disease, dementia, and other genetic and metabolic disorders.

The Institute is registered as an autonomous society under Travancore-Cochin Literary, Scientific and Charitable Societies Registration Act, 1955.

### R&D Set-up

The advanced research facilities used by individuals and academia include the following:

- 128 channel video EEG
- Facilities for DNA, RNA, and protein extraction
- Spectrophotometer
- Horizontal electrophoresis unit
- Mini-PROTEAN vertical electrophoresis unit
- Gel documentation system
- PCR machine
- 3500 Dx genetic analyser
- Ion torrent personal genome machine

### Sources of income for R&D

Government grant-in-aid

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 5.00

FY 2015-16 = 85.66

FY 2016-17 = 9.60

### R&D Achievements

#### Products developed

- Mutation database of autism in Indian population
- Targeted exon sequencing to identify novel, rare and/or common functional genetic variants in autism

#### Commercialization potential of developed products/processes


- Developing a paradigm for testing cognitive abilities

### Technical Collaborations

Students from various universities and institutes in India are carrying out their projects and research activities in collaboration with the institute.

### Societal Relevance

The following R&D outcomes are of national/societal significance:

- Services: Planning to develop a documented general-purpose brain-computer interface (BCI) research and development platform known as enigmatic brain
- Awareness programmes: Outreach activities in the form of screening camps and training programmes for various cognitive and communicative disorders across all age groups. 

### Research Outcomes

- Papers published
  - » International: 3



Research laboratory

### Registered Office

Institute of Bioinformatics,  
Unit 1, 7th Floor, Discoverer  
building, International Tech Park,  
Whitefield, Bengaluru 560 066,  
Karnataka

### Recognition Status

File No.: 14/359/2003-TU-V  
Initial Recognition: 2003  
Valid Until: March 31, 2020

### R&D Manpower

Doctorates: 5  
PGs & Graduates: 33

### Research Areas

- Infectious diseases
- Vector-borne diseases
- Antiviral activity
- Tuberculosis
- Nanoparticles
- Diabetes
- Cancer
- Stem cells

## INSTITUTE OF BIOINFORMATICS

### Brief Description

The goal of the Institute of Bioinformatics is to promote research in the field of the study of human and other genomes. The institute uses computational as well as experimental approaches to catalogue genes as well as proteins encoded by the human genome.

The institute is a registered trust under India Trust Act, 1882.

### R&D Set-up

Following are the research facilities available:

- The institute has equipment, such as Nano electrospray liquid chromatography-quadrupole time-of-mass spectrometer, LTQ Orbitrap velos mass spectrometers, Offline liquid chromatography, SpeedVac, Refrigerated centrifuge, Lyophilizer, Sonicator, Hybridization chamber for microarray, and others.

### Sources of income for R&D

- Donations
- Government grants
- International funds

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 372.43

FY 2015-16 = 525.22

FY 2016-17 = 522.53

### R&D Achievements

#### Products developed

- Novel peptides for developing antimalaria vaccines and diagnostic kits

- Expanded bioinformatics analysis and identification of novel spliced forms of protein from large-scale mass spectrometry data of glioblastoma and other grades of human gliomas
- Quantitative proteome analysis of human follicular fluid in polycystic ovary syndrome

### Technical Collaborations

#### National

Institute of Genomics and Integrative Biology, New Delhi; Indian Institute of Chemical Biology, Kolkata, West Bengal; Jiwaji University, Gwalior, Madhya Pradesh; Kidwai Memorial Institute of Oncology, Bengaluru, Karnataka; National Institute of Mental Health and Neuro Sciences, Bengaluru, Karnataka; Vydehi Institute of Oncology, Bengaluru, Karnataka

#### International

Johns Hopkins University, USA; RIKEN Research Center for Allergy and Immunology, Japan; Memorial Sloan-Kettering Cancer Center, USA; University of Michigan, USA; University of Southern Denmark, Denmark; University of Toronto, Canada

### Societal Relevance

The institute has offered proteomics services to both academia and industry. 🔍

### Research Outcomes

- Papers published: 112
- IPRs held
  - » Patents filed: 1



Research laboratory

## INSTITUTE OF BIO-INFORMATICS AND APPLIED BIOTECHNOLOGY

### Brief Description

The mission of the Institute of Bio-informatics and Applied Biotechnology is to catalyse the growth of the biotechnology and bioinformatics industries in India. The institute has recently added several state-of-the-art facilities to its bioinformatics and biotechnology laboratories to enhance its training and research capabilities.

The institute is a registered society with the Registrar of Societies, Government of Karnataka.

### R&D Set-up

Following are the research facilities available:

- Laboratory facilities comprise Biotech Training laboratories, Microscope room, Yeast laboratory, Chemical fume hood laboratory, Cell Culture, Crystallization facility, Fermentation room, Bacteriology laboratory, Molecular Biology laboratory, Gene Expression & Analysis laboratory, Molecular Modelling laboratories, Illumina sequencing laboratory, Bio IT Main laboratory and Synthetic laboratory.
- Research infrastructure include Floor centrifuge, Towa optics microscope, Perkin Elmer scanner, Micro array hybridizer, Millipore water purification system, UV cross linker, UV visible spectrophotometer, Chemidoc Gel documentation system, Nikon trinocular microscope, Gallios flow cytometer, Gene Pulser Eukaryotic System, and others.

### Sources of income for R&D

- Funds from foundations
- Government grants

### R&D expenditure (₹ in lakhs)

The SIRO is not maintaining separate accounts for R&D.

FY 2014-15 = 702.70

FY 2015-16 = 610.80

FY 2016-17 = 635.45

### R&D Achievements

#### Products developed

- Compounds as inhibitor of DNA double-strand break repair, methods and applications thereof
- Novel BCL2 inhibitors
- Evolutionary clustering algorithm

### Technical Collaborations

#### National

Centre for Human Genetics, Bengaluru, Karnataka; CSIR-Central Drug Research Institute, Lucknow, Uttar Pradesh; Department of Biotechnology, Government of India; Indian Institute of Science, Bengaluru, Karnataka; Indian Institute of Science Education and Research, Pune, Maharashtra; Kidwai Memorial Institute of Oncology, Bengaluru, Karnataka; National Institute of Mental Health and Neurosciences, Bengaluru, Karnataka; Omix Research and Development Labs, Bengaluru, Karnataka; SIEMENS Corporate Research and Technologies, Bengaluru, Karnataka; Shodhaka Life Sciences Pvt. Ltd, Bengaluru,

### Registered Office

Institute of Bio-informatics and Applied Biotechnology, Biotech Park, Electronics City Phase 1, Bengaluru 560 100, Karnataka  
T: 98455 07031  
E: yathindra@ibab.ac.in  
W: www.ibab.ac.in

### Recognition Status

- File number: 14/328/2001-TU-V
- Initial recognition: 2001
- Valid until: 2018

PGs & Graduates: 164

### Research Areas

- Genomics
- Translational research
- Computational biology

### Research Outcomes

- Papers published
  - » National: 2
  - » International: 34
- IPRs held
  - » Patents filed: 1
  - » Patents awarded: 2

Karnataka; Sri Sathya Sai Institute of Higher Learning, Andhra Pradesh

### International


Koninklijke Philips N.V, The Netherlands; Hannover Medical School, Hannover, Germany

### Societal Relevance

The following R&D outcomes are of national/societal significance:

- The institute generates rare, high-end manpower created in interdisciplinary areas.
- The institute has been a 'Centre of Excellence for Research and

Training in Bioinformatics' of the Department of Electronics and Information Technology, Government of India.

- The institute hosts GANIT Labs, a multi-institutional public-private partnership under the aegis of Department of Electronics and Information Technology, Government of India, and Department of Information Technology, Biotechnology and Science & Technology, Government of Karnataka, that works in the area of genome sequencing and data analysis. 



Research laboratory

### Registered Office

Institute of Liver and Biliary Sciences, D-1, Vasant Kunj, New Delhi 110 070  
T: 011 46300000  
E: info@ilbs.in  
W: www.ilbs.in

### Recognition Status

File No.: 14/589/2011-TU-V  
Initial Recognition: 2011  
Valid Until: March 31, 2020

### R&D Manpower

Doctorates: 10  
PGs & Graduates: 27

### Research Areas

- Hepatitis viruses
- Regenerative medicine
- Bio-artificial liver
- Angiogenesis
- Translational research
- Cell biology
- Experimental medicine
- Transcriptomics and proteomics
- Metabolomics
- Immunology

## INSTITUTE OF LIVER AND BILIARY SCIENCE

### Brief Description

The Institute of Liver and Biliary Science envisions becoming an international centre of excellence for the prevention and cure, advance competency-based training and cutting-edge research in liver, biliary, and allied sciences.

The institute is registered as an autonomous institute, under the Societies Registration Act 1860, at New Delhi.

### R&D Set-up

Following are the research facilities available:

- Research facilities include flow cytometry, cell and tissue culture, stem cell culture, experimental animal facility, fluorescence microscopy, ultracentrifugation, gel documentation, and reverse transcriptase quantitative polymerase chain reaction.

### Sources of income for R&D

Government grants

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 52.00

FY 2015-16 = 87.00

FY 2016-17 = 451.00

### R&D Achievements

#### Products developed

- Identification of a micro RNA (miR-450b) as a non-invasive biomarker in pregnant women infected with hepatitis E virus (HEV).
- Circular dichroism analysis of

albumin–bilirubin complex as a rapid test for assessment of mortality in severe alcoholic hepatitis patients

- miRNAs signatures for developing precise biomarkers for HBV-associated liver diseases and in development of targeted therapeutics


### Technical Collaborations

#### National

Bionivid, Bengaluru, Karnataka; Indian Institute of Science, Bengaluru, Karnataka; Indian Institute of Technology Kanpur, Uttar Pradesh; Jawaharlal Nehru University, New Delhi; National Institute of Immunology, New Delhi

### Societal Relevance

The following R&D outcomes are of national/societal significance:

- Services: Genetic tests for galactosaemia, dependency on alcohol (GAL9), and cholesterol ester storage disease, will be introduced in the coming year. Standardization is in process of extended KRAS mutations for colorectal cancers. The Department of Genetics provides single nucleotide polymorphism analysis for a number of diseases.
- *Awareness programmes, etc:* Organizes 'Immunology Day' in the month of April each year. 

### Research Outcomes

- Papers published: 34
- IPRs held
  - » Patents filed: 3



Research infrastructure

### Registered Office

Institute of Mental Health and Hospital, Agra 282 002, Uttar Pradesh  
T: 0562 2967811  
E: imhh.agra@gmail.com  
W: www.imhh.org.in

### Recognition Status

File No.: 14/455/2007-TU-V  
Initial Recognition: 2007  
Valid Until: March 31, 2018

### R&D Manpower

Doctorates: 10  
PGs & Graduates: 25

### Research Areas

- Cognitive functions
- Cognitive insight
- Family burden
- Verbal exposure
- Psychopathology
- Substance abuse, specifically cannabis abuse
- Metabolic syndrome
- Executive functioning

## INSTITUTE OF MENTAL HEALTH AND HOSPITAL

### Brief Description

The Institute of Mental Health and Hospital provides diagnostic and therapeutic facilities for mental patients. The institute undertakes research in behavioural sciences and provides expansion of mental health services at the community level by providing training to medical and paramedical personnel.

The institute is registered as a society under the Societies Registration Act, 1860.

### R&D Set-up

Resources for research purposes include a well-equipped library used by the faculty, specialists, and the trainees for conducting various research, including theses/dissertations, as part of training programmes. The institute has research infrastructure that includes repetitive transcranial magnetic stimulation, neuro feedback, biochemistry equipments, and major psychological assessment tools.

### Sources of income for R&D

Institute budget

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 0.17

FY 2015-16 = 0.15

FY 2016-17 = 0.11

### R&D Achievements

#### Products developed

- Cognitive Drill Therapy: A new principle of verbal exposure to

imagined feared consequences is being developed to efficiently manage irrational fears as seen in phobic disorder, panic disorder, somatoform disorder, sexual dysfunction, and obsessive compulsive disorder.

### Technical Collaborations

#### National

Jalma Institute of Leprosy & other Mycobacterial Diseases, Agra, Uttar Pradesh

#### Societal Relevance

The following R&D outcomes are of national/societal significance:

- Training in mental health is linked to the Government of India's National Mental Health Programme
- Psychiatric services are extended through satellite clinics, city clinic, jails, orphanage, and *nari niketan*
- Awareness programmes are conducted by celebrating Mental Health Week in the community and schools, and Legal Aid Cell programmes, and awareness programmes for caregivers of psychiatric patients

### Remarks

The innovative therapeutic modalities of treatment are being transferred to mental health professionals and psychologists through dedicated workshops, invited lectures in universities/institutes, presentations in conferences/seminars, and dissemination through social media. 🔍

### Research Outcomes

- Papers published: 25



^ Surgical treatment

### Registered Office

Institute of Neurosciences  
Kolkata, 185/ 1, AJ C Bose Road,  
Kolkata 700 017, West Bengal  
T: 98309 64646  
E: info@neurokolkata.org  
W: www.neurokolkata.org

### Recognition Status

File No.: 14/455/2007-TU-V  
Initial Recognition: 2007  
Valid Until: March 31, 2018

### R&D Manpower

Doctorates: 5

### Research Areas

- Movement disorders
- Stroke rehabilitation
- Epilepsy drug screening

## INSTITUTE OF NEUROSCIENCES KOLKATA

### Brief Description

The Institute of Neurosciences Kolkata is a comprehensive advanced facility for neurosurgery and related treatments in the eastern part of India. One of the missions of the institute is to bring international standards of treatment in the areas of neurology, neurosurgery, neuro-psychiatry, and neuro-rehabilitation.

The institute is a registered as a non-government organization.

### R&D Set-up

The research facilities and infrastructure available in the organization are as follows:

- GAITRite, a pressure-sensor based electronic walkaway, for gait assessment
- Transcranial magnetic stimulator (TMS) for non-invasive brain stimulation
- Non-invasive vagus nerve stimulator(nVNS) for non-invasive stimulation of vagus nerve
- Transcranial direct current stimulation (tDCS) for non-invasive brain stimulation
- Digitizing tablet for handwriting assessment
- Galvanic stimulator for nerve stimulation
- EMG and EEG amplifier for electrical recordings from muscle and scalp, respectively
- Accelerometer for tremor assessment
- Wearable device to study stroke rehabilitation
- Rig for extracellular field potential recording from isolated epileptic brain tissue
- ELISA reader
- Incubator and shaker
- MATLAB and Coral draw installed computer systems
- The equipment and facilities are shared with The Newcastle University, UK, and University of Calcutta, India, for collaborative academic research

### Sources of income for R&D

- Donations
- International funds

### R&D expenditure (₹ in lakhs)

FY 2014-15 = 16.00

FY 2015-16 = 23.00

FY 2016-17 = 35.00

### R&D Achievements

#### Products developed

- Wearable device for gait assessment in Parkinson's Disease patients under development in collaboration with SmartTech

### Technical Collaborations

#### National

SmartTech, Mumbai, Maharashtra

#### International

Newcastle University, UK

### Societal Relevance

A monthly awareness programme is jointly organized with the Parkinson's Disease Patients Welfare Society. [Q](#)

### Research Outcomes

- Papers published: 8



Research laboratory

### Registered Office

Institute of Pulmocare & Research,  
DG-8, Action Area I, Newtown,  
Kolkata 700 156, West Bengal  
T: 033-65481305  
E: ipcr\_india@yahoo.com  
W: www.pulmocareindia.org

### Recognition Status

File No.: 14/430/2006-TU-V  
Initial Recognition: 2006  
Valid Until: March 31, 2018

### R&D Manpower

Doctorates: 1  
PGs & Graduates: 10

### Research Areas

- Innovation and basic research
- Epidemiological and operational research
- Development of new technique of treatment of diseases

## INSTITUTE OF PULMOCARE & RESEARCH

### Brief Description

The Institute of Pulmocare & Research is involved in research, education, and patient care dealing in pulmonary medicine and critical care. The institute specializes in bronchoscopic procedures, diagnostic thoracoscopy, and critical care management.

The institute is registered as a non-governmental organization.

### R&D Set-up

Research facilities and infrastructure available in the organization are as follows:

- Laboratory equipped with auto analyser, ELISA, Immunocap, etc.
- Pulmonary function test with single breath diffusion (DLCO) facility
- Archiving and data dealing system

### Sources of income for R&D

- Grants
- Donations

### R&D expenditure (₹in lakhs)

FY 2014-15 = 113.06

FY 2015-16 = 89.49

FY 2016-17 = 100.79

### R&D Achievements

#### Products developed

- Lung sound analyser
- Non-invasive multi-channel lung sound analyser for lung status detection

#### Processes developed

- Novel treatment for bronchopleural fistula and hemoptysis
- Diagnostic tools to identify respiratory illness, non-invasively

and transfer to web platform for remote reading and decision with/without use of artificial intelligence

- Diagnosis of respiratory diseases through ECG
- Diagnosis of respiratory diseases from lung sound signatures
- Innovation of a new therapeutic prospect of idiopathic pulmonary fibrosis

### Technical Collaborations

#### National

Indian Institute of Technology  
Kharagpur, West Bengal

### Societal Relevance

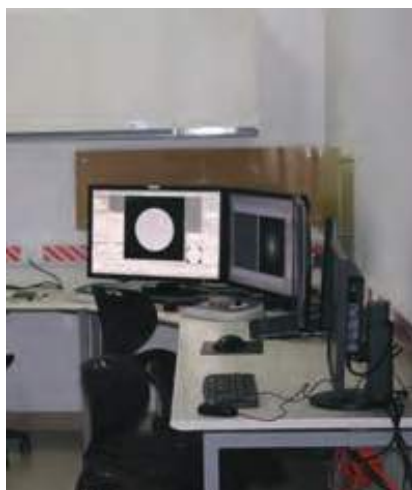
The following R&D outcomes are of national/societal significance:

- Products such as (a) ECG-based diagnosis of lung diseases, and (b) diagnosis of lung diseases based on lung sound signatures have tremendous prospects of applications, especially for remote places with poor investigation infrastructure.
- The modified innovative algorithm used for pulmonary rehabilitation has a great prospect of application in the developing world.
- Rural education-cum-training camps on chronic obstructive pulmonary disease. 🔍

### Research Outcomes

- IPRs held
  - » Patents filed: 6
- Papers published:
  - » International: 6





^ Cryo-EM facility

## INSTITUTE FOR STEM CELL BIOLOGY AND REGENERATIVE MEDICINE

### Brief Description

The Institute for Stem Cell Biology and Regenerative Medicine (inStem) is a state-of-the-art research institute dedicated to the study of stem cell and regenerative biology. The research at inStem encompasses a wide range of topics in stem cell biology: from questions about the fundamental mechanisms that control differentiation and renewal, to clinical studies on the impact of stem cells on recovery from stroke/injury.

The institute is an autonomous body of Department of Biotechnology under the Ministry of Science and Technology, Government of India, and is registered as a society.

### R&D Set-up

Following are the research facilities available:

- Research facilities include the Animal Care and Resource Center, Biosafety facility, Central Imaging and Flow Cytometry facility, Electron Microscopy facility, Drosophila facility, Mass Spectroscopic facility, Next Generation Genomics facility, Stem Cell facility, and Cryo-EM facility
- Research facilities are being shared by National Centre for Biological Sciences and Centre for Cellular and Molecular Platforms.

### Sources of income for R&D

- Government grants
- Funds from international sources

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 8,067

FY 2015-16 = 10,013

FY 2016-17 = 6,947

### R&D Achievements

#### Products developed

- Blue fluorescent protein (developed)
- Substituted biphenyl-derivatives for the treatment of inflammatory diseases (under development)
- Compositions and methods to prevent pesticide-induced toxicity (under development)
- Compounds targeting BRCT domains of BRCA1 (under development)

#### Commercialization potential of products/processes developed

The following technologies/products developed by inStem are being negotiated with industrial counterparts for commercialization:

- Blue fluorescent protein and methods of use thereof
- Compositions and methods to prevent pesticide-induced toxicity
- The institute has projects with L'Oreal and Hindustan Unilever, which are aimed at developing new methods to study epithelial stem cells for faster validation of molecules developed for cosmetic use and skin cancer.

#### Registered Office

Institute for Stem Cell Biology and Regenerative Medicine (inStem), GKVK-Post, Bellary Road, Bengaluru 560 065, Karnataka  
T: 91 80 23666001 / 02  
E: info@instem.res.in  
W: instem.res.in

#### Recognition Status

File No.: 14/509/2010-TU-V  
Initial Recognition: 2010  
Valid Until: March 31, 2019

#### R&D Manpower

Doctorates: 19  
PGs & Graduates: 164

### Research Areas

- Regenerative medicine
- Stem cell biology
- Bioengineering
- Translational science

### Research Outcomes

- Papers published: 54
- IPRs held
  - » Patents filed: 5
  - » Patents awarded: 1

## Technical Collaborations

### National

Christian Medical College, Vellore, Tamil Nadu; National Institute of Mental Health and Neuro Sciences (NIMHANS), Bengaluru, Karnataka; Rajiv Gandhi University of Health Sciences, Bengaluru, Karnataka; St. John's Research Institute, Bengaluru, Karnataka; University of Agricultural Sciences, Bengaluru, Karnataka

### International

FIRC Institute of Molecular Oncology, Italy; University of Cambridge, UK; University of Edinburgh, UK; University of Minnesota, USA

## Societal Relevance

The following R&D outcomes are of national/societal significance:

- Inputs in the formulation of regulatory policies at the national

level for the use of stem cells in research

- Have partnered to create a repository of induced pluripotent stem cells (iPSC) from Indian population with an associated database of deep clinical phenotyping data and genomic information is being generated for individuals afflicted with complex mental disorders
- Developing two technologies to prevent pesticide-induced toxicity and lethality in farmers
- Offers diverse academic programmes that exposes research aspirants to the problems of modern biology. 🔍



^ Immunology laboratory

## INTEGRAL UNIVERSITY

### Brief Description

The Integral University aims to develop human values and professional ethics amongst students which turns them into technical and managerial leaders in their endeavour towards the attainment of knowledge, and wisdom to apply that knowledge. The private university is registered as a non-governmental institution.

### R&D Set-up

The research facilities of the institution include the following:

- Research infrastructure comprises plant tissue culture laboratory, animal tissue culture laboratory, and robotics centre.
- Central Instrumental Facility houses several instruments, such as Gel documentation system, fluorescence microscope, 96 well plate ELISA reader, ultraviolet-visible spectrophotometer, trinocular microscope, biosafety cabinet, autoclave horizontal, fluorescence spectrophotometer, and others

### Sources of income for R&D

- In-house project training
- University contribution
- Government grants

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 713.00

FY 2015-16 = 1,236.35

### R&D Achievements

#### Products developed

- Process for the synthesis of mono-dispersed gold nanoparticles in a single-step processing using Bromelain
- Gold nanoparticles form Bromelain delivery
- A novel electrode for electrolytic clarification of cane juice
- Use of *Ficus virens* Ait. extract and novel compound isolated against  $\beta$ -hydroxy- $\beta$ -methylglutaryl-CoA reductase inhibitory activity, hyperlipidemia, and oxidative stress
- Inhalable biodegradable micro particles for target-specific drug delivery in tuberculosis and a process thereof

### Technical Collaborations

#### National

Aligarh Muslim University, Uttar Pradesh; Banaras Hindu University, Uttar Pradesh; Central Drug Research Institute-CSIR, Lucknow, Uttar Pradesh; Jamia Hamdard, New Delhi; Indian Institute of Technology Kanpur, Uttar Pradesh; Indian Institute of Technology Bombay, Maharashtra; Indian Institute of Toxicological Research-CSIR, Lucknow, Uttar Pradesh

#### International

Cosmenius University, Slovenia; Hail University, Saudi Arabia; Institute of Chemical Biology and Fundamental Medicine, Russia; Jazan University, Saudi Arabia; King Fahd Medical Research Centre, Jeddah, Saudi Arabia; King Saud University, Saudi Arabia

#### Registered Office

Integral University, Kursi Road,  
Post-Basha, Vill.Dasauli,  
Uttar Pradesh 226021  
T: 0522-289 0730  
E: registrar@iul.ac.in  
W: iul.ac.in/

#### Recognition Status

File No.: 14/711/2016-TU-V  
Initial Recognition: 2016  
Valid Until: March 31, 2019

#### R&D Manpower

Doctorates: 35  
PGs & Graduates: 36

### Research Areas

- Application of biotechnology in health and agriculture
- Nanotechnology in medicine
- Robotics
- Bioinformatics and drug designing
- Clinical biochemistry
- Computer sciences and artificial intelligence
- Organic synthesis of probable drugs
- Mathematical sciences
- Cancer biology
- Pharmaceutical sciences

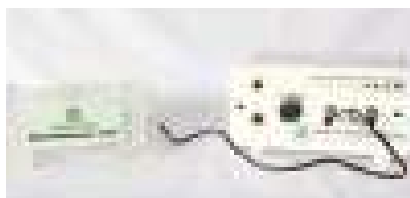
### Research Outcomes

- Papers published
  - » National: 133
  - » International: 1,185
- IPRs held
  - » Patents awarded: 5

### Societal Relevance

The following R&D outcomes are of national societal significance:

- The major benefit to the society is in the form of teaching and research.
- Direct benefit to society is in the form of healthcare, knowledge, and awareness about the beneficial/harmful effects of foods and drugs. 🔍



^ Electrophoresis machine

## JAN SWASTHYA SAHYOG

### Brief Description

The mission of Jan Swasthya Sahyog is to develop a low-cost and effective health programme that provides both preventive and curative services in the tribal and rural areas of Bilaspur and surrounding areas of Chhattisgarh in central India.

The institute is registered as a non-governmental society.

### R&D Set-up

Following are the research facilities available:

- Semi biochemistry analyser, Fully automatic analyser, Electrolyte, Coagulometer, Biopsy cabinet, Microscopes, Centrifuges, Computerized radiography, Elisa reader and washer, and others

### Sources of income for R&D

- Donations
- Government grants
- International funds

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 100.37

FY 2015-16 = 97.12

FY 2016-17 = 50.13

### R&D Achievements

#### Products developed

- 'Bahmani' Electronic Medical Record software
- Sleeping bag for babies to prevent death from hypothermia
- Epilepsy app which enables a lay health worker to distinguish between epileptic and non-epileptic seizures

- Breath counter for the early diagnosis of lower respiratory tract infections in children
- Parab - water disinfection apparatus

#### Processes developed

- Health & Wellness Centre
- Patient support groups
- Hemoglobin Electrophoresis Machine

### Technical Collaborations

#### National

Health Department, State Government of Chhattisgarh; Health Department, State Government of Madhya Pradesh; Tribal Welfare Department, State Government of Chhattisgarh

#### International

MacArthur Foundation, USA

### Societal Relevance

The following R&D outcomes are of national/societal significance:

- Services: Three-tier health programme
- Technologies: The open source Electronic Medical Records Software, that can support all hospital services, is available freely. 🔍

### Research Areas

- Medicine and public health observational research

### Research Outcomes

- Papers published: 10

### Registered Office

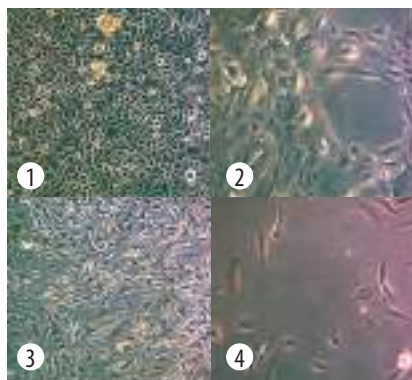
Jan Swasthya Sahyog  
I-4, Parijat Colony Nehru Nagar  
Bilaspur 495 001, Chhattisgarh  
T: +91-7752-270143  
E: janswasthya@gmail.com  
W: www.jssbilaspur.org

### Recognition Status

File No.: 14/702/2016-TU-V  
Initial Recognition: 2016  
Valid Until: March 31, 2019

### R&D Manpower

PGs & Graduates: 22



- ^ 1. Normal Keratinocytes
- ^ 2. Hypo Keratinocytes
- ^ 3. Normal Melanocytes
- ^ 4. Hypo Melanocytes

### Registered Office

Jaslok Hospital & Research Centre, 15, Dr.G.Deshmukh Marg, Mumbai 400 026, Maharashtra  
T: 022 66573288  
E: sac@jaslokhospital.net  
W: www.jaslokhospital.net

### Recognition Status

File No.: 14/46/1988-TU-V  
Initial Recognition: 1988  
Valid Until: March 31, 2019

### R&D Manpower

Doctorates: 9  
PGs & Graduates: 1

## JASLOK HOSPITAL & RESEARCH CENTRE

### Brief Description

The Jaslok Hospital & Research Centre is a tertiary care, multi-specialty trust hospital with around 35 established specialties.

The centre is registered as a trust.

### R&D Set-up

Following are the research facilities available:

- The centre has research equipment, such as micro centrifuge, electrophoresis system, microplate reader, cyclometer, photo microscope, carbon dioxide incubators, cryobath instrument, pulse oximeter, etc.

### Sources of income for R&D

Donations

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 659.16

FY 2015-16 = 719.09

FY 2016-17 = 711.77

### R&D Achievements

#### Products developed

- Development of cultured allogenic keratinocytes
- Characterization of indigenous, cost-effective acellular dermal matrix, which can be used as a dermal scaffold for cell-based tissue engineered skin substitutes
- Development of in vitro assay to assess effect of WNT signalling pathway antagonist/agonist on

fibroblasts isolated from post burn hypertrophic scars

- Establishment of in vitro melanocyte-keratinocyte co-culture system to study post burn hypopigmentation


### Technical Collaborations

#### National

The Advanced Centre for Treatment, Research and Education in Cancer, Navi Mumbai, Maharashtra

#### Societal Relevance

The following R&D outcomes are of national/societal significance:

- Products: Keratinocyte spray and acellular dermal matrix
- Services: Keratinocyte spray will help in fast recovery of donor area of burns victim; acellular dermal matrix will be used as a scaffold in grafting for a scar free healing. 

### Research Areas

- Genetics
- In vitro fertilization (IVF)
- Movement disorders
- Stereotactic surgery
- Molecular medicine
- Electron microscopy

### Research Outcomes

- Papers published: 136



Research facility

## JEEVAN BLOOD BANK AND RESEARCH CENTRE

### Brief Description

Jeevan Blood Bank and Research Centre provides quick and affordable access, to matching stem cells from donated umbilical cord blood, to Indians suffering from blood cancer and thalassemia.

The institute is registered as a trust.

### R&D Set-up

Research infrastructure includes the HLA laboratory and cord blood processing laboratory

### Sources of income for R&D

- Donation
- Grants

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 521.41

FY 2015-16 = 441.68

FY 2016-17 = 531.13

### R&D Achievements

#### Products developed

- HLA haplotype distribution among the Telugu and Hindi speaking population

- HLA-B\*27allele subtype prevalence and disease association of ankylosing spondylitis among the south Indian population
- HLA-A, -B, -C, -DRB1 and-DQ81 haplotype frequencies from 2,492
- Cord blood units from Tamil speaking population from Tamil Nadu

### Technical Collaborations

#### National

Indian Institute of Technology Madras, Tamil Nadu

#### Societal Relevance

The outcome of the HLA haplotype distribution studies will help the Government of India to decide the size of Bone Marrow Donor Registry required to help more than 70% of Indians suffering from blood cancer and thalassaemia and find a suitable match for transplant. [Q](#)

### Research Areas

- HLA haplotype distribution
- Cord blood stem cell cryopreservation

### Registered Office

Jeevan Blood Bank and Research Centre, 22, Wheatcrofts Road, Second Floor, Nungambakkam, Chennai 600 034, Tamil Nadu  
T: 044-28263113

E: jeevan@jeevan.org

W: www.jeevan.org

### Recognition Status

File No.: 14/699/2016-TU-V

Initial Recognition: 2016

Valid Until: March 31, 2019

### R&D Manpower

Doctorates: 1

PGs & Graduates: 7



^ Student research cell

## JSS MEDICAL COLLEGE

### Brief Description

JSS Medical College imparts education in medical sciences. The graduate and postgraduate programmes of the college are recognized by the Medical Council of India.

It is a constituent college of JSS University established under Section-3 of UGC Act.

### R&D Set-up

The research facilities and infrastructure has equipment, such as multimode plate reader, HPLC with UV visible detector, Millipore water purification system with ultrapure water supply facility, freeze dryer, ELISA reader, thermocycler (gradient PCR), real-time PCR, UV-trans illuminator, gel documentation system with fluorescence and chemiluminiscence detection capability, electrophoresis systems, and others.

### Sources of income for R&D

Government grants

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 4.37

FY 2015-16 = 4.51

FY 2016-17 = 4.01

### R&D Achievements

#### Prototypes developed

- » Feed rail: Automated gravity feeding device for premature infants
- » Isolation and characterization of a novel anti-angiogenic,

anti-oxidant, and pro-apoptotic compound from the leaves of *Memecylonmalabaricum*

### Technical Collaborations

#### National

CSIR-Central Food Technological Research Institute, Mysuru, Karnataka; Institute of Applied Dermatology, Kerala; National Institute of Veterinary Epidemiology and Disease Informatics, Bengaluru, Karnataka; Nesa Med Tech Pvt, Ltd, Bengaluru, Karnataka; Swami Vivekananda Youth Movement, Karnataka

#### International

Frank H Netter MD School of Medicine - Quinnipiac University, USA; La Trobe University, Australia; Maastricht University, the Netherlands; University of Cincinnati, USA

### Societal Relevance

The following R&D outcomes are national/societal significance.

- Technologies: Low-cost tissue array technology to evaluate the biomarkers and therapeutics targets expression especially in cancers; automated baby feeding device
- Awareness programmes and training camps are being conducted on various health issues. 🔍

### Registered Office

JSS Medical College,  
Sri Shivaratreshwara Nagar,  
Mysuru 570 015, Karnataka  
T: 0821-548416  
E: jssmc09@gmail.com  
W: www.jssuni.edu.in

### Recognition Status

File No.: 14/408-A/2005-TU-V  
Initial Recognition: 2005  
Valid Until: March 31, 2019

### R&D Manpower

Doctorates: 4  
PGs & Graduates: 46

### Research Areas

- Cancer biology
- Respiratory disease
- Diabetes
- Cardiovascular disease
- Anti-cancer drug discovery

### Research Outcomes

- IPRs held
  - » Patents filed: 1
  - » Patents awarded: 1
- Papers published: 840





^ Research infrastructure

## JUBILEE CENTRE FOR MEDICAL RESEARCH

### Brief Description

The Jubilee Centre for Medical Research is carrying out research activities in basic sciences and interdisciplinary areas apart from medical research. The research activities in the Jubilee institutions are now coordinated by the centre. Jubilee Centre for Medical Research is a research centre established by the Jubilee Mission Hospital Trust.

### R&D Set-up

The research infrastructure, shared with research scholars of collaborating universities and research institutes, comprise the following:

- Furnished and equipped laboratory area of 4,750 sq. ft
- Research facilities are equipped with bright field fluorescent microscope with karyotyping, electronic analytical balance, Finn timer, binocular microscope, bio-safety cabinet, carbon dioxide incubator, fume hood, Leica cryostat CM1860 UV AgProtect, Leica microtome, Veriti 96 – well gradient thermal cycler, centrifuge minispin with rotor adapter, UV-Vis spectrophotometer, ELISA reader, electronic analytical balance, trinocular research microscope, and other equipments.
- Animal house recognized by Committee for the Purpose of Control and Supervision of Experiments on Animals (CPCSEA)

### Sources of income for R&D

- Donations
- Government grants
- International funds

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 33.83

FY 2015-16 = 186.27

FY 2016-17 = 81.00

### R&D Achievements

#### Processes developed

- Development of affordable biodegradable dermal substitutes and further utilization of these dermal scaffolds in creating tissue engineered skin.
- Diagnostic platform for age-related macular degeneration

### Technical Collaborations

#### National

Calicut University, Kerala; National Institute for Interdisciplinary Science and Technology, Kerala; National Institute of Occupational Health, Ahmedabad, Gujarat; Sahradaya College of Engineering, Kodakara, Kerala

#### International

Canterbury Christ Church University, United Kingdom (UK)

### Registered Office

Jubilee Centre for Medical Research, Jubilee Mission Medical College & Research Institute, Jubilee Mission Hospital Trust, P B No 737, Jubilee Mission P O, Thrissur 680 005, Kerala  
T: 487 2464346  
E: jubileemission@jmmc.ac.in  
W: www.jubileemissionmedicalcollege.org

### Recognition Status

File No.: 14/665/2014-TU-V  
Initial Recognition: 2014  
Valid Until: March 31, 2020

### R&D Manpower

Doctorates: 10  
PGs & Graduates: 4

### Research Areas


- Molecular biology and cytogenetics
- Biochemistry
- Virology
- Epidemiology, public health, and occupational health
- Clinical medicine and nursing
- Histology, cytology, and immunohistochemistry
- Pharmacology

### Research Outcomes

- Papers published
  - » National: 42
  - » International: 76

### Societal Relevance

The following R&D outcomes are of national/societal significance:

- Diagnostic platform for age-related macular degeneration
- Development of wound healing dermal substitutes
- Screening of risk alleles in age-related macular degeneration. 



^ Awareness programme

## K.E.M. HOSPITAL RESEARCH CENTRE

### Brief Description

The K.E.M. Hospital Research Centre undertakes projects in the medical domain. Service projects like the IMPACT funded project are also going on.

The centre is registered as a society under the Societies Registration Act 1860.

### R&D Set-up

The following are the research facilities available:

- Research infrastructure includes computer laboratories, classrooms, and library

### Sources of income for R&D

- Donations
- Grants from government
- Funds from international agencies

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 1,939.19

FY 2015-16 = 2,087.58

FY 2016-17 = 2,586.54

### R&D Achievements

#### Product developed

- HDSS Data Collection App

#### Process developed

- iSHARE – a data sharing platform

### Technical Collaborations

#### National

All India Institute of Medical Sciences, New Delhi; Bayer India, Maharashtra; Cadila Pharmaceuticals, Ahmedabad, Gujarat; Department of Biotechnology, Government of India, New Delhi; Dr Reddy's Laboratories, Hyderabad, Telangana; Larsen & Toubro Public Charitable Trust, Mumbai, Maharashtra; Indian Council of Medical Research, New Delhi; National Institute of Health and Family Welfare, New Delhi

#### International

Astra Zenecca, UK; Boehringer Ingelheim Pharmaceuticals, Inc., USA; Bill and Melinda Gates Institute for Population and Reproductive Health, Johns Hopkins, USA; H J Heinz Company Foundation, Canada; IMPACT Foundation, UK; PATH Centre for Vaccines, USA; Population Council, USA; Novartis Switzerland; Takeda Pharmaceutical Company, USA; University of Edinburg, UK

### Societal Relevance

The following R&D outcomes are of national/societal significance:

- Through clinical trials, the centre has been able to address need for various new drugs in society, the need to look at using combination of drugs, looking at drugs for different indications, etc. A number of community-based vaccine trials have been undertaken, thus benefitting a large rural

### Registered Office

K.E.M. Hospital Research Centre,  
Sardar Moodliar Road, Rasta Peth,  
Pune 411 011, Maharashtra  
T: 91-020-6603 7336  
E: kemvnr@vsnl.net  
W: kemhrpcpune.org/

### Recognition Status

File No.: 14/9/1988-TU-V  
Initial Recognition: 1988  
Valid Until: March 31, 2020

### R&D Manpower

Doctorates: 11  
PGs & Graduates: 58

### Research Areas

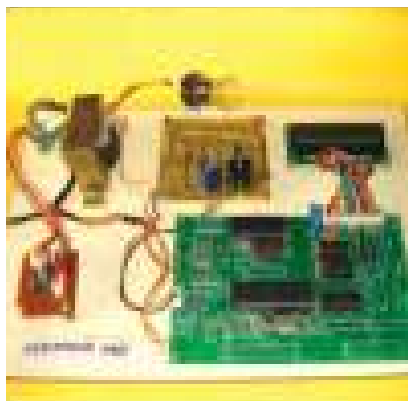
- Clinical trials
- Cohort studies
- Operational research
- Social science
- Service projects: Teaching and training

### Research Outcomes

- Papers published: 111

population with new vaccines against diseases. Clinical services are undertaken in remote tribal areas also.

- A number of social projects have been taken up addressing burning issues of society, such as child sexual abuse, female foeticide, HIV/AIDS, etc. 🔍



^ Electronic nose

## K. J. RESEARCH FOUNDATION

### Brief Description

K. J. Research Foundation is involved in various areas of research including fundamental research, applied research, biotechnology, scintigraphic studies, imaging studies, drug trials, environment, clinical research, etc. The foundation is the research wing of K. J. Hospital. The foundation is registered as a non-governmental organization under the Tamil Nadu Societies Registration Act 1975.

### R&D Set-up

The research facilities available at the institute comprise the following:

- Modern clinical laboratory facilities with state-of-the-art equipments of the hospital that are utilized by K J Research Foundation.
- Advanced imaging equipments including Gamma Camera with SPECT, Ultrasound, CT scan, MRI scan, and other facilities, such as lithotripter of the hospital are utilized by the foundation.
- Other research facilities include animal house authorized by the Committee for the purpose of Control and Supervision of Experiments on Animals, The Ministry of Social Justice and Empowerment, Government of India; fully-updated library with access to national and international scientific publications.

### Sources of income for R&D

Donations

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 5.45

FY 2015-16 = 5.19

FY 2016-17 = 0.33

### R&D Achievements

#### Products developed

- Enzyme preparation and immune modulator developed from a herbal preparation has proved to cure auto-immune diseases, such as systemic lupus erythematosus and psoriasis
- Electronic nose is a non-invasive instrument that has been developed as a simplified model of the human olfactory system
- Breast enhancement cream
- Dry technology for clean air from smoke to adapt to automobile exhaust and industrial chimney
- Utilization of cow's urine (Gomutra) as the biological filter to remove/trap the toxic components of smoke
- Application of nanotechnology on prosthetic valve material to prevent clot formation and infection
- BNP peptide in the diagnosis of normal pressure hydrocephalus
- In-vitro studies on fluid flow using a glass model and water stimulating blood flow in aorta and iliac arteries in pre and post renal transplant circulation
- Device to estimate osteoporosis from chest X-ray
- Orthotripter used for treating severe musculo skeletal disorders
- Empirical formula for second metacarpal to predict osteoporosis in men

### Registered Office

K. J. Research Foundation, 152  
Poonamallee High Road, Chennai  
600 084, Tamil Nadu  
T: 044-26411513  
E: kjresearchfoundation@gmail.com  
W: kjresearchfoundation.com/  
kjfoundation/home.aspx

### Recognition Status

File No.: 14/94/1988-TU-V  
Initial Recognition: 1988  
Valid Until: March 31, 2018

### R&D Manpower

Doctorates: 5  
PGs & Graduates: 12

### Research Areas

- Fundamental research in areas of biotechnology, pathology, immunology, virology, tissue culture, pharmacology, cytogenetics, bacteriology, and physiology
- Applied research in the areas of oncology, urolithiasis, rheumatology, genomics, proteomics, herbal medicine, holistic medicine, etc.

### Research Outcomes

- Papers published:
  - » National: 13
  - » International: 1


### Technical Collaborations

#### National

Anna University, Tamil Nadu; Indian Institute of Technology Madras, Tamil Nadu; Indira Gandhi Centre for Atomic Research, Kalpakkam, Tamil Nadu; Institute of Basic Medical Sciences, Tamil Nadu; Meenakshi University, Tamil Nadu; Tamil Nadu Animal Sciences and Veterinary University, Tamil Nadu; Tuberculosis Research Centre, Tamil Nadu.

### Societal Relevance

The following R&D outcomes are of national/societal significance:

- Products, such as electronic nose, dry technology for clean air and application of nanotechnology on prosthetic valve material aid in serving mankind. 



Research laboratory

## KAIVALYADHAMA SHRIMAN MADHAVA YOGA MANDIR SAMITI

### Brief Description

Kaivalyadhama Shriman Madhava Yoga Mandira Samiti is responsible for the foundation, conduct, and management of Gordhandas Seksaria College of Yoga and Cultural synthesis. The Samiti is recognized for its scientific and philosophico-literary research in yoga.

The institute is registered as a trust.

### R&D Set-up

Following are the research facilities available:

- The infrastructure and laboratory facilities are shared with the health care centre of Kaivalyadhama
- The facilities are mostly used for diagnosis, follow-up, and reporting case studies. The laboratory equipments available for research include actigraph, multipara monitor, body composition analyser, spirometer, stabilimeter, and several more.

### Sources of income for R&D

- Grants
- Donations
- Testing

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 42.93

FY 2015-16 = 45

FY 2016-17 = 47.84

### R&D Achievements

#### Products developed

- Effect of yoga practices on micronutrient absorption and physical fitness in rural residential school children
- Effect of yoga practices on cognitive development in rural residential school children
- Yoga for pro and anti-inflammatory cytokines
- Yoga for lipid metabolism
- Yoga and micronutrient absorption in urban school children
- Pilot study on the effect of yoga training on bio-energy dynamics with reference to bioelectrical impedance and tridosha in dominant nostril breathing types
- Bioelectrical activity-valid variable for yoga research

### Technical Collaborations

#### National

Advanced School of Career Education, SSN Institutes, Chennai, Tamil Nadu; Genomebio Technologies, Pune, Maharashtra; INS Shivaji, Naval College, Lonavala, Maharashtra; Jnana Prabodhini Institute of Psychology, Pune, Maharashtra; KEM General Hospital, Mumbai, Maharashtra; Maharashtra Institute of Medical Education and Research, Talegaon, Maharashtra; SNDT University, Mumbai & Pune, Maharashtra; Samwad Shaala, Lonavala, Maharashtra

### Registered Office

Kaivalyadhama Sriman Madhava Yoga Mandir Samiti, Swami Kuvalayananda Marg, Lonavala, Dist. Pune 410 403, Maharashtra  
T: 02114-273001, 9422510650  
E: info@kdham.com  
W: www.kdham.com

### Recognition Status

File No.:14/79/1988-TU-V  
Initial Recognition:1988  
Valid Until: March 31, 2019

### R&D Manpower

Doctorates: 1  
PGs & Graduates: 8

### Research Areas

Establishment of scientific basis of yoga practices with respect to:

- Philosophy
- Physiology
- Biochemistry
- Psychology
- Physical education and allied disciplines

### Research Outcomes

- Papers published: 13

### International

International Society for Scientific Interdisciplinary Researches in the Field of Yoga, Serbia; La Laguna University, Spain

### Societal Relevance

The following R&D outcomes are of national/societal significance:

- With a view to prepare well-grounded yoga teachers, the

first College of Yoga of its kind named Gordhandas Seksaria College of Yoga and Cultural Synthesis was established in 1951 under the auspicious of Kaivalyadhama Shriman Madhava Yoga Mandira Samiti. 🔍





^ Conference on quality care in nursing practices

## KAMALA NEHRU MEMORIAL HOSPITAL

### Brief Description

The Kamala Nehru Memorial Hospital specializes in the areas of obstetrics & gynaecology, and oncology and has several supporting departments. The hospital has been partnering with many national and international organizations to help local populations and increase their health standard. The hospital is registered as a non-governmental organization.

### R&D Set-up

Following are the research facilities available:

- The central and departmental libraries are equipped with online journals and e-library services through the National Cancer Grid
- Regular fortnightly webex and virtual tumour board meetings are facilitated through the grid

### Sources of income for R&D

- Government Grants
- Foundations

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 28.02

FY 2015-16 = 76.23

FY 2016-17 = 42.45

### Technical Collaborations

#### National

National Centre for Disease Informatics & Research, Karnataka

### Societal Relevance

The following R&D outcomes are of national/societal significance:

- Undertakes outreach programmes in villages and city slums that includes: strengthening of services at base hospital so as to cater to a large number of referrals from villages
- Under 'Project Hope', camps are held at hard to reach villages
- Undertook Urban Health Initiative for city slums
- Few research interventions were incorporated in the National Urban Health Mission
- Screening and awareness camps were conducted in the villages for cancer, tuberculosis, diabetes, gynaecological problems, and general health. A total of 3,517 patients were examined in 87 camps. [Q](#)

### Research Areas

- Maternal and child health
- Cancer
- Community health

### Research Outcomes

- Papers published: 2

### Registered Office

Kamala Nehru Memorial Hospital,  
1 Hashimpur Road,  
Allahabad 211002, Uttar Pradesh  
T: 0532 2466666  
E: edp.knmh@gmail.com  
W: www.knmh.in

### Recognition Status

File No.: 14/169/1991-TU-V  
Initial Recognition: 1991  
Valid Until: March 31, 2018

### R&D Manpower

Doctorates: 3  
PGs & Graduates: 60



^ Research project on multiple intelligence among children with IDD

### Registered Office

Kamayani Prashikshan & Sanshodhan Society  
270/B Gokhale Nagar,  
Pune 411 053, Maharashtra  
T: 020-25651588, 9223279491  
E: office@kamayanischool.org  
W: www.kamayanischool.org

### Recognition Status

File No.: 14/48/1988-TU-V  
Initial Recognition: 1988  
Valid Until: March 31, 2019

### R&D Manpower

Doctorates: 1  
PGs & Graduates: 5

## KAMAYANI PRASHIKSHAN & SANSHODHAN SOCIETY

### Brief Description

The Kamayani Prashikshan & Sanshodhan Society seeks to understand various aspects associated with management and development of mentally challenged individuals. The society facilitates caregivers/ social workers, teachers, and parents of intellectually disabled individuals in their routine care and interventions and assists special individuals in social integration and rehabilitation.

The institute is registered as a non-governmental organization under Societies Registration Act, 1860.

### R&D Set-up

Following are the research facilities available:

- Sheltered workshop
- Special school building and playground for the mentally challenged
- Research Wing, along with the Teachers Training College

### Sources of income for R&D

- Donations
- Grants

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 117.91  
FY 2015-16 = 64.97  
FY 2016-17 = 46.84

### R&D Achievements

#### Products developed

- Various products are developed as per the abilities, capacities, attention span, and potential of persons with intellectual and developmental disability (IDD). These include:
  - Recycled products developed from waste yarn, old clothes, papers
  - Vegetables solar drying
  - Power looms

#### Revenue earned by way of licensing products/processes/ prototypes, etc., developed (₹ in lakhs)

Commercialization of products

FY 2014-15 = 12.51

FY 2015-16 = 13.80

FY 2016-17 = 16.69


Commercialization partnership

FY 2014-15 = 9.81

FY 2015-16 = 10.54

FY 2016-17 = 11.81

#### Commercialization potential of products/processes developed

- Commercialization of the products has helped the society in contributing to the training and rehabilitation process of persons with IDD. This has helped in involving the different stakeholders from the community in community-based rehabilitation of persons with IDD. 

### Research Areas

- Mental retardation or intellectual disability

### Research Outcomes

- Papers published: 1

## Technical Collaborations

### National

SAS Research & Development (India) Pvt. Ltd, New Delhi

### International

BNY Mellon, USA

## Societal Relevance

The following R&D outcomes are of national/societal significance:

- Conducted job fairs for persons with disabilities (Divyang Jana) to assist them in getting jobs and employment in open/sheltered employment including corporate sector.
- Awareness workshops are arranged for parents, special teachers, and siblings on the topics of importance and need of functional skill training for the ability development of persons with IDD.
- Screening/diagnostic and research camps are conducted to detect multiple disabilities, percentage of anemia, early intervention detection among the children with special needs.
- Continuing Rehabilitation Education Programme was conducted in 2014 on Adult Independent Living and Cognitive Development & Training. 



Research laboratory

### Registered Office

Kamineni Academy of Medical Sciences and Research Centre, L.B Nagar, Hyderabad 500 068, Telangana

T: 40 6550 8800

E: info@kamsrc.com

W: www.kamsrc.com/

### Recognition Status

File No.: 14/650/2014-TU-V

Initial Recognition: 2014

Valid Until: March 31, 2020

### R&D Manpower

Doctorates: 3

PGs & Graduates: 34

### Research Areas

- Bacterial drug resistance
- Sacroccocygeal tumours and embryological importance
- Serum lipids and role in thyroid
- Sero-epidemiology of dengue
- Histogenesis of islets of human pancreas
- Diabetes mellitus
- Nutrition and health
- Polymorphism of interferon gamma and susceptibility of pulmonary tuberculosis
- Insulin resistance beta cell function and lipid profile in metabolic syndrome

## KAMINENI ACADEMY OF MEDICAL SCIENCES AND RESEARCH CENTRE

### Brief Description

The mission of the Kamineni Academy of Medical Sciences and Research Centre is to educate medical students, graduate students, and postdoctoral fellows in accordance with the highest professional standards; to prepare clinicians to practice patient-centered medicine of the highest standard; and to identify and answer fundamental questions and foster research in the mechanisms, prevention, and treatment of disease, in health care delivery and in the basic sciences. The centre is registered as private medical care establishment under the Govt. of Andhra Pradesh.

### R&D Set-up

The research facilities and infrastructure available for use by academia in R&D in the organization include the following equipment: laminar hood, carbon dioxide incubator, hot air oven, centrifuge RC 8, cyclomixer, microbalance, spectral imaging fluorescent microscope with imaging software, and others

### Sources of income for R&D

- Government funds
- Teaching and education

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 9.37

FY 2015-16 = 11.90

FY 2017-18 = 18.97

### R&D Achievements

The major research projects undertaken by the organization are:

- Variations of arteries and nerves of thyroid gland
- Histogenesis of islets of human fetal pancreas
- Study of variations in origin and course of splenic artery
- Seroepidemiology of dengue
- Comprehensive study of fetal cases of Sirenomelia sequence with their embryological correlations
- Carbapenem resistance among clinically significant non-fermenting gram-negative bacteria isolated in a tertiary care hospital
- Study of sacroccocygeal tumours and embryological importance

### Technical Collaborations

#### National


Assam University, Assam; Department of Atomic Energy, Government of India, New Delhi; Department of Biotechnology, Government of India, New Delhi; Indian Council of Medical Research, New Delhi; Medgenome Pvt. Ltd, Bengaluru, Karnataka

#### International

INDOX, UK

### Societal Relevance

The following R&D outcomes are of national/societal significance:

- Continuous medical education programmes are held to foster education and learning in medical sciences. 

### Research Outcomes

- Papers published:
  - » National: 40
  - » International: 19



^ Chemiluminescence (CLIA) analyser

## KAMINENI EDUCATION SOCIETY

### Brief Description

The Kamineni Education Society aims to improve the educational, health, and other social conditions of the public in general. To live by its aims and objectives, the society has promoted many educational institutions and health services. The research activities focus on medical sciences, dental sciences, and paramedical sciences.

It is a non-governmental organization and is registered as a society.

### R&D Set-up

The research infrastructure of the institution includes the following facilities:

- Central research laboratory and departmental research laboratories in pathology, microbiology, biochemistry, and genetics
- R&D equipment comprise dialyser machine, bipap machine, platelet agitator, fetal monitor machine, vertical electrophoresis, joint replacement implants, deep freezer, and others.

### Sources of income for R&D

- Donations
- Government funds

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 11.20

FY 2015-16 = 8.38

FY 2016-17 = 17.85

### R&D Achievements

#### Processes developed

- Suturing practice model for postgraduate training
- Kamineni e-campus: a mobile-based teaching-learning application

#### Research projects

- Development of android-based app called OneCeph to help simplify the process of cephalometric analysis and provide easy access to various landmarks and parameters.
- Study on the anatomical variations and morphometry of foramen transversaria of the subaxial cervical vertebrae.
- Association of angiotensin converting enzyme gene insertion/deletion polymorphism with risk of ischemic heart disease in a population of smokers in southern India.

### Technical Collaborations

#### National

DIPON-ED Bio Intelligence, Bengaluru, Karnataka; Karnataka Institute of DNA Research, Dharwad, Karnataka; Ministry of Health and Family Welfare, Government of India

#### Societal Relevance

The following R&D outcomes are of national/societal significance:

- Involvement in the Government of India's National Programme for the

#### Registered Office

Kamineni Education Society,  
5-9-261/3, King Koti Road,  
Hyderabad 500 001  
Telangana

T: 08682 272344

E: info@kesindia.org

W: www.kesindia.org

#### Recognition Status

File No.: 14/452/2007-TU-V

Initial Recognition: 2007

Valid Until: March 31, 2018

#### R&D Manpower

Doctorates: 4

PGs & Graduates: 101

### Research Areas

- Fluorosis, epidemiological studies, and dental implants
- Alcoholic intoxication, monitoring, and rehabilitation
- Diabetes, renal pathology, and cardio-vascular diseases
- Acute care medicine
- Pregnancy-related disorders
- Oncology, molecular biology, genetics, and developmental anomalies
- Pharmacovigilance

### Research Outcomes

- Papers published: 129

- Control of Blindness and Revised National Tuberculosis Control Programme
- Community health services and national health programmes
- Adoption of five villages in Nalgonda district for dental screening and treatment
- Awareness programmes on HIV, World Oral Health Day, and No Tobacco Day. 🔍



^ Research laboratory

### Registered Office

KIMS Foundation & Research Centre, 1-8-31/1, Ministers Road, Secunderabad-500003, Telangana  
T: 040-44885078/ 44885158  
E: kfrc2010@hotmail.com  
W: kfrc.in

### Recognition Status

File No.: 14/547/2011-TU-V  
Initial Recognition: 2011  
Valid Until: March 31, 2020

### R&D Manpower

Doctorates: 3  
PGs & Graduates: 3

### Research Areas

- Stem cell biology
- Cancer biology
- Medical genetics
- Animal models of human diseases
- Cell-based therapies

## KIMS FOUNDATION & RESEARCH CENTRE

### Brief Description

KIMS Foundation & Research Centre is a multi-disciplinary research organization which focusses on identifying medical needs and harnessing the best science across the globe through strategic collaborations with national and international institutions.

The centre is registered as a not-for-profit trust.

### R&D Set-up

The following are the research facilities available:

- Research facilities include mammalian cell culture facility, imaging facility, Molecular Biology laboratory, and Proteomics laboratory.

### Sources of income for R&D

- Donations
- Fees from training courses

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 87.94

FY 2015-16 = 51.03

FY 2016-17 = 112.26

### R&D Achievements

#### Products/processes/ prototypes, etc., developed

- Novel mutations of ATP7B gene in Wilson's disease patients of South Indian cohort
- Risk associated variants of electrical storm in ischemic cardiomyopathy patients

- Xeno-Free Autologous Platelet Rich Plasma for Chronic Wound Management— Case Series
- Efficacy of Intra-Articular Injection of Platelet Rich Plasma and Hyaluronic acid in Early Knee Osteoarthritis—Initial Results

### Technical Collaborations

#### National

- Centre for Cellular and Molecular Biology, Telangana; Centre for DNA Finger Printing and Diagnosis, Telangana; Cromdx solutions Private Ltd, Uttar Pradesh; Indian Institute of Chemical Technology, Telangana; Institute for Genetics and Hospitals for Genetic Disease, Telangana; Jawaharlal Nehru Institute of Advance Studies, Telangana; Krishna Institute of Medical Sciences Ltd, Telangana; Sultan-UI-Uloom College of Pharmacy, Telangana; VIT University, Vellore, Tamil Nadu

### Societal Relevance

The centre conducts PhD programmes and training programmes.

### Remarks

- A peer-reviewed journal called, *Journal of Medical and Scientific Research* with International ISSN is being published quarterly by the centre, containing advanced information in various disciplines. [Q](#)

### Research Outcomes

- Papers published: 30



^ Electronic nose

### Registered Office

KMCH Research Foundation,  
P O Box 3209, Avinashi Road,  
Coimbatore 641 014, Tamil Nadu  
T: 422 2627784  
E: support@kmchrf.org  
W: kmchrf.com/

### Recognition Status

File No.: 14/698/2016-TU-V  
Initial Recognition: 2016  
Valid Until: March 31, 2018

### R&D Manpower

Doctorates: 5  
PGs & Graduates: 11

### Research Areas

- Non-communicable disease
- Type 1 diabetes
- Diabetes
- Non-alcoholic fatty liver disease
- Genetic engineering
- Environmental disruptors in public health

## KMCH RESEARCH FOUNDATION

### Brief Description

The KMCH Research Foundation aims to provide health education and devise strategies for prevention of communicable and non-communicable diseases, thereby promoting preventive health care. The foundation serves as a model of proactive multidisciplinary health-care research that makes a difference to the health of the common man in India. The foundation is registered as a non-governmental trust.

### R&D Set-up

The research facilities at the institute comprise the following equipment:

- 80 °C deep freezer
- Research centrifuge
- Micro pipettes and others

### Sources of income for R&D

- Funds from national and international bodies
- Donations

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2015-16 = 11.85

FY 2016-17 = 11.69

### R&D Achievements

#### Products developed

- Epigenetic regulation of vascular endothelial growth factor gene in gestational diabetes mellitus
- Assess the burden of non-communicable diseases in rural India that directly translates into improved health by adopting model villages and doing long-term follow-up

- Determine the prevalence of diabetes, hypertension, renal impairment, liver cirrhosis, and atherosclerosis in regional settings

### Technical Collaborations

#### National


SASTRA University, Tamil Nadu; Dr N G P Arts and Science College, Tamil Nadu; KMCH Pharmacy College, Tamil Nadu; KMCH Nursing College, Tamil Nadu; MedGenome Ltd, Bengaluru, Karnataka

#### International

University of Michigan, USA

### Societal Relevance

The following R&D outcomes are of national/societal significance:

- Possibility of exploring novel pathophysiological mechanisms, such as environmental disruptors (e.g., pesticides) and diabetes, which may lead to therapeutic and preventive strategies that directly help the local population
- Guidance to governmental bodies on the burden of non-communicable diseases in farming areas of rural India that have not been studied before and ways to reduce the burden.
- Long-term follow-up of this cohort, which will help in identifying natural progression of disease and generate risk scores and nomograms for various biochemical variables in our own population. 

### Research Outcomes

- Papers published:
  - » National: 3
  - » International: 3





Research infrastructure

## L. J. COLLEGE OF PHARMACY OF LOK JAGRUTI KENDRA

### Brief Description

The L. J. College of Pharmacy is the part of L J Group of Institutes managed by Lok Jagruti Kendra trust. The institute is committed to provide education and training to produce qualified pharmacists and lead the pharmaceutical industry towards a better tomorrow through long-term vision. The institute runs B Pharm, M Pharm (in pharmaceutical technology, quality assurance, quality assurance and regulatory affairs, pharmaceutical management and regulatory affairs, pharmacology, and medicinal chemistry) and PhD courses. It also offers an Integrated Course called Master of Pharmaceutical Management.

The institute is registered as a trust.

### R&D Set-up

The following are the research facilities available:

- The institute has 10 laboratories dedicated to postgraduate research and two well-equipped machine rooms and a state-of-the-art centralized instrumentation room.

### Sources of income for R&D

- Donations
- Government grants

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 33.8526

FY 2015-16 = 31.0408

FY 2016-17 = 34.215

### R&D Achievements

#### Products/processes/ prototypes, etc., developed

- Nonantibiotic-antiseptic ointment
- Herbal face wash
- Herbal instant health tea
- Nutribiscuits for malnutrition
- Herbal anti-stress tablets
- Triphala Kalpa
- Hair setting gel
- Herbal shampoo
- Pain solutions (Ointment balm)

#### Commercialization potential of products/processes developed

- Sennoside colon targeted formulations were commercially developed for Sylvanus Pvt. Ltd. for treatment of constipation
- Patent awarded for self-micro-emulsifying drug delivery system for combination therapy of Paracetamol and vitamin E acetate

### Technical Collaborations

#### National

Avancé Phytotherapies Private Ltd, Gujarat; Alinda Healthcare Private Ltd, Gujarat; Intas Pharmaceuticals, Gujarat; Parry Pharma Private Ltd, Gujarat; Rajsha Pharmaceuticals, Gujarat; Sylvanus Bioscience Private Ltd, Gujarat; Vasa Pharmachem Private Ltd, Gujarat

### Registered Office

L. J. College of Pharmacy of Lok Jagruti Kendra, L J Campus, Off S G Road, Ahmedabad 382 210, Gujarat  
T: 079 29296421  
E: jpharmacy@ljinstitutes.org  
W: ljinstitutes.org/?inst=LJIP

### Recognition Status

File No.: 14/626/2012-TU V  
Initial Recognition: 2012  
Valid Until: March 31, 2020

### R&D Manpower

Doctorates: 3  
PGs & Graduates: 3

### Research Areas

- Herbal technology
- Novel drug delivery systems
- Molecular pharmacology
- Analytical method developments


### Research Outcomes

- Papers published: 93
- IPRs held
  - » Patents awarded: 1

### Societal Relevance

The organization is involved in various societal missions, one of them is:

- The institute seeks to develop close linkages with industries

to make teaching, training, and research relevant to the needs of the society. 



^ Gestation age estimation

### Registered Office

Lata Medical Research Foundation, Kinkini Kutir, Vasantnagar, Nagpur 440 022, Maharashtra  
T: 0712 224 9569  
E: lmrfgnp@gmail.com  
W: <http://www.lmrf.org.in/>

### Location of R&D Unit

Nagpur, Maharashtra

### Recognition Status

File No.: 14/652/2014-TU-V  
Initial Recognition: 2014  
Valid Until: March 31, 2017

### R&D Manpower

Doctorates: 3  
PGs & Graduates: 120

## LATA MEDICAL RESEARCH FOUNDATION

### Brief Description

Lata Medical Research Foundation has contributed to the field of medical research through diverse areas, such as maternal and child health, environment health, thalassemia, sickle cell anemia, tuberculosis, HIV, cardiology, oncology, bioinformatics, genetics, pathology, diabetes, neurophysiology, and behavioural health.

The foundation is a registered society.

### R&D Set-up

Following are the research facilities available:

- The foundation has latest equipments for outcome measurement and well established computer software and hardware facilities to support the complex apps designed for real time data collection
- Research facilities include infrastructure to conduct large multicentre randomized clinical trials, training in research methodology, bio-statistics, bioethics and community-based interventions.

### Sources of income for R&D

- International funds

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 324.18

FY 2015-16 = 460.50

FY 2016-17 = 518.49

### R&D Achievements

The following are enumerations of this:

#### Processes developed

- Simplified Gestation Age Scoring method
- Telecounselling techniques for breastfeeding
- Community mobilization for maternal and child health problems with the association of public health system

#### Commercialization potential of developed products/processes

- Evaluation is in progress

### Technical Collaborations

#### National

- Advancing Reduction In Mortality And Morbidity Of Mothers, Children And Neonates (ARMMAN) and INSCRIPTS, Mumbai, Maharashtra; Daga Memorial Women's Hospital, Nagpur, Maharashtra; DIMAGI-COMMCARE, New Delhi; State Government's Public Health Department, Nagpur circle, Maharashtra

#### International

- Global Alliance for Elimination of Lead in Paints; National Institutes of Child Health Development (NICHD) through Massachusetts General Hospital, Boston, USA; National Health and Medical Research Council, Australia through University of Sydney, Australia; South Asia Infant Feeding Network

### Research Areas

- Maternal and child health
- M-Health
- Environmental health
- Community-based randomized controlled trials

### Research Outcomes

- Papers published:
  - » National: 7
  - » International: 35

### Societal Relevance

The following R&D outcomes are of national/societal significance:

- Telecounselling techniques for infant nutrition have been developed to facilitate awareness creation in maternal and child care
- Simplified Gestation Age Scoring method enables ease to health care workers to determine gestation age, thereby strengthening the facility. [Q](#)



^ Research facilities

## LEPRA SOCIETY

### Brief Description

Lepra Society promotes quality health care and initiates and fosters new developments and implementation. The society aims to support the national health programmes in the prevention and control of diseases, such as leprosy, lymphatic filariasis, and other neglected diseases. The society focusses on marginalized or poor health improvement activities in the community, especially for women and children, young people, slum population, and migrants affected by the above mentioned diseases. Blue Peter Public Health and Research Center is the nodal research centre of the LEPRA Society

LEPRA Society is registered as 'society' under the Andhra Pradesh (Telangana area) Public Societies' Act 1350 Fasli (Act of 1350 F) No. 474.

### R&D Set-up

Research facilities and infrastructure in the organization are as follows:

- Mycobacterial Culture facility: Biosafety level 3 facility
- Cell Culture facility
- Molecular Biology facility
- Biosafety level 3 facility is being shared on project need basis with neighbouring research institutes and collaborators, including University of Hyderabad, Centre for Cellular & Molecular Biology, Centre for DNA Fingerprinting and Diagnostics, and Osmania University

### Sources of income for R&D

- Funds
- Grants-in-ad

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 244.45

FY 2015-16 = 217.33

FY 2016-17 = 221.29

### R&D Achievements

#### Products developed

- Novel DNA probe for specific identification of M.tb from clinical samples
- Process developed for screening new drug candidates for in-vitro anti-mycobacterial activity
- Community-based screening for drug resistance: Molecular testing for anti-microbial resistance in leprosy, as an evidence for National Leprosy Eradication Programme
- Immunogenetic study of leprosy: Identified markers for protective immunity for leprosy
- Evidence for molecular epidemiology of tuberculosis: Novel markers for specific Mycobacterium tuberculosis detection in clinical samples and development of Dxalgorithm for genital tuberculosis
- Mycobacterium tuberculosis novel diagnostic marker fadE

### Technical Collaborations

#### National

All India Institute of Medical Sciences, New Delhi; Central JALMA Institute for Leprosy, Agra, Uttar Pradesh; Center for DNA Fingerprinting and Diagnostics, Hyderabad, Telangana; Department of Science & Technology,

#### Registered Office

Lepra Society,  
Plot no.17, Krishnapuri Colony,  
West Maredpally,  
Secunderabad 500 026, Telangana  
T: 040-27717600  
E: info@lerahealthinaction.in\  
W: www.leprasociety.org

#### Recognition Status

File No.:14/318/2001-TU-V  
Initial Recognition: 2001  
Valid Until: 2019

#### R&D Manpower

Doctorates: 14  
PGs & Graduates:10

### Research Areas

- Transmission and early case detection
- Anti-microbial resistance
- Prevention and disability care
- Socio-demographic issues and evidence-based advocacy

### Research Outcomes

- IPRs held
  - » Patents awarded: 2
- Papers published: 10
- Technologies transferred/commercialized: 1

Government of India; Foundation for Medical Research, Mumbai, Maharashtra; Indian Council of Medical Research and Department of Biotechnology, Government of India; Mahaveer Hospital & Research Centre, Hyderabad, Telangana; Postgraduate Institute of Medical Education and Research, Chandigarh; Rajiv Gandhi Centre for Biotechnology, Thiruvananthapuram, Kerala; State TB Society, Andhra Pradesh and Telangana; The Leprosy Mission, New Delhi; University of Hyderabad, Hyderabad, Telangana

### International

London School of Hygiene & Tropical Medicine, UK; University of Pittsburgh, USA

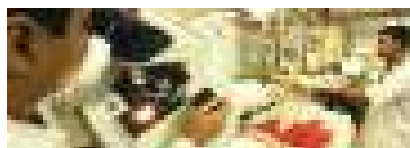
### Societal Relevance

The following R&D outcomes are of national/societal significance:

- Mycobacterial culture and molecular biology facilities at Blue Peter Public Health and

Research Centre, LEPRA Society, have covered more than 20,000 multidrug-resistant tuberculosis (MDR) and extensively drug-resistant (XDR) tuberculosis cases till date under the Revised National Tuberculosis Control Programme DOTS Plus services of the Government of India.

- Connected with the National Leprosy Eradication Programme, Revised Tuberculosis Control Programme, National Reproductive and Child Health Programme, and National Vector Borne Disease Control Programme of the Ministry of Health and Family Welfare, Government of India.
- Information education and communication activities, community outreach services focussing on individuals affected with or at risk of developing leprosy, tuberculosis, HIV, and lymphatic filariasis. 🔍



Research facilities

### Registered Office

Lilavati Kirtilal Mehta Medical Trust  
A-791, Bandra Reclamation,  
Bandra (West),  
Mumbai 400 050, Maharashtra

### Recognition Status

File No.: 14/282/1997-TU-V  
Initial Recognition: 1997  
Valid Until: 2018

### R&D Manpower

Doctorates: 3  
PGs & Graduates: 2

### Research Areas

- Pediatrics and pediatric surgery
- Anesthesia
- Cardiology
- Orthopedics
- Obstetrics and gynecology
- Internal medicine
- Respiratory medicine
- Nuclear medicine
- Neuroepidemiology and neurosurgery
- General surgery
- Gastrointestinal surgery
- Urology
- Nephrology
- Endocrinology

## LILAVATI KIRTILAL MEHTA MEDICAL TRUST

### Brief Description

The Lilavati Kirtilal Mehta Medical Trust manages the Lilavati Hospital and Research Centre which is premier multi-specialty tertiary care hospital of India and has been acknowledged globally as a centre of medical excellence.

The centre is a public charitable trust and hospital.

### R&D Set-up

Research facilities and infrastructure available in the organization are as follows:

- Pathology Laboratory (Microbiology, Hematology and Biochemistry) and Histology Laboratory
- Department of Radio diagnosis
- Department of Pulmonary Function Tests
- Department of Cardiology
- Department of Urodynamic Studies
- Department of Nuclear Medicine

### Sources of income for R&D

- Donations
- Bank interest

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 55.36

FY 2015-16 = 74.11

FY 2016-17 = 70.70

### R&D Achievements

#### Products developed

- Multicentric web-based neuroendocrine tumors registry in India

- Validation of standard operating procedures for "Management of in-patient Hyperglycaemia"
- Anti-mullerian hormone as a predictor for ovarian response in controlled ovarian stimulation for patients undergoing assisted reproductive technique
- Role of Laparoscopic Cholecystectomy in acute cholecystitis

### Technical Collaborations

#### National

All India Institute of Medical Sciences, New Delhi; G B Pant Hospital, New Delhi; Jaslok Hospital, Mumbai; Lilavati Hospital, Mumbai, Maharashtra; Lilavati Hospital and Research Centre, Mumbai, Maharashtra; Mercury Nursing Home, Chennai, Tamil Nadu; National Institute of Mental Health and Neurosciences (NIMHANS), Bengaluru, Karnataka; Nizam's Institute of Medical Sciences, Hyderabad, Telangana; P D Hinduja Hospital, Mumbai, Maharashtra; PGIMER Chandigarh; Ruby Hall Clinic, Maharashtra

#### International

Spectranetics Corporation, USA; World Health Organization, Switzerland. [Q](#)

### Research Outcomes

- Papers published: 14



^ Pathological laboratory

## LOKMANYA MEDICAL RESEARCH CENTRE

### Brief Description

Lokmanya Medical Research Centre is a multidisciplinary research organization established with an objective of translating research into interventions that will extend quality health and lifespan. The centre is engaged with the community health developmental sector and conducts basic, applied, and extra mural research to gain insights about medical and therapeutic science with a commitment to finding new ways to reduce the burden of illness.

The centre is registered under the Public Charitable trust and is registered under the Society Act.

### R&D Set-up

Research facilities comprise a well-equipped medical research centre undertaking various socio-medical projects, industrial hygiene laboratory, corporate health service center, and educational and training facility

### Sources of income for R&D

- Funds
- Government grants

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 9.75

FY 2015-16 = 2.08

### R&D Achievements

#### Products developed

- Methylglyoxal-based formulation has been developed that is safer,

less toxic, and very effective in destroying many types of cancer tumours in various experimental and clinical trials.

- RV caps act as a strong antioxidant and immune-booster, rejuvenator, anti-aging, and anti-carcinogenic agent.

### Commercialization potential of products/processes developed

- RV caps, a poly-herbal formulation, has been commercialized with a gross turnover of ₹15 lakh per annum.

### Societal Relevance

The following R&D outcomes are of national/societal significance:

- RV caps is an anti-cancer, immune-booster drug provided at affordable cost to cancer patients, those who are looking for a low-cost option for cancer care and treatment. 🔍

### Registered Office

Lokmanya Medical Research Centre, Chinchwad,  
Pune 411 033, Maharashtra  
T: 8007774811  
E: contact@lmrc.in  
W: www.lmrc.in

### Recognition Status

File No.: 14/3/1988-TU-V  
Initial Recognition: 1988  
Valid Until: March 31, 2018

### R&D Manpower

Doctorates: 15  
PGs & Graduates: 20

### Research Areas

- Cancer
- Occupational health research
- Clinical trials of new drugs
- Socio-medical, biomedical, and applied research
- Reproductive child health
- HIV/AIDS

### Research Outcomes

- Papers published: 2
- IPRs held
  - » Patents awarded: 1





^ Cardiology Department, Lokmanya Tilak Municipal General Hospital

## LOKMANYA TILAK HOSPITAL SILVER JUBILEE RESEARCH FOUNDATION

### Brief Description

The basic aim of Lokmanya Tilak Hospital Silver Jubilee Research Foundation is to encourage research activities amongst the faculty of Lokmanya Tilak Municipal Medical College and Lokmanya Tilak Municipal General Hospital, spread awareness regarding the various services offered by the various departments for the citizens, and to keep the faculty abreast with the recent advances in the vast and diversified field of medicine. The foundation is registered as a trust.

### R&D Set-up

The research facilities include equipped laboratory for stem cell research and hematology laboratory. The medical departments consist of well-equipped research and training facilities.

### Sources of income for R&D

Research grants

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 144.21

FY 2015-16 = 107.13

FY 2016-17 = 204.31

### R&D Achievements


#### Products developed

- Determination of glycemic index of seven Indian vegetarian type of food preparation and study of their glycemic and insulinemic effect in type 2 diabetics

- Study of genetic polymorphism in malignancy of prostate
- Red cell alloimmunization in Thalassemia
- Assessment of mitochondrial dysfunction in circulating lymphocytes in Parkinson's disease

### Societal Relevance

The following R&D outcomes are of national/societal significance:

- The research foundation is reaching to masses through its medical services
- The hospital is pioneer in cadaveric bone retrieval in Maharashtra. 

### Research Areas

- Fields of medical sciences, such as anatomy, anaesthesiology, biochemistry, cardiology, dentistry, dermatology, forensic medicine, gastroenterology, and others
- Clinical and para-clinical disciplines

### Research Outcomes

- Papers published: 5

### Registered Office

Lokmanya Tilak Hospital Silver Jubilee Research Foundation,  
College Building, 2nd Floor,  
Room No. 17, Sion,  
Mumbai 400 022, Maharashtra  
T: 022 24044154  
E: Itmmcsrs@gmail.com  
W: www.ltmgh.com

### Recognition Status

File No.: 14/60/1988-TU-V  
Initial Recognition: 1988  
Valid Until: March 31, 2018

### R&D Manpower

Doctorates: 1  
PGs & Graduates: 5



^ Central Research Laboratory

## M. S. RAMAIAH MEDICAL COLLEGE & HOSPITALS

### Brief Description

M. S. Ramaiah Medical College & Hospitals strives to be a centre of excellence in the field of medical education and various other fields of medicine. Apart from intramural academic research, thrust is given on fostering research ties with reputed national as well as international institutions. The institute promotes academic research, sponsored research, and clinical research. The institute is registered as a trust.

### R&D Set-up

The research infrastructure available at the institute includes the following facilities:

- Approximately 8,000 sq. ft of central research laboratory space has been set up to house all the equipment and facilitate the R&D activities of the institution.
- R&D equipment, such as inverted microscope, carbon dioxide incubator, sensitive weighing balance, precision micropipettes, carbon dioxide incubator, and spectrophotometer.

### Sources of income for R&D

- Donations
- Government grants
- International funds

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 63.56

FY 2015-16 = 56.40

### R&D Achievements

#### Processes developed

- Establishment of population based rural stroke registry in India
- Conceptual model for technology assisted elderly care in urban and rural areas
- A randomized controlled trial on the outcome of metabolic syndrome in first degree relatives of type 2 diabetes patients

### Technical Collaborations

#### International

Coventry University, UK; MSU-International Medical School, Malaysia; University of Antwerp, Belgium University of Aveiro, Portugal; University of Ghent, Belgium; University of Groningen/Netherlands; University of Hong Kong, Hong Kong; University of Pardubice, Czech Republic; University of St. Petersburg, Russia

### Societal Relevance

The following R&D outcomes are of national/societal significance:

- Role of music in non-pharmacological management of hypertension: Effects of these may be implemented for managing hypertension using non-pharmacological interventions
- A pilot study to evaluate the effect of an intervention module on modifiable risk factors for select non-communicable disease in a rural community: Module developed is ready for large-

### Registered Office

M. S. Ramaiah Medical College & Hospitals, MSR Nagar, MSRIT Post, Bengaluru 560 054, Karnataka  
T: 80 23605190  
E: msrmedical@msrmc.ac.in  
W: www.msrmc.ac.in

### Recognition Status

File No.: 14/555/2011-TU-V  
Initial Recognition: 2011  
Valid Until: March 31, 2020

### R&D Manpower


Doctorates: 3  
PGs & Graduates: 29

### Research Areas

- Public health
- Epidemiology
- Molecular biology and biochemistry
- Oncology
- Neurology
- Complementary and alternative medicine
- Human physiology
- Physiotherapy and rehabilitative medicine
- Pathology
- Microbiology and cytogenetics

### Research Outcomes

- Papers published: 323

- scale deployment and field testing in low resource settings
- Establishment of population-based rural stroke registry in India: Definitive models for the establishment of rural stroke registry is available for further deployment
- Establishing the facility for translational oncology research: Training of health personnel for delivery of enhanced patient care, especially in the areas of cancer care. 



^ Screening camp

## MAA RESEARCH FOUNDATION

### Brief Description

The Maa Research Foundation is a charitable not-for-profit organization that has been a campaigner for equality in treatment across all sections of society. The foundation has been an active advocate for providing specialist services and support to the deaf and hard of hearing people and their families. The foundation is registered as a trust.

### R&D Set-up

The research infrastructure available at the institute comprise the following:

- Research facilities, such as Molecular lab, Biochemistry lab, Immunological lab, and Cytology lab
- R&D equipment, such as gel doc, water baths, UV trans-illuminator, hematological analysers, semi-micro balance, Eliza reader, and others

### Sources of income for R&D

- Donations
- Government grants

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 19.92

FY 2015-16 = 29.04

FY 2016-17 = 30.76

### R&D Achievements

#### Processes developed

- Maintenance of genetic database and Registry of Ear-Nose-Throat (ENT) diseases

- Study of gene–environment interactions in pre-disposing to ENT diseases
- Epidemiology of chronic rhinosinusitis

### Societal Relevance

The following R&D outcomes are of national/societal significance:

- The MAA Research Foundation is involved in creating and spreading awareness about auditory health and related issues through free check-ups and awareness line-up sessions
- Campaigns are held in government and minority schools. [Q](#)

### Research Areas

- Medical genetics
- Hearing loss
- Presbycusis
- Chronic rhinosinusitis
- Allergy
- Asthma

### Research Outcomes

- Papers published: 11

### Registered Office

Maa Research Foundation,  
Second floor, Shanti Sikara  
Complex, Block A,  
Raj Bhavan Road, Somajiguda,  
Hyderabad 500 082, Telangana  
T: 040 23237174  
E: cmd@maaent.com  
W: www.maaresearchfoundation.  
com

### Recognition Status

File No.: 14/704/2016-TU-V  
Initial Recognition: 2016  
Valid Until: March 31, 2019

### R&D Manpower

Doctorates: 2  
PGs & Graduates: 3



▲ Liquid nitrogen storage facility

## MADRAS DIABETES RESEARCH FOUNDATION

### Brief Description

The Madras Diabetes Research Foundation provides a world class environment for research in diabetes and its complications. The foundation aims to carry out basic and clinical research of international quality and set new standards in the diagnosis and treatment of diabetes and its complications. The foundation has built up strengths in basic, clinical, and epidemiological research. The foundation is registered as society.

### R&D Set-up

The research facilities at the institute comprise the following equipment: confocal microscope, genetic analyser, water purification system, Eppendorf centrifuge, microarray illumine, Bioanalyzer agilent, nanodrop, *Sequenom MassARRAY*, and several others.

### Sources of income for R&D

- Donations
- Government grants

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 1,341.95

FY 2015-16 = 1,383.70

FY 2016-17 = 1,450.41

### R&D Achievements

#### Products developed

- Standardization of primary culturing techniques of human skeletal muscle cells, retinal

endothelial cells, and adipocytes for molecular biology studies

- Certain miRNAs were identified by microarray analysis and quantitative polymerase chain reaction (Q-PCR) validation as potential biomarkers of prediabetes and type 2 diabetes
- Novel methodologies were standardized to assess the cellular levels of endoplasmic reticulum (ER) stress and advanced glycation status
- A novel drug target for hyperinsulinemia has been identified through cellular pathway studies
- Developed a 'weighted genetic score' by studying the two gene variants (of TCF7L2 and CDKAL1) which showed strongest association with type 2 diabetes in the population
- Disposition index (DI) has been validated as a best tool to assess the beta cell function

#### Commercialization potential of products/processes developed

Significant findings are underway for replication studies with potential for intellectual property (IP) generation and plausible patent filings in the area of genetic makers, technologies with different omics platforms and biomarkers (for prevention, prognosis, and diagnosis), food and nutrition products, development of point-of-care (POC) devices, etc. Such areas include:

- Development of brown rice

### Registered Office

Madras Diabetes Research Foundation, ICMR Centre for Advanced Research on Diabetes, No. 4, Conran Smith Road, Gopalapuram, Chennai 600 086, Tamil Nadu  
T: 91-44-43968888  
E: drmohans@diabetes.ind.in  
W: www.mdrf.in

### Recognition Status

File No.: 14/269/1996-TU-V  
Initial Recognition: 1996  
Valid Until: March 31, 2020

### R&D Manpower

Doctorates: 19  
PGs & Graduates: 134

### Research Areas

- Diabetology
- Cell and molecular biology
- Molecular genetics
- Ocular research
- Biochemistry
- Stem cell research
- Epidemiology
- Food, nutrition, and dietetics

### Research Outcomes

- Papers published: 170

- Development of high fibre white rice
- Genetic/proteomic biomarkers
- Mobile-based informatics solutions

### Technical Collaborations

#### National

All India Institute of Medical Sciences, New Delhi; Centre for Biotechnology, Anna University, Chennai, Tamil Nadu; Indian Institute of Science, Bengaluru, Karnataka; Indian Institute of Technology, Chennai, Tamil Nadu; National Chemical Laboratory, Pune, Maharashtra; National Institute of Nutrition, Hyderabad, Telangana


#### International

Cardiff University & University of Warwick, UK; Deakin University, Melbourne, Australia; Emory University, Atlanta, USA; Harvard School of Public Health, Boston, USA; INSERM (French National Institute of

Health and Medical Research), France; McMaster University, Hamilton, Canada

### Societal Relevance

The following R&D outcomes are of national/societal significance:

- Undertaken the Indian Council of Medical Research (ICMR)-INDIAB National Diabetes Study, the largest epidemiological study in the world on diabetes
- Played a major role in setting up the Young Diabetes Registry in the country
- The foundation, through its affiliation to the University of Madras and the Tamil Nadu Dr M G R Medical University, is offering PhD programmes and continuously contributing to human resource development in the areas of specialization in the country. 



Research laboratory

## MAGADH HUMAN RESOURCE DEVELOPMENT TRUST

### Brief Description

The Magadh Human Resource Development Trust is involved mainly in training and research to undergraduates, postgraduates, and PhD scholars in different areas of biological sciences. The trust runs the S S Hospital and Research Center which integrates medical care with research in cancer management for rural people of Bihar. The institute has established various techniques of microbiology and works platform for basic as well as pure and applied purpose such as medical microbiology. The institute is registered as a not-for-profit organization.

### R&D Set-up

The research infrastructure at the institute comprises the following facilities:

- Workshop facilities
- Computational facilities
- Animal House
- Diagnosis facilities for certain types of clinical sampling

### Sources of income for R&D

Governmental grants

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

### R&D Achievements

#### Processes developed

- Different types of mice (Swiss Albino) models (normal, control, toxic—stage: I, II, III, carcinogenic) have been prepared in accordance with the CPCSEA (Committee for the Purpose of Control and Supervision of Experiments on Animals) guidelines and related studies with test compounds of arsenic, endosulfan, probiotics with suitable dilutions.
- Findings of testicular toxicity in male mice (Swiss Albino) due to long-term administration of arsenic (sodium arsenite) and endosulfan by oral route.

### Technical Collaborations

#### National

CSIR- Central Drug Research Institute, Lucknow, Uttar Pradesh; ICMR- Rajendra Memorial Research Institute of Medical Sciences, Patna, Bihar; National Institute of Pharmaceutical Education & Research, Hajipur, Bihar; All India Institute of Medical Sciences, New Delhi; All India Institute of Medical Sciences, Patna, Bihar

#### Societal Relevance

The following R&D outcomes are of national/societal significance:

- The research at the institute is focussed to study the gene expression profiles in mice, suffering with reproductive disorder induced by endosulfan and arsenic, and to also study the gene expression profiles in mice

### Registered Office

Magadh Human Resource Development Trust, 8, Revenue Colony, Chitragupta Nagar, Kankarbagh, Patna 800020, Bihar  
T: 0612-3253041  
E: sshospital.patna@gmail.com  
W: sshospitalpatna.org

### Recognition Status

File No.: 14/688/2015-TU-V  
Initial Recognition: 2015  
Valid Until: March 31, 2018

### R&D Manpower

Doctorates: 4  
PGs & Graduates: 3

### Research Areas

- Environmental biotechnology
- Toxicological research
- Cancer treatment

### Research Outcomes

- Papers published: 5

after detoxification treatment with probiotics. This project finding may further be explored for human beings affected with toxicity due to long-term exposure to arsenic and endosulfan,

particularly in Gangetic zone in Northern India; after conducting similar pre-clinical trials.

- Support is provided to the patients with different cancers, suffering in neglected or feared conditions. 🔍





^ Dental Dept.

## MAHARASHTRA MEDICAL RESEARCH SOCIETY

### Brief Description

The Maharashtra Medical Research Society aims to undertake, execute, organize, conduct, and provide basic and applied scientific research in the field of medicine and surgery.

The society is registered as a trust under the Societies Registration Act, 1860.

### R&D Set-up

Research facilities and infrastructure available at Joshi Hospital, Navalmal Firodiya Hospital, and Ratna Memorial Hospital

### Sources of income for R&D

- Donations
- Government grants

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 22.37

FY 2015-16 = 25.14

FY 2016-17 = 15.66

### R&D Achievements

#### Products developed

- Differentiating recurrent tumours from post treatment changes in head and neck cancer
- Imaging of meniscus repair and healing
- Occurrence of carcinoma prostate in Pune Metropolitan Region

### Societal Relevance

- The medical research being carried by the institute is based on direct patient recruitment from the community. 🔍

### Research Areas

- Interventional and non-interventional research
- Behavioural, social, epidemiological research
- Medical research specialities include urology, cardiology, medicine, and radiology

### Research Outcomes

- Papers published: 6

### Registered Office

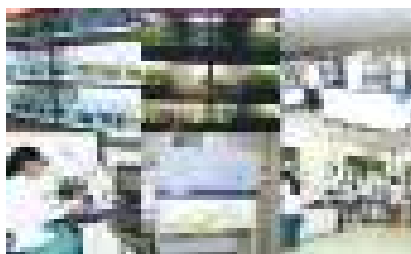
Maharashtra Medical Research Society, Joshi Hospital, 778 Shivajinagar, Opposite Kamala Nehru Park, Pune 411 004, Maharashtra  
T: 020-25676861  
E: mmrs@mmfhospitals.in

### Recognition Status

File No.:14/183/1992-TU-V  
Initial Recognition: 1992  
Valid Until: March 31, 2018

### R&D Manpower

PGs & Graduates: 1



^ DENTAL DEPT.

## MAHATMA GANDHI MISSION'S MEDICAL COLLEGE

### Brief Description

The aims and objectives of the Mahatma Gandhi Mission are to contribute towards fulfillment of the task initiated by Mahatma Gandhi and based on its principle that 'Literacy education is of no value if it is not able to build up sound character'.

The mission is a charitable trust, registered under the Societies Registration Act and Bombay Public Trusts Act.

### R&D Set-up

Research infrastructure includes OMICS lab, Zebra fish lab, Hydroponic lab, Central Research lab for Pathology and Biochemistry, Animal tissue culture lab, Genetic testing and counselling lab, Animal house and laboratory for tuberculosis diagnosis.

Sharing of research facilities: 70% internal and 30% external.

### Sources of income for R&D

- Donations
- Funds

### R&D expenditure (₹ in lakhs)

The SIRO maintaining separate accounts for R&D activities.

FY 2014-15 = 3.68

FY 2015-16 = 49.48

FY 2016-17 = 94.53

### R&D Achievements

#### Products developed

- Protein-based bioreactor for generation of fluorescent nanoparticles (Quantum dots)

- Protein driven synthesis of metallic nanoparticles
- Two pancreatic lipase inhibitor (small molecule and protein)
- Seven green synthesized nanoparticles (Zn, Fe, Mg, Ca, Ce, Si, Ag)
- Design and development of laser-based fluorescent robust tuberculosis detection system
- Portable bio safety cabinet used in the rural setting

### Processes developed

- Eight plant extract-based system for generation of metallic nanoparticles
- Three protein/proteome-based system for generation of metallic nanoparticles
- Three immobilized protein/proteome-based system for generation of metallic nanoparticles.
- Bioreactor for very fast generation of multifunctional fluorescent nanoparticles
- Biogenic method for generation of multiple nanoparticles

### Commercialization potential of developed products/processes

Laser-based Fluorescent Detector System, Portable Biosafety cabinet, False safety belt

### Technical Collaborations

#### National

Bhabha Atomic Research Center, Mumbai, Maharashtra; Haffkin Institute, Mumbai, Maharashtra;

### Registered Office

Mahatma Gandhi Mission's Medical College,  
Kamothe, Navi Mumbai 410 209,  
Maharashtra  
T: 022-27432471  
E: mgmncnb@gmail.com  
W: www.mgmuhs.com

### Recognition Status

File No.: 14/305/1999-TU-V  
Initial Recognition: 1999  
Valid Until: March 31, 2018

### R&D Manpower

Doctorates: 9  
PGs & Graduates: 20

## Research Areas

- Discovery of novel predictive biomarkers
- Affordable and rapid diagnostic for tuberculosis and malaria
- Prediction of disease and Prophylactic Disease Management
- Bio-nano engineering
- Nanoformulations
- Nanotechnology (Quantum dots)
- Rational drug discovery (obesity/diabetes/malaria)
- Protein science
- Enzymology
- Green technology (water purification)
- Molecular genetics

## Research Outcomes

- IPRs held
  - » Patents filed: 7
- Papers published: 688

National Institute of Research & Reproductive Health, Maharashtra; Regional Research Center for Advanced Technology, Indore, Madhya Pradesh; SEVRI Panderpur, Maharashtra; Synerge Nanosystem, Maharashtra

### International


AIDS Health Science Foundation, USA; Kyungpook National University, Medical Center, South Korea; Nanosynth Material and Sensor Inc, USA; UNESCO Chair of Bioethics; University of Pennsylvania, USA; University of Utah, USA

### Societal Relevance

The following R&D outcomes are of national/societal significance:

- The institute provides financial support to poor patients through

various government schemes like Mahatma Jyotiba Phule Jana Arogya Yojana; MoU with District Tuberculosis Officer, Maharashtra state.

- Regularly organized multi diagnostic camps and awareness programmes in villages of Raigad district of Maharashtra
- Provide medical services at the doorstep of rural and urban patients
- Involvement in Swachh Bharat Abhiyan through mobile-based app. 



^ Medical department

## MANDKE FOUNDATION

### Brief Description

The Mandke Foundation initiated the Kokilaben Dhirubhai Ambani Hospital & Medical Research Institute—a state-of-the-art multi-specialty tertiary care hospital. Research activities focus on population-based epidemiologic studies, community-based intervention programmes, multicentre controlled clinical trials, and training programmes.

The foundation is registered as a non-governmental company under Section-25/8 of the Companies Act.

### R&D Set-up

The research facilities and infrastructure available at the foundation comprise the following:

- R&D equipment, such as IMRIS - i- Suite, linear accelerator w srs, combo cath and cardiac cath laboratories, digital 800 ma x ray with image intensifier, navigation system—composite, cryopreservation tank, defibrillator, osmometer, Novalis TX Dual Linear Accelerator, and others.

### Sources of income for R&D

- Donations
- Government funds

### R&D Achievements

#### Processes developed

- Harmonization of the serum

thyroid-stimulating hormone measurements paves the way for the adoption of a more uniform reference interval

- Prevalence of carbapenemase-producing gram negative bacteria in a tertiary-care hospital
- Language characteristics and recovery in patients with post-stroke aphasia

### Research projects

- Harmonization of serum thyroid-stimulating hormone measurements paves the way for the adoption of a more uniform reference interval
- Dialysis-requiring acute kidney injury amongst hospitalized adults with documented Hepatitis C virus infection a nationwide inpatient sample analysis
- Language characteristics and recovery in patients with post stroke aphasia

### Technical Collaborations

#### National

Indian Council of Medical Research, New Delhi; National Cancer Research Programme, Bengaluru, Karnataka; Tata Memorial Centre, Mumbai, Maharashtra

#### International

Royal Adelaide Hospital, University of Adelaide, Adelaide, Australia; Westphalian Wilhelms-University, Munster, Germany

### Registered Office

Mandke Foundation, Achyutrao Patwardhan Marg, Four Bungalows, Andheri (West), Mumbai 400 053, Maharashtra  
T: 22 30999999  
E: kh@relianceada.com  
W: www.kokilabenhospital.com/

### Recognition Status

File No.: 14/292/1998-TU-V  
Initial Recognition: 1998  
Valid Until: March 31, 2020

### R&D Manpower

PGs & Graduates: 50

### Research Areas

- Rheumatology
- Neurology
- Cardiology
- Urology
- Medical oncology
- Endocrinology
- Physical medicine and rehabilitation

### Research Outcomes

- Papers published:
  - » International: 4

### Societal Relevance

Hospital-based cancer registry in sources of registrations of already the existing population based cancer registry at Bengaluru, Chennai, Delhi, Mumbai, and Kolkata. 🔍



^ Microscopy for karyotyping

## MANOVIKAS KENDRA REHABILITATION AND RESEARCH INSTITUTE FOR THE HANDICAPPED

### Brief Description

Manovikas Kendra works for the welfare and rehabilitation of children with disabilities. It also works towards spreading awareness about issues related to special children. The areas covered by Manovikas Kendra include assessment, diagnosis, therapeutic intervention, inclusive education, human resource development, and biomedical research for overall development of persons with special needs.

The institute is registered under the Societies Registration Act, West Bengal, Act XXVI of 1961, S/65763 of 1990-1991.

### R&D Set-up

The institute has the following research equipments:

- Life Technologies PCR systems
- Tarsons & Genei Gel electrophoresis set with power supply units
- Suan Scientific Instruments Fume Hood and Autoclaves
- Spectrophotometer
- Refrigerated centrifuge, and many more

### Sources of income for R&D

Government grants-in-aid

### R&D expenditure (₹in lakhs)

The SIRO is maintainng separate accounts for R&D activities.

FY 2014-15 = 58.24

FY 2015-16 = 90.70

FY 2016-17 = 45.88

### R&D Achievements

#### Products developed

- Cyclin-dependent kinase 5: Novel role of gene variants identified in attention deficit hyperactivity disorder(ADHD)
- Pilot study indicates role of preferentially transmitted monoamine oxidase gene variants in behavioural problems of male ADHD probands
- Components of the folate metabolic pathway and ADHD core traits: An exploration in east Indian probands
- Significance of dopaminergic gene variants in the male biasness of ADHD
- De novo purine biosynthetic enzymes encoded by the GARS-AIRS-GART gene determination of novel mutations and analysis of biochemical function in Downs Syndrome
- Regulation of apoptosis in 3-nitropropionic acid induced rat model of Huntington disease to define molecular pathway involved in striatal neurodegeneration

### Technical Collaborations

#### National

Axxonet, Bengaluru, Karnataka; CSIR-Indian Institute of Chemical Biology, Kolkata, West Bengal

### Registered Office

Manovikas Kendra,  
482 Madudah, Sec J, EM Bypass,  
Kolkata 700 107,  
West Bengal  
T: 033-40012732  
E: mvkendra1974@gmail.com  
W: www.manovikaskendra.org

### Recognition Status

File No.: 14/299/1199-TU-V  
Initial Recognition: 1199  
Valid Until: March 31, 2019

### R&D Manpower

Doctorates: 5  
PGs & Graduates: 26

### Research Areas

- Neurodevelopmental disorders
- Candidate gene analysis
- Chromosomal abnormality
- Cognitive therapy
- Analysis of event-related potential

### Research Outcomes

- Papers published: 28

### Societal Relevance

The following R&D outcomes are of national/societal significance:

- Diagnostic methods have been standardized/established
- Services for providing diagnostic assistance leading to rehabilitation of intellectually-challenged children
- Advanced molecular biology-based diagnostic methods, including enzyme-linked

immunosorbent assay (ELISA), neurotransmitter analysis, polymerase chain reaction (PCR), deoxyribonucleic acid (DNA) sequencing, messenger ribonucleic acid (mRNA) analysis, enzyme kinetics, cell culture, karyotyping, etc.

- Awareness generation as well as advanced diagnostic of genetic disorders in the rural areas of West Bengal. 🔍



^ Research facility

### Registered Office

Maternal Health and Research Trust, # 8-2-120/86/1A, Road No. 3, Banjara Hills, Hyderabad 500 034, Telangana  
T: 4023552525  
E: mhrthospital@gmail.com  
W: www.mhrthospital.com/index.html

### Recognition Status

File No.: 14/491/2009-TU-V  
Initial Recognition: 2009  
Valid Until: March 31, 2018

### R&D Manpower

Doctorates: 6  
PGs & Graduates: 1

### Research Areas

- Genomics and protein markers of endometriosis
- Polycystic ovary syndrome (PCOS)
- Genital Kochs
- Cord blood stem cells
- Human leukocyte antigen (HLA) typing

## MATERNAL HEALTH AND RESEARCH TRUST

### Brief Description

The Maternal Health and Research Trust is an infertility centre and strives to provide quality infertility treatment. The institute provides services in in-vitro fertilisation (IVF), IVF-intracytoplasmic sperm injection, intrauterine insemination, assisted hatching, embryo donation, egg donation, surrogate motherhood, male infertility, natural infertility treatments, semen banking, and embryo freezing.

The institute is registered as a trust.

### R&D Set-up

Research infrastructure used by the industry and academia comprise equipments, such as stereo zoom microscope, laminar air flow, centrifuge, air flow, fyrite kit, freezer, cryocans, ELISA reader system, and others.

### Sources of income for R&D

Government funds

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 4.59

FY 2015-16 = 2.16

FY 2016-17 = 9.91

### R&D Achievements

#### Products developed

- Identified and characterized Mesenchymal stem cells from endometrial samples
- Gene expression of the inflammatory markers in the endometrial samples
- Examining the in vitro decasualization and differential of endometrial cells

### Technical Collaborations

#### National

Stem Cells Liver Lab, Deccan Medical College, Hyderabad, Telangana

#### Societal Relevance

The services offered by the institute, along with Assisted Reproductive Technology, provide benefits to the childless. [Q](#)

### Research Outcomes

- Papers published: 7





^ Research facility

### Registered Office

Mazumdar Shaw Medical Foundation,  
1st Floor (NHPL), 258/A,  
Bommasandra Industrial Area,  
Anekal, Bengaluru 560 099,  
Karnataka

### Recognition Status

File No.: 14/666/2014-TU-V  
Initial Recognition: 2014  
Valid Until: 2017

### R&D Manpower

Doctorates: 7  
PGs & Graduates: 24

### Research Areas

- Anti-cancer technologies programme
- Integrated head and neck oncology programme
- Neuro oncology programme
- Tumor immunology programme

## MAZUMDAR SHAW MEDICAL FOUNDATION

### Brief Description

The mission of the Mazumdar Shaw Medical Foundation is to facilitate research that will contribute to early detection and treatment of various human diseases in a translational manner that is derived from knowledge gained through cellular, molecular, biochemical and genetic approaches.

The foundation is a non-government body under Section-25/8 of the Companies Act, 1956.

### R&D Set-up

Research infrastructure comprises equipments, such as MACS Sorter, Vertical Electrophoresis (Protean), Trans Blot Semi Dry System, ChemiDoc Imaging System, Thermal Cycler, Automated TC20 Cell Counter, Refrigerated Centrifuge, Microbiological Incubator, Axio Fluorescence Microscope, Primovert Microscope, Primostar Binocular Lab Microscope, Biospectrophotometer, Speed Vac Concentrator, Hypoxia Chamber, and others.

### Sources of income for R&D

- Donations
- Grants

### R&D expenditure (₹ in lakhs)

FY 2014-15 = 196.85

FY 2015-16 = 250.18

### R&D Achievements

#### Products developed

- Anti-CXCR4 inhibitor in reversing resistance to chemoprevention and therapy
- Nanoparticle-based biosensor for cell detection and isolation

### Processes developed

- Curcumin and Metformin in prevention of head and neck cancer
- Salivary protein biomarkers for the diagnosis and prognosis of head and neck cancers
- Primary cell line model of mice origin for oral carcinogenic progression
- Nanoparticle-based drug delivery system to target cancer cells

### Technical Collaborations

#### National

Beyond Antibody, Bengaluru, Karnataka

#### International

Bristol-Myers Squibb, New York, USA

### Societal Relevance

The following R&D outcomes are of national/societal significance:

- Efficacy of Curcumin and Metformin in a 4NQO model: The drug combination is now being tested in a clinical trial.
- Cancer stem cells and its fibroblast niche in carcinogenesis and chemoprevention of oral cancer: Anti CXCR4 as a novel target for improving chemoprevention efficacy.
- Observation of oral premalignant and malignant lesions using exogenous fluorophores and handheld fluorescence imaging: Development of a chairside imaging system for early detection. [Q](#)

### Research Outcomes

- IPRs held
  - » Patents awarded: 1
- Papers published: 28



^ Cath Lab

### Registered Office

Medical Research Centre of  
Bombay Hospital Trust, 12,  
Marine Lines, Mumbai 400 020,  
Maharashtra  
T: 22 22067676  
E: research\_2010@rediffmail.com  
W: www.bombayhospital.com

### Recognition Status

File No.: 14/122/1989-TU-V  
Initial Recognition: 1989  
Valid Until: March 31, 2018

### R&D Manpower

PGs & Graduates: 26

### Research Areas

- Cardiology
- Dermatology and venereology
- Diabetology
- Gastroenterology
- Neonatology and pediatrics
- Nephrology
- Neurology
- Oncology

## MEDICAL RESEARCH CENTRE OF BOMBAY HOSPITAL TRUST

### Brief Description

The Bombay Hospital Trust runs the Bombay Hospital and Medical Research Centre, which is a tertiary care hospital with all specialties performing a range of diagnostic, therapeutic, and interventional procedures. The institute promotes research in the fields of medical sciences, providing clinical and research material, and contributing to the growth of medical expertise in the country. The centre is registered as a trust.

### R&D Set-up

The various medical departments are equipped with latest R&D equipments such as:

- Cathlab
- 64 slice State-of-the-art Siemens SOMATOM Definition AS CT scan machine
- 3 Tesla MRI system providing performance for both high spatial and temporal resolution acquisitions
- State-of-the-art pathology with top range automated equipment

### Sources of income for R&D

- Donations

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 29.77

FY 2015-16 = 38.40

FY 2016-17 = 26.05

### R&D Achievements

#### Processes developed

- Study of the effect of a group physiotherapy programme for people with Parkinson's disease in Mumbai
- Using bone markers and flow mediated dilation to assess cardiovascular risk in chronic kidney disease
- Effect of exergaming in improving balance in people with Parkinson's disease
- Dorsal sural sensory nerve action potential in health population: normative data
- Elucidating the gene diet disease interaction of polyunsaturated fatty acid metabolism

### Societal Relevance

The following R&D outcomes are of national /societal significance:

- Medical services are provided free of charge/subsidized to weaker sections of the society
- The centre has published the *Textbook of Laryngology*, which is the official textbook of the phonosurgeons of India. 🔍

### Research Outcomes

- Papers published: 3



^ Research facility

## METABOLIC DISORDERS RESEARCH CENTRE

### Brief Description

The Metabolic Disorders Research Centre aims to promote research in metabolic/genetic disorders and to provide sophisticated investigative facilities to hospitals. The centre promotes research in metabolic/genetic disorders noted for their frequency of incidence in Kerala compared with other states. The non-governmental organization is registered as society.

### R&D Set-up

The institute has metabolomic research facility to conduct research in all metabolic disorders. These include laboratories and research equipment.

### Sources of income for R&D

Government grants

### R&D Achievements

#### Products developed

Symbiotic medicine

#### Research projects

Studies carried out by the centre have shown that hypomagnesemia and elevated levels of serum AMPS (acid mucopolysaccharides) had a bearing on the incidence of coronary artery disease.

#### Commercialization potential of products/processes developed

- Patents have been filed for four research products on symbiotic medicine

### Societal Relevance

The following R&D outcomes are of national/societal significance:

- Technology for metabolomics used for patient care.
- Patient care for mental retardation and neuropsychiatric disease. 🔍

### Research Areas

- Metabolomics
- Metabolic/genetic disorders

### Research Outcomes

- IPRs held
  - » Patents filed: 4

#### Registered Office

Metabolic Disorders  
Research Centre, Kowdiar,  
Thiruvananthapuram, Kerala  
T: 0471 2337355  
E: kurupachutha@gmail.com  
W: www.mdrc.in/

#### Recognition Status

File No.: 14/450/2007-TU-V  
Initial Recognition: 2007  
Valid Until: March 31, 2019

#### R&D Manpower

Doctorates: 1  
PGs & Graduates: 5



^ Research laboratory

### Registered Office

MIMS Research Foundation,  
Malabar Institute of Medical  
Sciences, Govindapuram P.O.,  
Kozhikode 673 016, Kerala  
T: 04952331045  
E: mimsrf@asterhospital.com  
W: www.mimsrf.org

### Recognition Status

File No.: 14/493/2009-TU-V  
Initial Recognition: 2009  
Valid Until: March 31, 2018

### R&D Manpower

Doctorates: 3  
PGs & Graduates: 9

## MIMS RESEARCH FOUNDATION

### Brief Description

The MIMS Research Foundation seeks to leverage scientific research to find solutions for common causes of morbidity and mortality from diseases. The foundation conducts advanced research in areas of fundamental science, the immediate beneficiary of which will be the patient community. The foundation is registered as a trust.

### R&D Set-up

Following are the research facilities available:

- The research laboratory spans over an area of 8,000 sq. ft.
- There are two major general purpose laboratories and one minor laboratory with essential instrumentation facility needed for conducting biological studies in depth.
- Specialized facilities available are Molecular Biology Lab, Plant Bioactives and Bioprocessing Lab, Cell Culture Facility, Small Animal Facility, Biochemistry Lab, Immunohistochemistry Lab, and Library.
- Research infrastructure is being used exclusively for research and academic purposes as a common internal facility.

### Sources of income for R&D

- Donations
- Government grants
- Project funds

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 77.63

FY 2015-16 = 82.45

FY 2016-17 = 73.36

### R&D Achievements

#### Products developed

- An extracorporeal device for Endotoxin removal in sepsis patients
- A cellular pharmaceuticals for the treatment of osteoporosis
- A diagnostic kit for detecting the level of insulin as a marker for pre-diabetic insulin resistance
- A highly sensitive endotoxin detection kit for sepsis diagnosis

#### Principle/theory developed

- Plasma insulin, insulin resistance, and diabetes mellitus Type 2
- Gender disparity in Indian renal transplantation
- Population explosions of Tiger Moth lead to Lepidopterism mimicking infectious fever outbreaks

### Technical Collaborations

#### National

- Calicut University, Kerala; Kasturba Medical College, Manipal, Karnataka; Kerala State Forensic Laboratory, Kerala; Mahatma Gandhi University, Kerala; Warseps LLP Ltd, Kerala

#### International

- ICFO-Institut de Ciències Fotòniques, Barcelona, Spain

### Research Areas

- Health sciences
- Life sciences
- Cancer
- Diabetes
- Sepsis
- Stem cell biology


### Research Outcomes

- IPRs held
  - » Patents filed: 4
  - » Patents awarded: 4
- Papers published
  - » International: 5

### Societal Relevance

The following R&D outcomes are of national/societal significance:

- Thrust areas of research were selected on the basis of the 'burden' caused by the disease on the patient, community, and the state.
- Clinical research in Type II diabetes mellitus has helped people to diagnose their diabetic status

who were considered to be a normal group until then. Insulin estimation studies conducted in children have helped to diagnose/predict diabetes mellitus in their parents thereby enabling early interpretations which might delay the onset of its complications. 



^ Medical facilities

## MIRPUR INSTITUTE OF MEDICAL SCIENCES

### Brief Description

Mirpur Institute of Medical Sciences aims to provide quality medical care and create health awareness in the surrounding rural communities, encouraging them to maintain hygiene and proper health habits to prevent diseases. The research activities of the institute are geared towards providing quality medical care to all patients. The institute is registered as a trust.

### R&D Set-up

The research facilities and infrastructure at the institute comprise the following:

- Research facilities include skin regeneration and processing laboratories.
- Equipment, such as air handling unit, phase contrast inverted microscope, carbon dioxide incubator (air jacketed, water jacketed), fluorescent attachment for phase contrast inverted microscope, magnetic stirrer cum hot plate, manual rotary microtome, gel documentation system, electrophoresis apparatus and instruments, Millipore water purification system, and others.

### Sources of income for R&D

- Donations
- Hospital income

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2015-16 = 9.61

FY 2016-17 = 15.00

### R&D Achievements

#### Products developed

- Viability status of free autologous non-vascularized fibular grafts
- Limb lengthening double oblique diaphyseal osteotomy

### Technical Collaborations

#### National

Indian Council of Medical Research (ICMR), New Delhi

#### Societal Relevance

The following R&D outcomes are of national/societal significance:

- ICMR research project on free autologous non-vascularized fibular grafts—a histopathological study
- Innovation in limb lengthening—double oblique diaphyseal osteotomy. [Q](#)

### Research Areas

- Free autologous fibrous grafts for bridging massive bone defects
- Limb lengthening
- Procedures to enable deformed children walk

### Research Outcomes

- Papers published
  - » International: 2

### Registered Office

Mirpur Institute of Medical Sciences, Dr S S Yadav Ram Bhagwan Charitable Trust, VPO Mirpur, Distt Rewari 123 502, Haryana  
T: 01274 248690  
E: mimsatindia@gmail.com  
W: mimsindia.org/

### Recognition Status

File No.: 14/401/2005-TU-V  
Initial Recognition: 2005  
Valid Until: March 31, 2019

### R&D Manpower

Total: 7



^ Children being examined by the doctors for clinical diagnosis of suspected DMD children



^ Blood samples being collected from clinically diagnosed DMD children

### Registered Office

Molecular Diagnostics,  
Counseling, Care and Research  
Centre (MDCRC)  
M 86/5, 2nd Cross Street,  
Besant Nagar, Chennai 600 090  
Tamil Nadu  
T: 0422-2562700  
E: drlakshmi@mdcrcindia.org  
W: www.mdcrcindia.org

### Recognition Status

File No.: 14/613/2012-TU-V  
Initial Recognition: 2012  
Valid Until: March 31, 2018

### R&D Manpower

Doctorates: 3  
PGs & Graduates: 16

## MOLECULAR, DIAGNOSTICS, COUNSELING, CARE AND RESEARCH CENTRE

### Brief Description

The Molecular, Diagnostics, Counseling, Care and Research Centre (MDCRC) is an independent, not-for-profit charitable organization, focussing on the care of kids affected with Duchenne muscular dystrophy (DMD) and spinal muscular atrophy (SMA). They offer services ranging from molecular diagnostics, counseling, multidisciplinary clinical care, outreach activities, information, training and educational exercises (IEC), and extending family support. They also give services free of cost to all the patients and their families.

### R&D Set-up

The research facilities and infrastructure are utilized by the patients for improving their quality of life and also by the team members for research purposes. These include:

Electronic balance, thermomixer, cyclomixer, biophotometer, master cycler, electrophoresis unit, refrigerated centrifuge, gel doc, genetic analyser, coffalyser, electrical stimulator, ultrasound, interferential therapy unit, mariner's wheel, suspension therapy apparatus, parallel bar with mirror, balancing board

### Sources of income for R&D

Government

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15=125.00

FY 2015-16=18.00

FY 2016-17=217.00

### R&D Achievements

#### Processes developed

- A working model to identify children affected with DMD
- Follows a non-invasive, less painful technique in identifying the children with muscular dystrophy

### Technical Collaborations

#### National

Medgenome – Bengaluru; State Planning Commission & National Health Mission; Arya Vaidhya Pharmacy – Coimbatore; Ministry of AYUSH, Government of India

### Societal Relevance

The following R&D outcomes are of national/societal significance:

- Diagnostic services have reached more than 4,000 families in identifying children with DMD.
- Genetic, reproductive, prenatal counseling has been offered to more than 1,000 families.
- Multidisciplinary clinical care services have improved the quality of life of more than 100 children in and around Coimbatore district.
- Rehabilitation services are offered to children with DMD in MDCRC thereby improving their quality of life.
- Orthotics and splints are offered to children with DMD by MDCRC for free of cost

### Research Areas

- Public health domain,
- Duchenne muscular dystrophy, muscular atrophy
- Genetic counselling,
- Multidisciplinary care,
- Rehabilitation services

### Research Outcomes

- Technologies transferred/commercialized: 1

- Family support services including fun outings and other celebrations are also organized by MDCRC to the affected families
- Dr B R Lakshmi addressed a team of 70 RBSK doctors in 2 different

sessions on 2 and 4 July 2015, about the rare disorder, identification, prevention, and the free services offered by the Centre. 🔍





^ Research Laboratory

## MOVING ACADEMY OF MEDICINE AND BIOMEDICINE

### Brief Description

The Moving Academy of Medicine and Biomedicine comprises several globally recognized physicians, scientists, and educationists. The focus was on undergraduate medicos who are envisaged as future leaders in medicine. The academy has successfully developed a highly cost-effective short, duration (three-day) module of mobile research oriented-medical workshops in India. The topics covered were study designs, biostatistics, commonly used statistical software, data management, medical ethics, GCP and GCLP, clinical protocol development, RCT, drafting and the submission of research proposal to funding agencies and communication skills.

### R&D Set-up

The research facilities and infrastructure of the institution are being used by the academia. They maintain well-developed and sophisticated R&D facilities for basic animal tissue culture; molecular studies; gene cloning and microbiology; hemoglobinopathies and blood-related studies.

The infrastructure available is as follows:

- The academy has been providing infrastructural support for basic researchers, medical research students, school and college students, and teachers to complete their research work.
- The academy is also using its infrastructure to provide

technology-oriented hands-on training for medical and life science-students from time to time on topics of nucleic acid techniques, protein techniques, molecular biology techniques, animal tissue culture techniques, and immunological techniques.

The major instruments available for research are as follows:

- Research phase contrast Inverted and fluorescence microscopes; PCR gradients-based; HPLC for variant Hb analysis; speed vacuum concentrator; blood cell counter and biochemistry analyser; carbon dioxide incubators & liquid nitrogen; laminar air-flows; centrifuge clinical and cold centrifuge; gel imager for gel analysis

### Sources of income for R&D

- Donations
- Grant-in-aid
- International funding

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 106.5

FY 2015-16 = 59.02

FY 2016-17 = 134.85

### R&D Achievements

#### Products developed

- A Method to harness the 'latent binding energy' in light beams to improve efficiency of solar panels
- Science and technology modules for tribal students

### Registered Office

Moving Academy of Medicine and Biomedicine  
2nd floor, "Rainbow",  
S. No.110/11/11 & 16,  
Baner Road, Baner, Pune 411 045  
T: 020 2729 5354; 2729 5355  
E: mgdmamb@gmail.com/deo.  
madhav@gmail.com  
W: www.movingacademy.in

### Recognition Status

File No.: 14/384/2004-TU-V  
Initial Recognition: 2004  
Valid Until: March 31, 2019

### R&D Manpower

Doctorates: 7  
PGs & Graduates: 9

### Research Areas

- Hemoglobinopathies and alpha thalassemia in the tribals of Maharashtra
- Non-communicable diseases in the non-tribal and tribal population.
- Study of iodine deficiency in tribal belt of Maharashtra.
- Testing of drinking water and soil specimens from the different tribal areas of Maharashtra

### Research Outcomes

- Papers published:
  - » National: 4
  - » International: 1
- IPRs held
  - » Patents filed: 1

- Hands-on Skill workshop on science and technology
- Research Module for non-communicable disease screening
- Research module for animal tissue culture work
- Research training module for medical students

### Technical Collaborations

#### National

MoU with Krishna Institute of Medical Science, Deemed University, Karad, Maharashtra; MoU with Pravara Institute of Medical Sciences, Loni, Maharashtra ; MoU with Symbiosis International University, Pune; ROME activities are held jointly with medical institutions and colleges of India; MoU with Advance Center for Treatment, Research and Education in Cancer (ACTREC; TMC) ; Regional Medical Research Unit of Indian Council of Medical Research; Selected Tribal Secondary & Higher Secondary ashram school of Pune, Raigad, Ahmednagar, Dhule, Nandurbar, Nashik, and Palghar districts of Maharashtra; Foundation for Research in Community Health, Pune

#### Societal Relevance

- The academy has organized modern science and technology

workshops for various tribal and village schoolchildren of Maharashtra through one of its novel programmes—the Mobile Science Fair.

- Iron deficiency anemia and sickle cell anemia was diagnosed in more than 2,000 tribal Adivasi and village schoolchildren at an adolescent age with proper treatment.
- The academy has been running its flagship programme, 'Discovering Adivasi Little Scientist' since the last nine years, wherein small tribal or village students work on various community-based research projects. These comprise prevalence of non-communicable diseases (NCDs), such as diabetes, hypertension, BMI chronic kidney disease, and prevalence of Hemoglobinopathies, including anemia.
- Provides basic research facilities, such as animal tissue culture set-up, various equipment used for molecular biology work, and extraction procedures. 🔍



^ Research Laboratory

## MULJIBHAI PATEL SOCIETY FOR RESEARCH IN NEPHRO-UROLOGY

### Brief Description

The Muljibhai Patel Society for Research in Nephro-Urology, a public charitable trust under the Bombay Public Trust Act, 1950, is devoted entirely to the study and cure of nephrology and urology. The organization has been awarded with the ISO-9001: 2008 certificate, thus certifying their quality management system for design, development, and delivery of clinical services for Urology & Nephrology, including kidney transplantation to global standards.

### R&D Set-up

The research facilities and infrastructure of the institution are being used by the academia and individuals. These include:

Department of Urology; Department of Nephrology; Department of Anaesthesia; Department of Pathology; Department of Radiology; Medical Social work; Department of Administration;

The research facility is equipped with government-approved Dry and Wet Laboratories for conducting experiments on animals, pathology laboratory for monitoring various clinical parameters. They also have a library with subscription of various national and international journals, publications, and books for further reference.

### Sources of income for R&D

- Donation
- Sponsorship & Research Income

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 361.78

FY 2015-16 = 361.78

FY 2016-17 = 411.48

### R&D Achievements

#### Products developed

In areas of nephrology, following studies have been conducted:

- Indian Chronic Kidney Disease (ICKD) study (George Institute of Health); National study
- Astra Zeneca; International study  
Study Title: A Phase 3, Multicenter, Randomized, Open-Label, Active-Controlled Study of the Safety and Efficacy of Roxadustat in the Treatment of Anemia in Dialysis Patients.
- Protocol title: Pharmacodynamic (PD) study to demonstrate the equivalence of Sevelamer hydrochloride 800 mg tablet (Test Drug) with Renagel® 800 mg (Reference drug) in patients of hyperphosphatemia receiving haemodialysis
- Sanofi Rise study- A Registry to describe clinical experience with Thymoglobuline® used as induction immunosuppression in patients undergoing renal transplantation (RISE)
- A phase 3 randomized, open-label (sponsor-blind), active-controlled, parallel-group, multi-center, event driven study

### Registered Office

Muljibhai Patel Society for Research in Nephro-Urology,  
Dr Virendra Desai Road,  
Nadiad 387001, Gujarat  
T: 0268 2520323  
E: info@mpuh.org  
W: www.mpuh.org/

### Recognition Status

File No.: 14/56/1988-TU-V  
Initial Recognition: 1988  
Valid Until: March 31, 2018

### R&D Manpower

Doctorates: 1  
PGs & Graduates: 30

## Research Areas

- Nephrology
- Urology

## Research Outcomes

- Papers published:
  - » National: 160
  - » International: 34


in dialysis subjects with anemia associated with chronic kidney disease to evaluate the safety and efficacy of daprodustat compared to recombinant human erythropoietin, following a switch from erythropoietin-stimulating agents.

- A Phase 3 randomized, open label (Sponsor - blind), active-controlled, parallel group, multi-center, event driven study in non-dialysis subjects with anemia associated with chronic kidney disease to evaluate the safety and efficacy of daprodustat compared to darbepoetin alfa.
- A Randomized, Double-Blind, Placebo-Controlled, Phase 2 Study to Assess the Efficacy, Pharmacokinetics, Pharmacodynamics and Safety of LNP1892 (Monotherapy) in Chronic Kidney Disease (CKD) Patients with Secondary Hyperparathyroidism (SHPT), On Dialysis and Not on Dialysis

In areas of nephrology, the following studies have been conducted:

- Ferring Trial - For Prostate Cancer An Open-label, Single-Arm, Multicentre, Phase IV Trial to Evaluate the Safety of Firmagon® in Androgen Deprivation Therapy in Indian Patients Diagnosed with

Advanced Hormone-dependent Prostate Cancer.

- Applaud Trial - For Fragmentation of stone - Feasibility Study of an Enhanced Lithotripsy System (ELS) in the Treatment of Urinary Stone Disease.
- Procept Trial - For Benign Prostatic Hyperplasia - Acute Hemostasis following the use of the AquaBeam® System for the treatment of Benign Prostatic Hyperplasia III.
- Pfizer Trial - For Bladder cancer - A Phase 3, Multicenter, Multinational, Randomized, Open-Label, Parallel-Arm Study of Avelumab\* (Msb0010718c) Plus Best Supportive Care Versus Best Supportive Care Alone As A Maintenance Treatment In Patients With Locally Advanced or Metastatic Urothelial Cancer whose disease did not progress after Completion of First-Line Platinum-Containing Chemotherapy.
- Merizelle Trial - For Hemostasis across surgical procedures - A prospective, multi-center, single-arm, observational, post marketing surveillance study to evaluate safety of MERIZELLE ORC U.S.P for achievement of hemostatis across surgical procedures. 



^ Eye bank

## NAGRI EYE RESEARCH FOUNDATION TRUST

### Brief Description

Nagri Eye Research Foundation Trust was established in 1991 in order to promote various research activities. Its main aim is presentation of blindness and diagnosis, and appropriate management of eye diseases. In order to fulfil this aim, the research foundation has considered Nagri Eye Hospital as its Institute. It has made arrangements to provide modern facilities of investigations and treatment to patients attending this hospital.

### R&D Set-up

- Nagri Eye Research Foundation Trust offers both out-patient services and in-patient services at their hospitals. They have a dedicated team of specialist ophthalmologists, nursing staff, administrative staff, and support staff to ensure that all their patients receive excellent treatment.
- It also offers state-of-the-art facilities and they have four operation theatres equipped with latest equipment and trained dedicated personnel. Their in-patient facilities include 100 beds, which consist of special rooms, A/C rooms, and general wards. They have a septic ward for isolation. Trained ophthalmic nursing assistants provide 24-hour nursing care. Their in-patient services are fully supported by a drug counter.

### Sources of income for R&D

- Donations

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 14.17

FY 2015-16 = 11.35

FY 2016-17 = 0.43

### R&D Achievements

The major research projects undertaken by the organization are:

- Study of comparison of outcome of retinal detachment surgery with and without internal limiting membrane peeling
- Panretinal photocoagulation combined with intravitreal triamcinolone acetonide injection in proliferative diabetic retinopathy with clinically significant macular edema
- Evaluation of corneal endothelium in pseudophakic donor's eye
- Prospective study of visual fields, refractive errors and corneal topographic readings in ptosis pre and post surgery
- Study of visual field and optic nerve head changes in primary angle closure glaucoma patients

### Technology Knowhow Transfers

- The trust is running the programme—Samvedna Eye Care For Diabetes since 2007. Under this programme, patients attending eye hospital are screened free of cost for blood sugar and detailed

### Registered Office

Nagri Eye Research Foundation Trust Professor of Ophthalmology, I/C Medical Superintendent, C H Nagri Municipal Eye Hospital, Nr. Gujarat College, Ellisbridge, Ahmedabad, Gujarat 380 006  
T: 079-26466724/26460176  
E: dr\_tejasdesai@yahoo.com  
W: <http://www.nagrieyehospital.org/index.html>

### Recognition Status

File No.: 14/178/1991-TU-V  
Initial Recognition: 1991  
Valid Until: March 31, 2018

### R&D Manpower

PGs & Graduates: 6

### Research Areas

- Blindness and diagnosis, and appropriate management of eye diseases

### Research Outcomes

- Papers published:
  - » National: 16
  - » International: 7

eye examination is done to diagnose diabetic eye conditions which can lead to blindness and necessary treatment is done at the hospital free of cost by equipment's and facilities provided by the trust.

- During 2015–16, 145,508 patients attended OPD out of which 22,607 cases were diabetic and 398 cases required different type of eye care services for prevention of blindness due to diabetes. During 2016–17, 101,951 patients attended OPD out of which 16,947 cases were diabetic and 211 cases required different type of eye care services for prevention of blindness due to diabetes.

- Hence, Nagri Eye Research Foundation Trust is helping the poorest of poor by providing eye care facilities at Nagri Eye Hospital and fulfilled its aims for prevention of blindness.

### Societal Relevance

The following R&D outcomes are of national/societal significance:

- Eye care services
- The trust creates eye care awareness by organizing eye camps participating in TV show, organizing walkathon, conducting didactic lectures for medical, paramedical, nursing, physiotherapy, and optometry students. 🔍



^ Research Lab

### Registered Office

Narayana Hrudayalaya Foundation, No. 258A, Bommasandra Industrial Area, Anekal Taluk, Hosur Road, Bengaluru 560099, Karnataka  
T: 080-27832814  
E: alben.sigamani.dr@narayanahealth.org,  
W: narayanahealth.org

### Recognition Status

File No.: 14/499/2009-TU-V  
Initial Recognition: 2009  
Valid Until: March 31, 2020

### R&D Manpower

Doctorates: 2  
PGs & Graduates: 14

## NARAYANA HRUDAYALAYA FOUNDATION

### Brief Description

Narayana Health, also known as Narayana Hrudayalaya, is headquartered in Bengaluru, India, and operates a network of hospitals across the country. The centres provide advanced levels of care in over 30 specialist categories, including cardiology and cardiac surgery, cancer care, neurology and neurosurgery, orthopaedics, nephrology and urology, and gastroenterology. The Narayana health brand is strongly associated with their mission to deliver high-quality, affordable healthcare services to the broader population by leveraging the economies of scale, skilled doctors, and an efficient business model.

### R&D Set-up

The research facilities and infrastructure of the institution are being used by the academia. These include:

- Land and buildings area earmarked for R&D activities: 22,000 sq. ft

### Equipments available

High Performance Liquid Chromatography, Gas Chromatography with Flame Ionization Detector, Spectrofluorimeter, Genio Fully Automatic Electrophoresis, Biorad thermal Cycler, Eppendorf Thermal Cycler, BIOBEE electrophoresis, BIOBEE magnetic stirrer system, Eppendorf Mix Mate, Eppendorf micro centrifuge, etc.

### Sources of income for R&D

- Grant-in-aid

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 100.02

FY 2015-16 = 16.80

FY 2016-17 = 26.44

### R&D Achievements

Major research projects undertaken by the organization are:

- A low-cost simple oral cancer screening device for low-resource setting
- Programme support in head and neck oncology research
- Deciphering the tumour immune heterogeneity of head and neck squamous cell carcinoma (HNSCC) in Indian patient population: a pilot study
- Characterizing and identifying mechanisms of tumour resistance and identifying novel targets for new therapies
- Study of risk habits and causes for delayed presentation amongst patients with head and neck cancer

### Technical Collaborations

#### National

- Curcumin and Metformin for prevention of second primary tumours of aero-digestive tract in patients with history of head and neck squamous cell carcinoma. Collaborators: Nine cancer centers across the country.
- Characterizing and identifying mechanisms of tumour resistance and identifying novel targets

### Research Areas

- Head and neck oncology
- Cardiology

### Research Outcomes

- Papers published:
  - » National: 24
- Technologies transferred/commercialized: 1


for new therapies. Collaborator: Syngene Pvt Ltd.

### International

- A Low-Cost Simple Oral Cancer Screening Device for Low-Resource Setting. Collaborator: University of California, Irvine. Beckmann Laser Institute

### Societal Relevance

The following R&D outcomes are of national/societal significance:

- Early oral cancer detection camps, awareness and training program
- Training programme for Nurses
- Oral cancer screening and awareness Camp in Nagaland on World Cancer Awareness Day
- Oral biopsy training and oral cancer screening programme for dentist in NCD Clinic from rural areas of bengaluru
- Camps in rural areas of Bengaluru- Anekkal, Attibele, Kanakapura, Whitefield. 





^ Prevalence of coronary artery disease and its relationship to lipids, arterial stiffness and trace elements

### Registered Office

Narayana Medical College  
Narayana Educational Society  
14/72, Haranathapuram, Nellore  
Nellore 524 003, Andhra Pradesh  
T: 0861-2344556, 9491042922  
E: drmahaboobvs@gmail.com;  
director.nmch@gmail.com  
W: www.narayanamedicalcollege.com

### Recognition Status

File No.: 14/605/2012-TU-V  
Initial Recognition: 2012  
Valid Until: March 31, 2019

### R&D Manpower

Doctorates: 3  
PGs & Graduates: 7

## NARAYANA MEDICAL COLLEGE

### Brief Description

Narayana Medical College is an institution of higher learning, with a triple mission of education, service, and research. Offering degrees in medicine, the college provides an environment for learning and discovery through education of healthcare professionals and research in health science and comprehensive healthcare. The college conducts research in the health sciences, advancing knowledge, and encouraging new response to health care needs; provide excellence in patient care, in an environment, adaptive to change, accountable for outcomes and attentive to the needs of the underprivileged members of the society. The Narayana Educational Society is registered as a society.

### R&D Set-up

The research facilities and infrastructure available in the organization is regularly used by students, faculty, and scholars of the institute as well as by those from collaborative institutes with provided guidelines.

### Equipments available

Class II Biosafety Cabinet (BSC), Quarantine Laboratory, storage, Molecular Biology Laboratory, Quality Control Laboratory, Flowcytometry (BD FACS Cantoll), Microscopy (Olympus CX41), Clinical chemistry with Ultra HPLC & analyzer, genomics & proteomics Lab) with their software installed.

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 176.61

FY 2015-16 = 65.13

FY 2016-17 = 92.57

### R&D Achievements

#### Research projects completed

- Prevalence of coronary artery and its relationship to lipids, arterial stiffness trace elements in selected rural and urban population in Nellore
- Vitamin D in heart diseases

### Technical Collaborations

#### National

- Sri Venkateswara University, Tirupati, Andhra Pradesh; Sri Venkateswara Institute of Medical Sciences, Tirupati, Andhra Pradesh; Sri Ramachandra Medical College, Porur, Chennai, Tamil Nadu; Sri Vikrama Simhapuri University, Nellore, Andhra Pradesh; University of Hyderabad, Hyderabad, Telangana

#### International

- University of North Texas, USA

### Societal Relevance

The following R&D outcomes are of national/societal significance:

- Regular programmes eligible to all broad specialities are available at the medical college and free treatment is given for 12 lakh outpatients and 50,000 surgeries are performed.

## Research Areas

### ■ **Basic & Clinical Research:**

Basic R&D scientists in collaboration with clinicians from various disciplines were working on projects related both at diagnostic and therapeutic levels of infectious and non-infectious diseases.

### ■ **Cell and Molecular Biology Research:**

Basic R&D scientists are exclusively working on projects related to micronutrients, stem cells, cancer, and experimental biology.

## Research Outcomes

- Papers published:
  - » National:127

- Free deliveries—both normal and caesarean section—are conducted and a free baby kit costing ₹1000 is given.
- Peoples are screened for diabetes and hypertension and 3% are the newly detected diabetics.
- Treated 51,505 patients with communicable and communicable diseases. In addition, approximately 1,500 school children are screened every month for diseases. 🔍



Research laboratory

### Registered Office

Narayana Nethralaya Foundation  
255/A Bommasandra, Hosur Road  
Bengaluru 560 099, Karnataka  
T: 080 66660655 0658  
E: narendra\_maj@  
narayananeethralaya.com  
W: www.narayananeethralaya.org

### Recognition Status

File No.:14/635/2013-TU V  
Initial Recognition: 2013  
Valid Until: March 31, 2020

### R&D Manpower

Doctorates: 13  
PGs & Graduates: 22

## NARAYANA NETHRALAYA FOUNDATION

### Brief Description

Narayana Nethralaya Foundation has recently established a state-of-the-art research laboratory, known as the GROW Research Laboratory, focussed on biomedical investigations in various fields, such as biomarker discovery, molecular signalling, drug response, ocular stem cells, genetics, and gene therapy. These efforts are directed not only towards ophthalmic disorders but also cancer and cardiovascular diseases.

### R&D Set-up

The research facilities and infrastructure of the institution are being used by the academia. These include the following:

- Molecular biology: In order to conduct genetic tests for various inherited and complex conditions (PCR machines, Electrophoresis, centrifuges, liquid handling, temperature controlled baths, etc.) PCR, Q-PCR, restriction mapping, RFLP, RAPD, gene cloning, gene therapy vector generation (Viral- AAV, Retro and Lenti)
- Biochemistry: For Tear analysis, cytokine tests, IHC of patient tissue
- (PAGE gel systems, transfer apparatus, immune-staining apparatus, paraffin block sectioning and staining apparatus)
- Cell culture: For drug testing, disease mechanism, of ophthalmic drugs
- Flow cytometry: For blood tests, Stem Cell analysis, VEGF tests & cytokine tests in tears, blood, aqueous, vitreous

- The instruments used comprise Centrifuge (non-refrigerated, medium); electrophoresis with power supply; liquid nitrogen tank; MAXQ400 shaking incubator; micro centrifuge; micropipette 0.1-2.0, etc.

### Sources of income for R&D

- Donations
- Grant-in-aid

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2015-16 = 41.19

FY 2016-17 = 48.28

### R&D Achievements

#### Processes developed

- To study the effect of accelerated cross-linking and conventional cross-linking on regenerative potential of limbal epithelial stem cells
- To study the temporal and spatial regulation of Notch signalling during proliferation and differentiation of limbal epithelial stem cells
- Oxidative stress and signalling pathways in Keratoconus
- Characterization of invasion-pathways in normal neural stem cells

### Technical Collaborations

- Collaboration Agreement between GROW LAB unit of NNF and FDC, dated October 26, 2015.
- Collaboration Agreement between ENTOD Pharmaceuticals Ltd and

### Research Areas

- Molecular signalling
- Immunology
- Genetics
- Imaging and Biomechanics
- Gene therapy
- Proteomics

### Research Outcomes

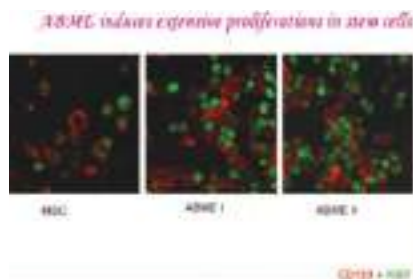
- Papers published:
  - » National: 20
  - » International: 50
- IPRs held
  - » Patents filed: 8

Narayana Nethralaya Foundation (NNF), dated October 19, 2015.

- Collaboration Agreement between Agilent Technologies India Pvt Ltd and Narayana Nethralaya (NNI), dated November 1, 2016.
- Collaboration agreement between Narayana Nethralaya Foundation (NNF) and Sparconn Life Sciences Pvt Ltd, dated January 28, 2014.
- Strategic partnership agreement between Nethralaya Foundation (NNF) and Sig Tuple and Partner, dated July 1, 2016.
- Diagnostic testing services agreement
- Diagnostic testing services agreement between Medgenome Labs Pvt Ltd and Narayana Nethralaya (IVN), dated April 21, 2016.

### Societal Relevance

- Disease and stage-specific biomarkers: The majority of the research thrust is towards the discovery of biomarkers that help in accurate diagnosis, prognosis, and monitoring of treatment. In addition, certain markers (such as MMP9 for keratoconus) are viable targets for disease management. This information, thus helps devise better diagnostics and therapies for the future.
- Genetic-testing services are provided through research projects for families that are unable to afford the testing costs but are willing to participate in the studies. This helps scientists and clinicians better understand the mutations and genes prevalent in our population. This could be of help in the future for bringing out new therapeutics.
- Imaging-based mathematical tools for biomedical and surgical applications. 🔍



Ready-to-use cell-free secretomes for wound healing

## NATIONAL CENTRE FOR CELL SCIENCE

### Brief Description

The National Centre for Cell Science (NCCS) is an autonomous organization aided by the Department of Biotechnology, Government of India. NCCS has been carrying out cutting-edge research in cell biology, has been providing valuable services as a national animal cell repository, and has been supporting human resource development through various teaching and training programmes. NCCS has been at the forefront of basic research in diverse fields of cell biology, especially those addressing paramount human health issues, such as cancer, metabolic and infectious diseases, and regenerative medicine.

### R&D Set-up

The research facilities and infrastructure of the organization are used by industries, institutions and individuals. It includes different facilities, such as fluorescence activated cell sorters [FACS]; Confocal/Imaging – (LSM510 META, Leica SP5 II, Leica DMI 6000/Xenogen IVIS-Spectrum System); DNA Sequencing; Mass Spectrophotometry (AB-Sciex 4800 MALDI TOF/TOF, AB-Sciex 4000 Q-Trap MS/MS, Tempo Nano MDLC nano-scale liquid chromatography); Bioinformatics and High-Performance Computing; Animal House; National Centre for Microbial Research; Cell Line Repository

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 5963.66

FY 2015-16 = 7273.17

FY 2016-17 = 6718.11

### R&D Achievements

#### Products developed

- Anti-tumour activity of AECHL-1, a novel triterpenoid isolated from *Ailanthus excelsa* in vitro and in vivo
- Herbal extracts for metabolic diseases in ready-to-market formulation

#### Processes developed

- Its therapeutic potential needs to be widely explored for chemotherapy against cancer
- Tapping into pluripotent differentiation potentials of embryonic stem cells
- Novel cancer drug screening platform
- Platform for identifying heterogeneity of cancer cells
- Self-propagating glioblastoma model in a petri-dish
- Glut-4 activity based anti-diabetic drug screening system

### Technical Collaborations

#### National

CIPLA; ITC; TATA Chemicals

#### International

Yakult; Unilever; Danone [world food company]

### Registered Office

National Centre for Cell Science  
SP Pune University Campus  
Ganeshkhind, Pune 411 007,  
Maharashtra  
T: 020-25708125  
E: director@nccs.res.in  
W: nccs.res.in

### Recognition status

File No.: 14/240/1995-TU-V  
Initial Recognition: 1995  
Valid Until: March 31, 2018

### R&D Manpower

Doctorates: 127  
Others: 154

### Research Areas

- Cancer cell biology
- Immunology and infection (leishmaniasis, malaria, tuberculosis, HIV),
- Biomaterial engineering
- Stem cell and regenerative medicine

### Research Outcomes

- Papers published:
  - » National: 5
  - » International: 101
- IPRs held: National/International
  - » Patents awarded: 22
  - » Patents filed: 15
- Technologies transferred/commercialized: 5

### Societal Relevance

The following R&D outcomes are of national/societal significance:

- Developed cell-based assays and experimental models to

study pathogenesis or utility in drug discovery

- Developed technologies which are of high relevance in regenerative medicine. 🔍



Research facilities in R&D centre

## NATIONAL HEALTH AND EDUCATION SOCIETY

### Brief Description

Situated in Mumbai, the National Health and Education Society (NHES) is registered as a society since 1954. The objectives behind the creation of the society are solely for philanthropic purposes and not for profit. It provides medical and surgical services to people, conducts relevant research, and maintains a research centre for research work in diseases, medicines, and medical relief, and to support education—medical, paramedical, and non-medical.

### R&D Set-up

The research facilities and infrastructure of the institution are being used by the industry, academia, and individuals. These include:

- A separate research department
- Well-equipped clinical laboratories
- Latest imaging facilities

### Sources of income for R&D

- Grant-in-aid
- International funding
- Donations

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 710.27

FY 2015-16 = 815.93

### R&D Achievements

#### Processes developed

- Transferrin isoform analysis method using HPLC

- Amino acid estimation by HPLC
- Thiopurine metabolite estimation by HPLC
- Estimation of glycoaminoglycans (GAG)
- Anti-erythropoietin Antibody Radioassay,
- Auto Antibodies to Basal Ganglia ELISA
- Auto Antibodies to Prostatomes ELISA
- Pyrosequencing,
- Test for screening CRE
- Warfarin genotyping
- Therapeutic drug monitoring (TDM) of rifampicin and isoniazid using HPLC
- Molecular Diagnostic tests by RT-PCR : MTHFR 2 mutations, Cystic Fibrosis F508, efavirenz genotyping
- Molecular tests by conventional PCR methods: MEN1 mutations – PROBAND & FAMILY and Tacrolimus genotyping

### Technical Collaborations

#### National

Pfizer; Cipla; St. Jude Medical India Pvt. Ltd; Novartis; IIT, Mumbai; Biomerieux India

#### International

Biogen Idec MA Inc, USA; Gates Foundation, USA; Cochlear Ltd, Australia; EryDel S.P.A, Italy; Janssen Asia Pacific Medical Affairs, a division of J&J Pvt. Ltd, Singapore; Newron Pharmaceuticals S.P.A, Italy

### Registered Office

National Health and Education Society, P D Hinduja Hospital & Medical Research Centre, Veer Savarkar Marg, Mahim, Mumbai 400 016, Maharashtra  
T: 022 24447612  
E: dr\_vjoshi@hindujahospital.com  
W: www.hindujahospital.com

### Recognition Status

File No.: 14/133/1989-TU-V  
Initial Recognition: 1989  
Valid Until: March 31, 2020

### R&D Manpower

Doctorates: 8  
PGs & Graduates: 4

### Research Areas

- Biochemistry
- Gastroenterology
- Microbiology
- Pediatric neurology
- Pulmonary medicine


### Research Outcomes

- Papers published:
  - » National: 31
  - » International: 46

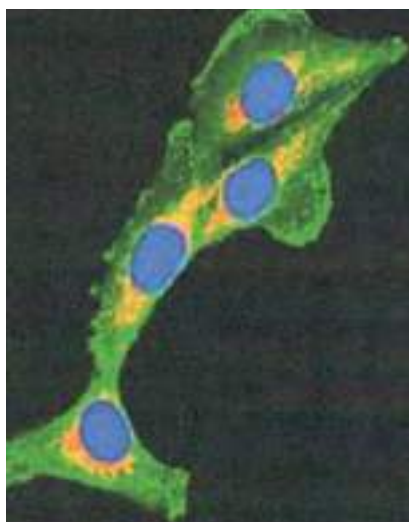
### Societal Relevance

- Transferrin isoform analysis optimized on HPLC which is affordable and helps to diagnose rare, inherited disorders, such as congenital disorders of glycosylation (CDGs).
- Thiopurine metabolite estimation by HPLC - management and dose adjustments for patients on thiopurine therapy for inflammatory bowel disease (IBD) and other immune disorders were conducted based on the clinical outcome thiopurine metabolite optimized estimation and will

now offer an evidence-based drug management and also assist the clinicians to avoid adverse events due to thiopurine therapy.

- Pyrosequencing detects drug resistance directly from clinical specimens in 6 hours with a direct implementation of drugs for the treatment of drug-resistant tuberculosis.
- Pharmacogenetic testing of the above-mentioned genes and TDM of rifampicin and isoniazid has helped clinicians in patient treatment management by regulating the appropriate doses. 





^ Confocal microscope image

## NATIONAL INSTITUTE OF IMMUNOLOGY

### Brief Description

The National Institute of Immunology (NII) is committed to advanced research addressing the basic mechanisms involved in body's defence to identify modalities for manipulation of the immune system to provide protection against diseases and understand mechanisms that can be used to target disease processes for intervention. The institute's research thrust areas, under immunology and related disciplines, cluster in four main themes, namely, infection and immunity, molecular design, gene regulation and reproduction, and development, wherein cutting-edge research in modern biology is underway. It is an autonomous society registered under the societies Registration Act, XXI of 1860.

### R&D Set-up

The research facilities and infrastructure of the institution are being used by the academia, industry, and individuals. These include:

- Small animal facility, primate research centre, transmission electron microscopy, scanning electron
- Microscopy, nmr spectrometer, X-ray crystallography, confocal microscopy, flow cytometry, whole body
- Imager, CD spectroscopy, mass spectrometer, surface plasmon resonance system, amino acid sequence

### Sources of income for R&D

- Grant-in-aid

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 498.03

FY 2015-16 = 779.10

FY 2016-17 = 337.53

### R&D Achievements

#### Processes developed

- Process for obtaining bioactive protein from inclusion bodies (Technology transferred to EPR Centre for Cancer Research and Bioinformatics Pvt Ltd, Shamirpet Mandal, RR Dist-500078, Telangana)
- Process of high cell density fermentation

#### Revenue earned by way of licensing products/processes/ prototypes

- Leprosy immunomodulator product commercialized
- NII received an amount of Rs. 8.13 lakhs (Technology transfer Rs.6.24 lacs + Royalty Rs.1.89 lacs)
- Technology transferred to Imgenex India Pvt Ltd, Bhubaneswar, Odisha)

### Technical Collaborations

#### National

- Nirma University, Ahmedabad; University of Allahabad; NCBS, IISc, St John's Medical College Hospital, Christian Blind Mission, IOB, St. Johns Research Institute, JNCASR, Bengaluru; Cancer Institute Adiyar (WIA), Chennai; Regional Medical Research Centre, Dibrugarh

#### Registered Office

National Institute of Immunology,  
Aruna Asaf Ali Marg,  
New Delhi 110 067  
T: 011 26717121 45  
E: dirsec@nii.ac.in  
W: www.nii.res.in

#### Recognition Status

File No.:14/91/1988-TU-V  
Initial Recognition: 1988  
Valid Until: March 31, 2018

#### R&D Manpower

Doctorates: 226  
PGs & Graduates: 45

### Research Areas

- Immunity and infection
- Reproduction development
- Cell biology
- Genetics
- Signalling
- Cancer biology
- Chemical biology
- Biochemistry
- Structural biology

### Research Outcomes

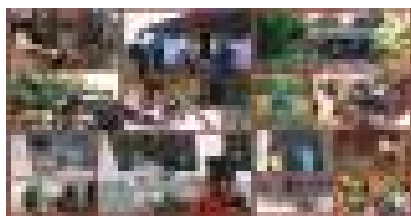
- Papers published:
  - » National: 1
  - » International: 107
- IPRs held
  - » Patents awarded: 4
  - » Patents filed: 2
- Technologies commercialized: 2
- Technologies transferred: 1

### International

- Institute for Systems Biology, Seattle Proteome Center, Seattle, USA; La Jolla Institute for Allergy and Immunology, La Jolla, California, USA; University of Arkansas, Fayetteville, USA; National Institutes of Health, Bethesda, USA; State University of New York (SUNY)

### Societal Relevance

Technology (leprosy immunomodulator), developed by NII, has been transferred to Cadila and has had a positive impact on society. 🔍



^ National Mental Health Survey, 2015-16 data collection in individual sites

## NATIONAL INSTITUTE OF MENTAL HEALTH AND NEUROSCIENCES

### Brief Description

The National Institute of Mental Health and Neurosciences (NIMHANS), as a premier institution dedicated for brain, mind and behaviour, over the decades, has emerged as a leader in both behavioural sciences and neurosciences. The institute has made significant contributions in a multitude of areas: from addiction to Alzheimer's; from mental hospital history to the historical contributions of its forbears; from imaging to intensive care; from brain injury to interventional radiology; from disaster relief to deep brain stimulation; from stroke research to signalling in the brain; from rabies to retroviral infections; from youth mental health to yoga research; from molecular genetics to mindfulness research and from restoration to rehabilitation. NIMHANS is the leading post-graduate training centre in the country, currently offering 53 programmes, including super-specialty courses such as MCh and DM, MD, post-doc fellowships, PhD, M Phil, MSc, BSc, and diplomas in the areas of mental health and neurosciences. NIMHANS plays a pivotal role in national policy and programming and has always been in the forefront of setting the agenda for mental health in India. It has contributed to the National Mental Health Policy and also supports/promotes rights-based mental health care. It actively collaborates and networks with several governmental, quasi-governmental, and non-governmental agencies/bodies.

### R&D Set-up

The research facilities and infrastructure available in the organization, regularly used by individuals and academicians are as follows:

- Advanced Flow-Cytometry
- Bioinformatics and Proteomics Lab
- Cell Culture and Stem Cell Biology
- Cognitive Neuroscience Lab
- Cognitive Psychology & Music
- Electrophysiology Lab
- Human Brain Tissue Repository (Brain Bank)
- Metabolic Lab.
- Molecular Biology Lab
- Molecular Genetics Lab
- Multimodal Brain Image Analysis Lab
- Neuromuscular Lab
- Neuro-oncology
- Neurotoxicology Lab
- Optical imaging Lab
- Translational Psychiatry Lab
- Histopathology Lab
- Magneto Encephalography (MEG) Centre
- Urodynamics Lab
- Autonomic Functions Lab
- Sleep Lab
- Central Animal Research Facility

### Sources of income for R&D

- Government agencies
- International funding

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D

### Registered Office

National Institute of Mental Health and Neurosciences (NIMHANS), No. 2900, Hosur Road, Bengaluru 560 029, Karnataka  
T: 080-26995001, 26995002  
E: [dirstaff@nimhans.ac.in](mailto:dirstaff@nimhans.ac.in)  
W: [www.nimhans.ac.in](http://www.nimhans.ac.in)

### Recognition Status

File No.: 14/587/2011-TU-V  
Initial Recognition: 2011  
Valid Until: March 31, 2020

### R&D Manpower

Doctorates: 131  
PGs & Graduates: 227

FY 2014-15 = 1,853.24

FY 2015-16 = 1,488.76

FY 2016-17 = 4,451.22

## R&D Achievements

### Products developed

- Modules for emotional development, stress management and life skills
- Digital detox app
- Pneumatic splint to prevent drop in BP amongst subjects with spinal cord disorders
- Wellness-Check app
- Saumanasa Website
- PushD app

### Processes developed

- ICP (intracranial pressure) measuring sensor- prototype development is in progress and in final stage. Thereafter, biocompatibility testing needs to be done. After that animal and human trials needs to be conducted. This is in collaboration with SBMT (Society for Biomedical Technology) of DRDO and is being manufactured by SITAR company, another company with DRDO.
- Development of cell-based system to identify modulator/s for transcriptional factors that have the potential to develop as a targeted therapeutics.
- Development of cell-based system to study gene regulatory non-coding RNAs.
- Development of a cost-effective chemiluminiscence-based western blot kit
- A mass spectrometry-based technique for simultaneously measuring 5 lysosomal enzymes in 3 mm blood spots

- DCS for refractory auditory hallucinations in schizophrenia

### Commercialization potential of products/processes developed

- Intensive care unit ventilator (earlier to 2014) – this product is being sold by the company for many years now
- ICP sensor is in the prototype manufacturing stage.

### Consultancy services rendered

- Telemedicine Services

## Technical Collaborations

### National

Indian Institute of Science (IISc); Institute of Bioinformatics (IoB); Tata Trust; White Swan Foundation; Sundaram-Clayton Ltd; Shibulal Foundation.

### International

Swiss Tropical Institute, Geneva; Deakin University, Victoria, Australia ; University of Liverpool, UK ; Yale University, USA ; Mondor Institute of Biomedical Research (INSERM), France.

### Societal Relevance

- Products (Wellness-Check app, PUSH-D, Manual on stress management for youth and parents, home-based cognitive remediation package, Saumanasa website, Digital detox app, Mobile use screening test, devices for ADHD & learning disability Youth Spring website) have integrated use of technology for offering screening, evaluation, and intervention services in addition to enhancing mental health awareness and contributing to reducing barriers to professional help seeking.

### Research Areas


- Psychiatry, neurology, neurosurgery, nursing, social work, physiology, psychology, neuroscience, infections, pathology

### Research Outcomes

- Papers published:
  - » National: 511
  - » International: 984
- Patents awarded: 4
- Technologies transferred/commercialized: 2

- Several awareness programmes and community engagement programmes are being carried out for various stakeholders (students, parents, teachers, and counsellors) on a regular basis.
- Three educational videos on road safety, road accidents, head injury and role of bystander have

been prepared and released. These would be used to create public awareness on road safety precautions.

- Public awareness, stroke, Elderly Day resulted in public awareness in prevention and management in aging and neurological illness. 



^ Research laboratory

## NATIONAL INSTITUTE OF MINERS' HEALTH

### Brief Description

The National Institute of Miners' Health (NIMH), with the vision to ensure 'Safe Mines and Healthy Miners' and the mission 'Mining and Minerals Industry san Occupational Diseases' — contributing towards improvement of health of the miners in collaboration with stakeholders by promoting occupational health and hygiene, health education, providing quality technical support services, facilitating compliance with the national statutes and international standards, and conducting applied research on occupational health-related issues in the mining industry. The Institute is registered under the Karnataka Society Registration Act, 1961.

### R&D Set-up

The Institute comprises the following departments:

- Occupational hygiene/ Environmental Surveillance; Biochemistry Department; Tissue Culture Laboratory; Occupational health/ Medical surveillance

The research facilities and infrastructure of the Institution are being used by the individuals. These include:

- NIMH is presently located in JNARDDC Campus, Wadi, Nagpur, with approximate area of 7,000 sq. ft
- Ultraviolet and Visible Spectrophotometer for quantitative determination of biochemical parameters and also for enzymatic analysis;

Electrophoresis assembly for separation and determination of molecular weight of proteins; 1 D electrophoresis assembly; 2 D electrophoresis assembly GS-800 densitometry scanner isoelectric focusing (IEF chamber); gel dryer; digital dry bath magnetic stirrer gel rocker rotary shaker; automatic hematology analyser; biochemistry semi-auto analyzer; fully automated biochemistry analyzer; fully automated immunoassay analyzer; research microscope; ECG machine

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 155.71

FY 2015-16 = 93.18

FY 2016-17 = 89.63

### R&D Achievements

#### Products developed

- Aarogya Khanik Software: The software has enormous potential as a tool in health evaluation studies, generating reports as per Form "O" under Mines Rules and statistical analysis of the data. The software is compatible with a thumb scanner and web cam and storing medical records of individual miners. The software also has search facility so that records of individuals can be researched through his name, ID or any other parameters. The Aarogya Khanik software not only reduces manual labour but

### Registered Office

National Institute of Miners' Health,  
JNARDDC campus, Opposite Wadi  
Police Station, Amravati Road,  
Wadi, Nagpur 440 023  
Maharashtra  
T: 07104 224494/95  
E: directornimh@gmail.com  
W: www.nimh.gov.in

### Recognition Status

File No.: 14/144/1990-TU-V  
Initial Recognition: 1990  
Valid Until: March 31, 2018

### R&D Manpower

Doctorates: 4  
PGs & Graduates: 22

## Research Areas

- Mine environment
- Respirable dust in mines
- Noise exposure
- Noise Mapping
- Human vibration
- Occupational diseases
- Silicosis
- Noise-induced hearing loss
- Early diagnostic and preventive Biomarkers

## Research Outcomes

- Papers published:
  - » National: 16
  - » International: 6
- IPRs held
  - » Patent filed :1

also helps to maintain a secure database that can be utilized as and when needed.

### Processes developed

- Process developed for the detection of aluminium concentration in biological fluid
- In-house multiplex ELISA method developed for early detection of noise-induced hearing loss

## Technical Collaborations

### National

Central India Institute of Medical Sciences, Nagpur; Datta Meghe Institute of Medical Sciences, Nagpur (Deemed University); Manipal University, Manipal; Sri Devaraj Urs Academy of Higher Education and Research, KGF (Kar); R C Patel Institute of Pharmaceutical Education and Research, Shirpur (MS); Lung Care Foundation, New Delhi

### International

University of California, San Francisco; Central Chest Institute of Thailand & Faculty of Medical Science, University of Fukui, Japan

## Societal Relevance

- Evaluated chest X-rays of about 1,032 persons with a history of employment in stone mining from different districts of Rajasthan. Chest radiographs were evaluated in accordance with ILO classification of radiographs for pneumoconiosis.
- Developed multiplex ELISA technique (in-house diagnostic test) is relatively simple, rapid, and cost effective which can detect six biomarkers at a time in a single sample.
- NIMH officially launched India's first Noise Mapping Laboratory
- Many awareness programmes were conducted by the institute for the maintenance of hygienic conditions in the mining area as well as various precautions taken by miners while working in mines. 🔍



^ Yoga practise for patients at the Yogashram

## NATURE CURE AND YOGA TRUST

### Brief Description

The Bapu Nature Cure Hospital and Yogashram specializes in facilitating ultra-modern healthcare services, in addition to the aim of providing relief and care, naturally. Armed with excellent personalized healthcare services comprising Naturopathy, Ayurveda, Yoga, and Physiotherapy, the Yogashram's support team has been continuously serving patients of all age groups at an affordable cost.

It was registered as a non-government trust.

### R&D Set-up

The research facilities and infrastructure of the institution, continuously being used by industry and individuals, comprise the following:

- Currently, the R&D division of the institute is conducting a research study on the Ministry of AYUSH, Government of India project, entitled 'Efficacy of Naturopathy in improving Glucose tolerance and Insulin Sensitivity in Patients of Type 2 Diabetes Mellitus' and another project entitled 'Health care of elderly people through Science & Technology intervention of Naturopathy & Yoga' has also been technically cleared by Department of Science and Technology.
- Naturopathy treatment facilities for massage, hydrotherapy, mud therapy, and diet therapy as well as physiotherapy treatment facility

- Well-equipped yoga halls
- Equipments such as Semi-automatic Analyser, Centrifuge, Incubator, Microscope, and Fat Analyser

### Sources of income for R&D

Donations

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 38.21

FY 2015-16 = 21.58

FY 2016-17 = 10.11

### R&D Achievements

#### Processes developed

- Developed a manual on the treatment of osteoarthritis (OA) of elderly people through the intervention of Yoga, Naturopathy, and Physiotherapy.
- Created a special package programme for the treatment of rheumatoid arthritis with the intervention of Yoga, Naturopathy, and Physiotherapy, supplemented by diet control
- To tackle Type 2 Diabetes Mellitus with Naturopathy treatment, a package module has been developed along with diet control

### Technical Collaborations

#### National

Govind Ballabh Pant Hospital (GB) Pant Hospital, Delhi; Institute of Nuclear Medicine & Allied Sciences (INMAS), Delhi

#### Registered Office

Nature Cure and Yoga Trust  
Gandhi Smarak Nidhi,  
Mayur Vihar Phase I,  
Delhi 110 091  
T: 1800-3070-1090  
E: drrukamani@bnchy.org  
W: www.bnchy.org

#### Recognition Status

File No.: 14/413/2005-TU-V  
Initial Recognition: 2005  
Valid Until: March 31, 2020

#### R&D Manpower

Doctorates: 1  
PGs & Graduates: 1



### Research Areas

- Therapeutic effects of Yoga and Naturopathy on health in healing various diseases.

### Research Outcomes

- Papers published:
  - » National: 3
  - » International: 12

### Societal Relevance

- The unique user-friendly healthy lifestyle programme, supplemented by Naturopathy and Yoga, is feasible, safe, and compatible with other treatments in tackling diseases, such as OA

knees, diabetes, and rheumatoid arthritis.

- Helpful to motivate patients to take up the responsibility of their own health by improvement in exercise schedule and ensuring an overall feeling of well-being. 🔍



^ Research Laboratory

## NETAJI SUBHAS CHANDRA BOSE CANCER RESEARCH INSTITUTE

### Brief Description

The Netaji Subhas Chandra Bose Cancer Research Institute (NCRI), with a multidisciplinary and super specialty approach amongst cancer care, basic research, and education on cancer and blood disorders, intends to provide the greatest hope to cancer patients and the general population of eastern India. It provides a comprehensive modern cancer hospital with facilities, such as chemotherapy, surgery, day care, stem cell transplant with stem cell banking, basic and clinical research in cancer and thalassaemia as well as all the required support services. The mission of NCRI is to provide state-of-the-art diagnostic and therapeutic services to patients of all types of origin and financial backgrounds suffering from cancer.

### R&D Set-up

The research facilities and infrastructure of the institution are being used by the industry, academia, and individuals. These include:

- The land, building, and area is earmarked for R&D activities
- It runs a 45-bedded cancer hospital named Netaji Subhas Chandra Bose Cancer Research Institution on 8,000 sq. ft area (approx).
- Nearly 5,000 sq. ft for R&D activities exists in institute. However, full-fledged research is conducted in a new hospital at 3081, Nayabad, built on a 1.5 lakh sq. ft area.

### Sources of income for R&D

- Donations
- Grant-in-aid

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 40.51

FY 2015-16 = 39.49

FY 2016-17 = 31.16

### R&D Achievements

#### Products developed

- A new, inexpensive, oral, agro-based iron chelator as the drug for thalassaemia and other iron-overloaded diseases.
- A new, inexpensive, oral, agro-based product from the root of *M. oleifera* the antagonistic effect of FSH, which will be formulated as the drug for ovarian cancer.

#### Collaborative patent application

A pharmaceutical composition from wheat grass for the treatment of iron-overloaded diseases and a method thereof. A collaborative work with Dr Nirmal Sarkar presidency university, kolkata.

#### Societal Relevance

- Thalassaemia is the commonest inherited condition today. For many years the institute has been working hard to create awareness both at the local and national levels.

### Registered Office

Netaji Subhas Chandra Bose  
Cancer Research Institute  
Ideal Tower, Flat 7C& E,  
57 Diamond Harbour Road,  
Kolkata 700 023, West Bengal  
T: 033 2227 6161, 2229 1049  
E: hmcwt@dataone.in,ncri.  
conferences@gmail.com  
W: www.ncri.in

### Recognition Status

File No.:14/471/2007-TU-V  
Initial Recognition: 2007  
Valid Until: March 31, 2020

### R&D Manpower


Doctorates: 6  
PGs & Graduates: 17

### Research Areas

- Basic as well as translational research on the different types of cancer, such as leukemia, lymphoma, colon cancer, breast, and ovarian cancer as well as other blood disorders, such as thalassaemia, aplastic anaemia, multiple myeloma, etc.
- Stem cell research

### Research Outcomes

- Papers published:
  - » National: 3
  - » International: 12
- IPRs held
  - » Patent filed: 1

- The Netaji Subhas Chandra Bose Cancer Research Institute, Kolkata, West Bengal, is a tertiary referral cancer centre run by the Himadri Memorial Cancer Welfare Trust, a non-profitable public charitable trust. Since its inception in 2004, the Institute is actively engaged in improving the standards of medical care for cancer patients in this part of the country, registering about 6,000 new patients annually.
- Awareness, screening, and detection camps for thalassaemia have been organized in different remote areas of West Bengal as well as other states of eastern India free of cost twice every month.
- Arranged cultural and awareness programmes on World Cancer Day, No Tobacco Day, National Cancer Survival Day, Breast Cancer Month, etc. to make people aware of the debilitating aspects of cancer. 



^ Assessment of nutritional status in the dual nutrition burden era in India

### Registered Office

Nutrition Foundation of India,  
C-13, Qutub Institutional Area,  
New Delhi 110 016  
T: 011 2618514  
E: nutritionfoundationofindia@  
gmail.com  
W: nutritionfoundationofindia.org

### Recognition Status

File No.:14/66/1988-TU-V  
Initial Recognition: 1988  
Valid Until: March 31, 2019

### R&D Manpower

Doctorates: 4  
PGs & Graduates: 5

## NUTRITION FOUNDATION OF INDIA

### Brief Description

The Nutrition Foundation of India (NFI) is a non-governmental voluntary organization, registered as a society under the Societies Registration Act 1860, dedicated at improving the nutritional status.

### R&D Set-up

The research facilities and infrastructure of the institution are being used by the academia. These include the following:

- The NFI has its own building and all the necessary infrastructure required for carrying out policy research, applied and operational research, and the equipment needed for nutrition and health assessment in hospital and community settings, such as colorimeter, weighing balances staturemeter, infantometer, deep freezers, and refrigerators.
- Computer terminals and data analysis software are available.

### Technology know how Transfers

- Capacity building in the assessment of the nutritional status in the dual nutrition burden era has been undertaken through orientation training programmes and internship programmes for health the and nutrition post- graduates.
- Operationalization of the use of Mother Child Protection Card for monitoring growth, identifying factors responsible for growth faltering, and providing nutrition and health education for correcting the problems has been carried out in 30 *anganwadis* in various South Delhi blocks.

### Sources of income for R&D

- Grant-in-aid
- International funding

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 92.25

FY 2015-16 = 73.10

FY 2016-17 = 27.26

### R&D Achievements

#### Research project

- Obesity in children and adolescents Delhi
- Evaluation of the Mid-Day Meal Programme
- Advance centre for nutrition policy research in NFI
- Country report on the double burden of malnutrition
- Evaluation of the ongoing project on food grain supplements to adolescent girls and pregnant and lactating women (nutrition programme for adolescent girls-NPAG)
- Nutrition transition - 1947- 2007
- Iron, Folate and vit. B12 levels in pregnant women and the effect of intramuscular iron, folate & b2 therapy on iron, folate and vit. B12 levels
- Sensitive index to assess risk of morbidity in preschool children
- Calcium and vitamin D supplementation to prevent stunting in early childhood
- Mother Child Protection Card to improve nutritional status in under three children

### Research Areas

- Research on major nutritional problems
- Operationalizing proven interventions to improve nutritional status in national programmes
- Evaluation of national nutrition programmes
- Capacity building to improve implementation of national programmes to improve nutritional status

### Research Outcomes

- Papers published:
  - » National: 7
- Technologies transferred/commercialized: 2

- Clinical anthropometric and biochemical component of Annual Health Survey
- Demonstration project on use of Mother Child Report and Protection Card

### Consultancy services rendered

- Government of India
- Agencies of the United Nations

### Technical Collaborations


#### National

- National Institute of Nutrition, Hyderabad

### Societal Relevance

- Screening of vulnerable segments of population for under and

over nutrition morbidity due to infections and hypertension referral of those with problems to health and nutrition service personnel.

- Assessment of nutritional status using anthropometric measurements and estimation of Hb measurement of blood pressure and blood glucose estimation.
- Awareness programmes on nutrition and health education to those with under or over nutrition. 



^ Diagnosed case of metastatic papillary carcinoma where there is swelling of the right cervical region

## PARIMAL BANERJI INTERNATIONAL RESEARCH FOUNDATION

### Brief Description

The foundation has been working to greatly enhance the health care services delivery to the largest number of people. They have a background of carrying out extensive clinical research on about 2,000 patients per day clinically for 35 years. Probably this is a largest organisation carried out from only personal fund of Dr. Parimal Banerji. Where all patients whose treatments are free of cost and free medicines also.

### R&D Set-up

The research facilities and infrastructure of the institution are being used by many doctors. These include:

- Large facilities of clinical research where about 2,000 patients on an average per day attended for 40 years.
- There is a large clinic where patients, from all over the world, are attended by Dr Parimal Banerji and his trained doctors following Dr Banerji's advanced method of treatment. There is a large number of clinical data available.

### Sources of income for R&D

Donations

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 6.73

FY 2015-16 = 2.32

FY 2016-17 = 0.81

### R&D Achievements

#### Processes developed

- Drugs /potency sensibility of Homoeopathic medicines
- Determination of specific drugs for specific diseases
- Specific potencies for selected drugs for specific states of diseases which were earlier not discovered in Homeopathy. This made the Homoeopathic treatment scientific for curing diseases, such as cancer, hypothyroidism, brain tumors, etc.

#### Principle/ theory developed

- Advanced Homoeopathy. 🔍

### Research Areas

- Clinical research for determining specific drugs for specific diseases.

#### Registered Office

Parimal Banerji International Research Foundation  
109D, S P Mukherjee Road,  
Kolkata 700 026  
T: 033 4006 4835, 90739 13993.  
E: drpbanerjiikolkata@yahoo.com  
W: www.pbanerjiadvancedhomoeopathy.com/index.html

#### Recognition Status

File No.: 14/616/2012-TU V  
Initial Recognition: 2012  
Valid Until: March 31, 2018

#### R&D Manpower

PGs & Graduates: 9



^ Research activity

### Registered Office

Pondicherry Institute of Medical Science, Kalathumettupathai, Ganapathichettikulam, Village No. 20, Kalapet, Puducherry 605 014, T: 0413 2651111, 2656271 E: mmmmpims@gmail.com W: www.pimsmmm.com/

### Recognition Status

File No.: 14/564/2011-TU-V  
Initial Recognition: 2011  
Valid Until: March 31, 2020

### R&D Manpower

Doctorates: 5  
PGs & Graduates: 153

### Research Areas

- Health care and Biomedical Research

## PONDICHERRY INSTITUTE OF MEDICAL SCIENCE

### Brief Description

The vision of Pondicherry Institute of Medical Science is to serve the community through holistic health services and an excellent system of education where they follow the defining principles of ethics, excellence, care, and research, in line with their motto 'To reach the unreached'.

### R&D Set-up

The research facilities and infrastructure of the institution are being used by the academia. These include:

- Central Research Lab:** -70°C, -80°C, and -20°C deep freezers; Fluorescent Microscope; Thermo cycler; gel document system; BOD incubators; Biosafety cabinets; ELISA; ELFA; western blot; Bact/ALERT automated blood culture system; HPLC; chemiluminescence analyser; Alice 5 Digital Polysmnography; auto analyser; tissue processor

### Sources of income for R&D

- Grant-in-aid

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 56.36

FY 2015-16 = 66.70

FY 2016-17 = 20.54

### R&D Achievements

#### Research projects

- Characterization and anti-

microbial susceptibility pattern of organisms isolated from blood of patients with urosepsis in a tertiary care hospital

- Impact of mobile phone conversation on cognitive Functions
- Evaluation of the impact of in-house training session on effective biomedical waste management amongst health care workers
- Bacteriological profile and detection of biofilm in catheter associated urinary tract infection
- Inhibitory effect of vitamin c on bacteria commonly associated with urinary tract infections
- Prevalence of hyperuricemia in patients with metabolic syndrome and its association with serum uric acid
- Knowledge, attitude, and practice of healthcare professionals using contact lenses. Assessment of environmental factors associated with the spread of dengue in an urban area of Puducherry.
- Association between Mobile Phone Usage and Hypertension: A Case Control Study. 🔍

### Research Outcomes

- Papers published:
  - » National: 85
  - » International: 49



^ Research activity

## POONA BLIND MEN'S ASSOCIATION

### Brief Description

The Poona Blind Men's Association (PBMA) aims at providing help to the visually impaired through socio-economic rehabilitation, literacy programmes, and employment. It is also running an eye hospital which aims at the prevention and control of blindness.

The PBMA's HV Desai Eye Hospital is registered under the Maharashtra Shops and Establishment Act 1948.

### R&D Set-up

The research facilities and infrastructure of the institution include the following:

- Research building and ethics committee office = 1,500 sq. ft
- Microbiology lab area = 500 sq. ft; Total area = 2,000 sq. ft
- Clinical research area at HV Desai Eye Hospital = 44,000 sq. ft
- Mamashah Eye Hospital Community Workspace = 36,000 sq. ft
- Kantalaxmi Shah Eye Hospital Tribal area of Nandurbar = 22,000 sq. ft
- Equipment, such as Vision x; Verion; OCT; FFA; Ret cam; ERG; Perimetry; Yag Laser; specular microscope; penta cam are available.

### Sources of income for R&D

Donations

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 104.43

FY 2015-16 = 96.04

FY 2016-17 = 81.50

### R&D Achievements

- Determination of visual outcomes in terms of visual and contrast sensitivity after pan-retinal photocoagulation and macular grid for the treatment of diabetic retinopathy/maculopathy, respectively
- Risk factors for late presentation of primary glaucomas
- Clinical study of endothelial cells after small incision Cataract surgery and phacoemulsification
- Clinical study of ocular disabilities in mentally-challenged children
- Clinical study of ocular problems in pre-school children and the evaluation of strategies employed
- Audit of pan-retinal photocoagulation
- Comparison of phacolit surgery with phacoemulsification
- Evaluation of the visual outcome after paediatric cataract surgery and compliance of spectacles for near and distant vision
- Comparison of single-sitting PRP with multiple sitting in case of proliferative diabetic Retinopathy and evaluation of clinical effects
- Paediatric low-vision determinants magnitude interventions and compliance

### Registered Office

PBMA's HV Desai Eye Hospital  
S. No. 93/2, Tarawade Vasti,  
Mohammadwadi Road, Hadapsar,  
Pune 411 060, Maharashtra  
T: 020-30114000, 30114201  
E: [desaieyehospital@hvdeh.org](mailto:desaieyehospital@hvdeh.org),  
W: [www.hvdeh.org](http://www.hvdeh.org)

### Recognition Status

File No.: 14/550/2011-TU-V  
Initial Recognition: 2011  
Valid Until: March 31, 2017

### R&D Manpower

PGs & Graduates: 20



### Research Areas

- Eye care research
- Basic research
- Industry-supported clinical trials
- Epidemiological
- Operational

### Research Outcomes

- Papers published:
  - » National: 9
  - » International:10

### Technical Collaborations

#### National

Lambda Therapeutic Research Ltd, Gujarat ; Ecron Acunova Ltd, Bengaluru; Excel Life Sciences Pvt. Ltd, Kanpur

### Societal Relevance

- Research helps us in providing evidence-based services to society as well as resource allocation and improving patient care. 🔍



^ Orchids breast health centre

### Registered Office

Prashanti Cancer Care Mission  
Flat No. 1&2, Kapil Vastu,  
Near Ratna Memorial Hospital,  
Senapati Bapat Road,  
Pune 411 016, Maharashtra  
T: 020-2565 0269  
E: koppiker@gmail.com  
W: www.prashanticancercare.org

### Location of R&D Units

- Hermis Complex, Pune Cantonment Area

### Recognition Status

File No.: 14/687/2015-TU-V  
Initial Recognition: 2015  
Valid Until: March 31, 2018

### R&D Manpower

Doctorates: 3  
PGs & Graduates: 4

## PRASHANTI CANCER CARE MISSION

### Brief Description

Prashanti Cancer Care Mission (PCCM), a non-profit, non-governmental organization, and registered public charitable trust, is a well-known NGO in the culturally rooted city of Pune in the state of Maharashtra, India. PCCM aims to improve the quality of life of cancer patients by providing affordable and compassionate medical care, rehabilitation, and support. PCCM has been involved in providing free services or services at major concessions in all the cancer diagnostics, including mammography, sonography, tomosynthesis, Ultrasonography (USG) with capabilities of ABVS (automated breast volume scanner), breast elastography (strain imaging) and ARFI imaging (shear wave mediated tissue stiffness/elasticity quantification), VAB (vacuum-assisted Biopsy), Biopsy, etc. The 3Ps of the mission are patient aid, patient support, and public outreach and education.

### R&D Set-up

The infrastructure is being used by in-house team members from the PCCM as well as collaborators from the domain-specific industry (medical devices, onco-diagnostics, and the pharma and biotech industry). Academic scientists, such as doctoral and post-doctoral researchers from public health, epidemiology, cancer biology, genetics, imaging, bioengineering, etc. also use the facilities. These include: radiology; breast surgery; reconstructive/plastic surgery; pathology; medical

oncology/day care; radiotherapy; nuclear medicine; community screening program; genetic counselling; psycho-oncology; breast nurses; medical social workers; nutritional counselling; survivorship groups.

The equipments available are as follows:

- Mobile Mammography Van-analog mammography; 2-D full field digital mammography with 3-D tomosynthesis – mammomat inspiration; ABVS; ultrasound machine- voluson; encore inspire vab biopsy instrument; mammatome; advanced breast exam simulator; vital sign monitor; drug infusion pumps; radiology workstation 3-Palm.

### Sources of income for R&D

- Donations
- Grant-in-aid

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 5.00

FY 2015-16 = 15.00

FY 2016-17 = 75.00

### R&D Achievements

#### Products developed

- Development of a software for the radiological differentiation of various types of breast cancer

#### Processes developed

- Mobile screening van for the early detection of breast and cervical cancer community in Pune city

## Research Areas

- Translational Breast Cancer Research
- Genetics
- Breast oncoplastic surgery
- Radiology
- Epidemiology
- Public health research

## Research Outcomes

- Papers published:
  - » National: 2
- Technologies transferred/commercialized: 4

## Consultancy services rendered

- Industrial Collaborators company
- Cancer diagnostic for imaging
- Early detection kits
- Using novel and new molecular drugs

## Technology Knowhow/Transfers

- The technical know-how and SOPs for the development and operation of mobile screening vans developed by the PCCM have been transferred to like-minded cancer-focussed NGOs in other parts of India.
- The PCCM is actively involved in dissemination of technical knowledge of Breast Oncoplastic surgery techniques to aspiring surgeons from India and abroad.
- The various clinical and diagnostic modalities developed by the PCCM has also allowed several students with medical and para-medical backgrounds to upgrade their skills by conducting short-term internships at the organization.
- The PCCM regularly conducts training for members of other cancer-focussed NGOs to implement community cancer projects in their respective locations.

## Technical Collaborations

### National

Indian Institute of Science Education and Research, Pune; Persistent Labs, Pune; National Centre for Cell

Sciences, Pune; Tata Consultancy Services, Pune; Savitribai Phule Pune University, Pune; Strand Life Sciences, Bangalore; Symbiosis International (Deemed) University, Pune; Siemens India Pvt. Ltd.; St. John's Research Institute, Bangalore; National Chemical Laboratory (NCL), Pune; NCL- Venture Centre, Pune.

### International

University of East Anglia; Peirian Diagnostics, USA

## Societal Relevance

- The organization has created a novel programme for upgrading skills of established and aspiring breast surgeons
- The organization has also established an in-house pharmacy to provide cheaper anti-cancer drugs to patients being treated at the OBHC
- Patient rehabilitation via psychological counselling, pink-ribbon support groups, community outreach, etc.
- Community awareness and early detection via the mobile screening unit in Pune
- Patient education and awareness about cancer is a major agenda of the organization social-impact activities. The PCCM regularly conducts breast cancer symposium in Hindi, Marathi, and English in Pune with the help of like-minded corporate houses, NGOs, or governmental partners. 🔍



▲ Research facilities

### Registered Office

PRAYAS

Amrita Clinic, Athawale Corner,  
Karve Road, Deccan Gymkhana,  
Pune 411 004, Maharashtra  
T: 020-25441230  
E: shilpa@prayaspune.org  
W: prayaspune.org

### Location of R&D Units

- Prayas Health Group, Amrita Clinic, Athawale Corner Building, Sambhaji Bridge Corner, Karve Road
- Prayas (Energy Group) III A&B, Devgiri, Joshi Railway Museum Lane Kothrud Industrial Area, Kothrud, Pune 411 038

### Recognition Status

File No.: 14/594/2011-TU-V

Initial Recognition: 2011

Valid Until: March 31, 2018

## PRAYAS

### (INITIATIVES IN HEALTH, ENERGY, LEARNING AND PARENTHOOD)

#### Brief Description

PRAYAS (Initiatives in Health, Energy, Learning and Parenthood) is a non-governmental, non-profit organization based in Pune, India. It has been working to protect and promote public interest in general and the interests of the the disadvantaged sections of society in particular. The four groups of PRAYAS work on substantive themes, such as energy, health, resources and livelihoods, and learning and parenthood.

#### R&D Set-up

- The research facilities and infrastructure of the institution are being used by the academia and individuals. These include:
  - Research facilities details: Housed in approximately 8,000 sq.ft area, across two locations in Pune, reside a group of 19 researchers from the health and energy group
  - Group of professionals consisting of doctors, engineers, and economists from eminent schools, such as IITs, RECs, Berkley, and UCL.
- Provide clinical and counselling care to people living with HIV and approach each patient with a non-judgmental attitude. Patient-friendly environment and ease of communication is distinctive at Prayas Amrita Clinic.
- Great emphasis is laid on treatment adherence and the clinic has established strong internal systems for monitoring adherence to medicines.
- In-house laboratory equipped with automated machines for CD4

count and routine haematological and biochemical investigations.

- The laboratory work is managed by qualified and experienced staff (one pathologist and two full-time lab technicians).
- Designated area to test the electricity supply monitors, a first-of-its-kind exercise that uses advanced technology to monitor and transparently share electricity supply quality information along with 30 computers and servers, printers, etc.

#### Sources of income for R&D

Donations, International funding

#### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 230.06

FY 2015-16 = 296.26

FY 2016-17 = 363.19

#### R&D Achievements

##### Processes developed

- The aim is to improve policy and health practices.
- Developed a couple of innovative programmes such as the India Energy Security Scenario 2047, launched by the NITI Aayog. As part of the research project by NITI Aayog, the Energy Data Management portal for NITI Aayog was developed and launched that collates and makes available energy generation potential and usable data for the benefit of all ministries and researchers.

## Research Areas

- Health-awareness regarding HIV/AIDS and training
- Creation of educational material, information dissemination
- Counselling, care and support facility for people with HIV, child Care, prevention of mother to child transmission (PMTCT),
- Research, advocacy, and networking
- Energy—renewable energy, energy efficiency, energy resources

## Research Outcomes

- Papers published:
  - » National:4
  - » International:10

- Electricity Supply Monitoring Initiative, a first-of-its-kind exercise that uses advanced technology to monitor and transparently share electricity supply quality information.
- Initiated international collaborative research on Future of Grid that looks at the impact of technology developments on the electricity grid.

## Technical Collaborations

### National

NITI Aayog, Regulatory commissions; World Resources of India (WRI); Various State Regulatory Commissions and utilities

### Societal Relevance

- Research contributes to national-level policies and programmes. 🔍



Research Laboratory

# PRINCE ALY KHAN HOSPITAL

## Brief Description

Prince Aly Khan Hospital, a charitable trust, is an acute care, multi-specialty hospital open to all communities. Functioning within the framework of the Aga Khan Development Network, which is committed towards improving the health and living conditions of people in developing countries, the hospital has been adding new specialties and facilities to cater to its wide range of patients across different cities and countries. Not only does Prince Aly Khan Hospital cater to local patients but also to a large number of patients from overseas, who are drawn by its wide array of facilities, the depth of services and facilities, and its excellent reputation within the medical community.

## R&D Set-up

The research facilities and infrastructure of the institution are being used by the academia and these include:

- Micro centrifuge; cold centrifuge; vortexer; spectrophotometer; d rocker; GeneXpert machine with hp laptop, barcode reader, mouse

## Sources of income for R&D

Donations

## R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 165.06

FY 2015-16 = 154.93

## R&D Achievements

### Research project

- An open label, multicentre, single-arm trial to assess the safety of afitinib for subjects with locally advanced or metastatic non-small cell lung cancer (NSCLC) harbouring EGFR mutation(s)."
- A trial comparing, efficacy and safety of insulin degludec/insulin as part (I Dep Asp) BID and biphasic insulin as part (B1Asp30) BID in subjects with type 2 diabetes mellitus before, during, and after Ramadan.

## Technical Collaborations

### National

- Sun Pharma; Dr. Reddy's; Pfizer; Cipla

### International

- Mylan; Bristol-Myers Squibb

## Research Areas

- Medical Oncology
- Surgical Oncology
- Endocrinology
- Pulmonary Disease
- Community Intervention

## Research Outcomes

- Papers published:
  - » National: 2
  - » International: 1

### Registered Office

Prince Aly Khan Hospital,  
Aga Hall, Nesbit Road,  
Mazagaon,  
Mumbai 400 010, Maharashtra  
T: 022 23777800, 23777800  
E: seema.chaurasia@  
princealykhanhospital.com  
W: www.pakh.net

### Recognition Status

File No.: 14/507/2009-TU-V  
Initial Recognition: 2009  
Valid Until: March 31, 2020

### R&D Manpower

PGs & Graduates: 2



▲ Launch of Diabetes Care in the Elderly People of Chennai City

### Registered Office

Prof M Viswanathan Diabetes Research Centre, No: 4, West Madha Church Road, Royapuram, Chennai 600 013, Tamil Nadu  
T: 044 2595 4913/14-15  
E: drvijay@mvdibabetes.com  
W: www.mvdiabetes.com

### Recognition Status

File No.:14/7/1988-TU-V  
Initial Recognition:1988  
Valid Until: March 31, 2019

### R&D Manpower

Doctorates: 4  
PGs & Graduates: 35

## PROF. M VISWANATHAN DIABETES RESEARCH CENTRE

### Brief Description

Prof. M Viswanathan Diabetes Research Centre, registered as a trust, is situated in Chennai. It is an exclusive hospital for diabetes care and has grown to be one of the largest referral centres for diabetes, with 2,00,000 patients registered till date. Recognized as an internationally known tertiary care centre for diabetic patients requiring the opinion of a super-specialist and for effective diabetes management, the diabetes research centre is an outstanding example of how.

### R&D Set-up

The research facilities and infrastructure of the institution are being used by the individuals and for academic activities. These include the following:

- Equipment: ph meter; weighing balance; spinwin; ROCKMAX; UV hood; transblot SD biorad; multispin tarsons; incubator; deep freezer  $-80^{\circ}\text{C}$ ; Deep freezer  $-80^{\circ}\text{C}$ ; tissue homogenizer remi (RQ127A); molecular imager gel docxr biorad; elisa reader; nanodrop – thermoscientific; thermocycler bio rad; real time system CFX 96 Biorad
- The centre has a sophisticated high-technology diagnostic clinical laboratory with automated equipment; sophisticated genetics and molecular biology lab.
- Centre also houses hyperbaric oxygen therapy (HBOT) which is effective at healing wounds and in

turn, reducing the risk of amputation

- The centre also has a state-of-the-art library facility with a wide range of journals and books on diabetes

### Sources of income for R&D

- Donations
- Grant-in-aid
- International funding

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 178.23

FY 2015-16 = 109.08

FY 2016-17 = 124.97

### R&D Achievements

#### Research projects

- Prediction of the risk of diabetes with BMI and waist circumference of Individual.
- Chennai slim and fit programme—effect of structured behaviour intervention programme on childhood obesity
- Role of diabetic foot infection on the progression of diabetic kidney disease in South Indians
- Prevalence of different degrees of kidney stages among patients with diabetes.
- Screening of peripheral vascular disease among patients with T2DM in the south Indian population
- Clinical and biochemical characteristics associated with normoalbuminuric chronic kidney



^ Strengthening the health system

## PUBLIC HEALTH FOUNDATION OF INDIA

### Brief Description

The Public Health Foundation of India (PHFI) is a public–private initiative that has collaboratively evolved through consultations with multiple constituencies, including Indian and international academia, state and central governments, multi & bilateral agencies, and civil society groups. PHFI is a response to redress the limited institutional capacity in India for strengthening training, research, and policy development in the area of public health. PHFI adopts a broad, integrative approach to public health, tailoring its endeavours to Indian conditions and bearing relevance to countries facing similar challenges and concerns. The PHFI focusses on broad dimensions of public health that encompass promotive, preventive, and therapeutic services, many of which are frequently lost sight of in policy planning as well as in popular understanding.

### R&D Set-up

The research facilities and infrastructure available are as follows:

- **Biochemistry and Genetics Lab:** Biochemistry and Genetics Laboratory (BGL) has facilities for sample collection, DNA and RNA isolation from various biological samples (blood, saliva, dry blood spots, etc.), quantification, systemic storage and high-throughput biochemistry data generation for public health researchers. Successful standardization of extracting high-quality DNA from diverse biological samples

including saliva and dry blood spots—which are sent to a collaborating facility for high-throughput genomics and epigenomics—has facilitated low-cost public health research. The BGL has a large-scale bio-repository which houses more than 30 deep freezers that store thousands of serum, plasma, buffy coat, whole blood, urine and saliva samples for future use. The biochemistry laboratory is part of an external quality assurance programme for clinical chemistry, HbA1c (RIQAS) and Insulin (UKNEQAS).

- **Computing Facilities:** PHFI's IT infrastructure is enabled with latest technologies. Each office has an independent Internet Leased Line (1:1) with adequate Internet bandwidth being distributed to each computing device. Local Area Networks (LANs) are secured by UTM (Unified Threat Management). All the offices are interconnected via Multiprotocol Label Switching (MPLS) sharing/ accessing resources and to connect via Video Conferencing. Druva Insync is used to take a back up of the client machine.
- **Wizlq Portal** is a platform for live real time dissemination of teaching and seminars and is also used for live streaming of events.
- **PHFI Vibes** is an intranet portal initiated in 2016 with the goal to connect employees so as to enhance and improve sharing

### Registered Office

Public Health Foundation of India (PHFI) Plot No. 47, Sector 44, Institutional Area, Gurugram 122 002, Haryana  
T: 0124-4781400  
E: dprabhakaran@phfi.org  
W: www.phfi.org

### Recognition Status

File No.:14/482/2008-TU-V  
Initial Recognition: 2008  
Valid Until: March 31, 2018

### R&D Manpower

Doctorates: 53  
PGs & Graduates: 463



## Research Areas

- Health systems, policy & financing, infectious diseases, non-communicable diseases, public health nutrition, health capacity building, women and child health, health technology, mental and behavioural disorders, social determinants of health, injuries, environmental and occupational health

## Research Outcomes

- Papers published:
  - » National: 16
  - » International: 223

of ideas and function as a one-stop site for sharing internal institutional policies, procedures, and guidelines.

- Library Facilities: PHFI has a central library with more than 4000 printed books and 450 educational CDs, reports, and manuals from diverse disciplines. Apart from this, e-resources are available at the library and include an Online Public Access Catalogue (OPAC) which is an e-catalogue database of library resources through the Koha library management system.

### Sources of income for R&D

- Donations
- Grant-in-aid

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15=18,135.69

FY 2015-16=19,977.29

FY 2016-17=18,572.83

## R&D Achievements

### Products developed

- A computer-aided diagnostic tool (CADT) for oral cancer and pre-cancer screening. It is a machine-learning algorithm using quantitative imaging technology.
- AUTO METRY- Indian Institute of Public Health (IIPH), Hyderabad, is piloting a mobile phone-based application that can automatically assess in real time — the height, weight, body mass index, and nutritional status.
- DAS Simple-IPH-Hyderabad has developed a mobile application for people with disabilities that can guide assessment, automate calculation, provide instant analysis, certify, and then link the

person to customized benefits and also continuously track the outcomes

- DREAM-DOTS : DR one + Electronic Health Records (EHR) linked AutoMated Directly Observed Treatment, Short Course for Tuberculosis
- Swasthya Slate: Revolutionizing diagnostics for the underserved
- Technology Business Incubator for Public Health (TBI-PH), Under the National Initiative for Developing and Harnessing Innovations (NIDHI)
- mWELLCARE: An Integrated mHealth System for the Prevention and Care of Chronic Disease
- 'Care for Stroke' Web-enabled intervention for stroke-related disability

## Technical Collaborations

### National

Ministry of Health & Family Welfare, Government of India; Indian Council of Medical Research; Department of Science & Technology; Department of Biotechnology; Science and Engineering Research Board (SERB); Indian Council of Social Sciences & Research; All India Institute of Medical Sciences; Wellcome Trust DBT India Alliance; Shakti Sustainable Energy Foundation; Tata Trust; Ministry of Development of North Eastern Region, North East India (DONER), Government of India.

### International

Medical Research Council; Wellcome Trust, United Kingdom; International Development Research Centre [IDRC]; National Institute for Health; United States Agency for International Development (USAID); Department

for International Development (DFID), United Kingdom; Emory University, USA; Duke University, USA

### Societal Relevance

The following R&D outcomes are of national/societal significance:

- PHFI developed the 'Swasthya Slate', a unique tablet-based, affordable, and portable diagnostic platform for use by health workers in rural and/or remote areas of the National Health Mission.
  - The DREAM DOTS makes DOTS take flight on EHR-linked drones to the point of need and comprehensively deliver faster promotion, surveillance, diagnosis, treatment, and follow-up at the patients' doorstep.
  - Supporting improvement of core public health programmes
- such as immunization; HIV/AIDS prevention; Allied Health workforce capacity building through technical assistance (as Technical Support Units) to Government of India and to the state governments.
  - Implementing public health projects across a wide range of areas, such as maternal and child health, infectious disease surveillance and control, and chronic diseases prevention and control
  - Improving Immunization Coverage Rate amongst children: Through Immunization Technical Support Unit (ITSU), PHFI is helping the Ministry of Health and Family Welfare, Government of India, in the expansion of immunization coverage, improvement of quality, and introduction of new vaccines. 🔍



^ Rendering services to women in the community

## PUBLIC HEALTH RESEARCH INSTITUTE

### Brief Description

The Public Health Research Institute (PHRII) works to improve access to women's healthcare residing in rural areas of India. PHRII provides access to voluntary, comprehensive, and culturally sensitive services for family planning, reproductive health, and HIV. They are working to create systemic change, empower women in Mysore, with the knowledge of and access to safe and affordable healthcare. Their mission is to promote quality of life, well-being, and health for women and children through research, training, and evidence-based advocacy and care. It was registered as a non-governmental trust.

### R&D Set-up

The research facilities and infrastructure of the institution are being used by individuals. These include:

- **Laboratory:** PHRII serology, Microbiology, and molecular laboratories are located in an air-conditioned 1,500 sq. ft space at the institute's headquarters in Yadavgi, Mysore.
- **Clinical:** The PHRII operates the Prerana Reproductive Health Clinic in a 1,000 sq. ft facility located in an urban slum in central Mysore city. The clinic has two fully equipped clinician examination rooms, a stat lab, two counselling rooms, and a waiting room. The equipment includes a computer, printer, scanner, incubator, binocular microscope, refrigerator, sterilizer, and microwave oven.

- **Computer:** The PHRII is equipped with 6 desktop computers and 2 laptop computers on a wireless LAN connected to the worldwide web. Additionally, the institute has 2 network printers, 2 scanners, and a network server for data backup. The PHRII equipment and software are maintained through by a local software consulting company.
- **Office:** The PHRII has more than 5,000 sq. ft with office space, conference rooms, a training centre, and a teleconferencing facility. The office also includes a kitchenette and a guest room for visiting scholars.
- **Other:** The PHRII carries out community outreach, education, and research programmes throughout the Mysore Taluk. To support those efforts, the institute has an LCD projector, 2 laptop computers, screens, 4 handheld GPS systems, and a Maruti 8-seater van.

### Sources of income for R&D

International funding

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 92.38

FY 2015-16 = 104.07

FY 2016-17 = 106.82

### R&D Achievements

#### Research projects

- Saving Children, Improving Lives-High Risk: Community-based Peer Health Educators

### Registered Office

Public Health Research Institute,  
#89/B, 'Ambika' 2nd Main, 2nd  
Cross, Yadavagiri,  
Mysore 570 020, Karnataka  
T: 0821 425 9555  
E: pmadhivanan@hotmail.com  
W: www.phrii.com

### Recognition Status

File No.:14/494/2009-TU-V  
Initial Recognition: 2009  
Valid Until: March 31, 2018

### R&D Manpower

Doctorates: 5  
PGs & Graduates: 8

## Research Areas

- Women and Children health
- Women Reproductive health, sexual health, and screening for infection
- Adolescent health and substance use
- HIV screening
- Cervical cancer screening
- HPV DNA testing

## Research Outcomes

- Papers published:
  - » International: 10

assist in mobilizing rural and tribal pregnant women to attend mobile medical clinics. The goal of the project is to mobilize communities, impart training to peer-health educators, and create and motivate referrals and operate mobile medical camps providing integrated antenatal care and HIV/PMTCT services for pregnant women in rural Mysore, India. At present, the institute is providing services in tribal the areas and villages that are hard to reach.


- Lactobacillus phages and Bacterial Vaginosis: The objective of the study is to examine the role of bacteriophages in the etiopathogenesis of BV among Indian women.
- Addressing cervical cancer screening health disparities using community-based participatory research in the Mysore district, Karnataka: The objective of the study is to explore the knowledge and beliefs that can increase cervical cancer screening uptake amongst women in the community and identify linkages within local healthcare settings using a CBPR approach in order to promote adaptation of interventions using CBPR methods.

## Societal Relevance

The research us to understand the epidemiology of HPV types, vaginal flora of Indian women. This information is not readily available for Indian women. This will allow us to understand if the HPV vaccine is

relevant to our communities besides understanding if the microbicides that are being developed around the world will be useful to Indian women based on the vaginal flora that they have.

## Technical Collaborations

- The PHRII has collaborations with national and international partners, including Florida International University; University of California, Berkeley; Harvard University
- University of California, San Francisco and Stanford University in the United States and with PGI Chandigarh, JSS University in India. PHRII recognized as a U S National
- Institutes of Health research site. We have build strong ongoing collaborations with communities and the National Rural Health Mission (NHRM) to ensure that all projects are sustainable and coordinated with the NHRM rural health programmes.
- PHRII also provides training in prevention of mother-to-child transmission of HIV and cervical cancer Auxiliary Nurse Midwives (ANM), and Accredited Social Health Activist (ASHA). Our other partners include: The Elizabeth Glasser Pediatrics AIDS Foundation, USA; Indian Council for Medical Research, India; Inner Wheel Club of Mysore, India; Rotary International Mysore, India; Sahaya International, USA; SPI Recreation Club, India and ViiV Healthcare, UK. 



Research facilities, PRC

### Registered Office

Pushpagiri Research Centre,  
Pushpagiri, Medical College  
Hospital, Pushpagiri Mother and  
Child Block, Pathanamthitta,  
Thiruvalla 689 101, Kerala  
T: 0469-2700755, 9744685302  
E: academicdirector@pushpagiri.in  
W: www.prc@pushpagiri.in

### Recognition Status

File No.: 14/590/2011-TU-V  
Initial Recognition: 2011  
Valid Until: March 31, 2020

### R&D Manpower

Doctorates: 2  
PGs & Graduates: 4

## PUSHPAGIRI MEDICAL SOCIETY

### Brief Description

The Pushpagiri Medical Society is a philanthropic organization registered under the Travancore Cochin Literary Scientific & Charitable Societies Registration Act, 1955. The society is the official body of the Malankara Catholic Diocese of Tiruvalla in its medical, para medical education, and healthcare ministry. Pushpagiri Medical College Hospital has obtained the ISO 9001: 2000 certificate. The hospital of the society provides subsidized charges for general ward patients.

### R&D Set-up

The research facilities and infrastructure of the institution are being used by the industry, academia, and individuals. These include:

- PRC housing various laboratories and equipment spans an area of 6,000 sq. ft located at CBC block, Pushpagiri Medical College Hospital Campus
- Pushpagiri animal house houses all the experimental animals for research purposes
- Pushpagiri small animal breeding facility at the Pushpagiri Medicity, Thiruvalla
- Research facilities include: tissue engineering research laboratory; pushpagiri centre for virology; phytochemicals research laboratory; regenerative medicine laboratory; nanotechnology research laboratory; molecular biology research laboratory; microbial technology research laboratory; cell culture research

laboratory; metabolic disorders research laboratory; technology business incubator (TBI); research laboratory; biochemistry research laboratory; animal house.

Equipment, such as:

- Milli-Q; Vertical gel electrophoresis apparatus; refrigerated micro centrifuge; rotatory vacuum evaporator; step-one plus real time PCR; CO<sub>2</sub> incubator; Inverted microscope with imaging systems; Incubator with digital temperature control .

### Sources of income for R&D

- Grant-in-aid
- International Funding
- Institutional Funding

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15= 46.00

FY 2015-16= 46.94

FY 2016-17= 228.81

### R&D Achievements

#### Processes developed

- A method to estimate to DNA damage in the cells of lung tissue-based on alkaline comet assay was developed

#### Commercialization potential of products/processes developed

- Development of drug-loaded bioglass scaffolds bio-based membranes for improved alveolar bone regeneration
- Development of plant-based anti-pseudomonal agent

### Research Areas

- Molecular biology
- Nano medicine
- Cancer biology
- Biochemistry
- Phytoceuticals
- Development of anti-bacterial and dental implants

### Research Outcomes

- Papers published:
  - » National: 6
  - » International: 28
- IPRs held
  - » Patent in process:1

- Development of antibacterial hydrogels
- Development of antibacterial-loaded chitosan gel sponges and porous membranes in wound healing and skin regeneration
- Integrated semi-robotic fracture reduction system with 3D ultrasound navigation using multi-plane 2D images
- Development of radio protector from medicinal mushrooms occurring in south India
- Development of gymnemic acid  $\text{FeSO}_4$  conjugated porous and acidic chitosan membrane regulation of nosocomial infection and enhanced skin regeneration in chronic wounds
- Identification of precancerous lesions amongst adult population in Kerala and oral cancer-detection device
- Pre-clinical studies on the therapeutic potential of medicinal mushrooms from the southern part of Kerala
- Nanoparticles-based herbal formulations for wound healing/ consultancy services rendered

### Technical Collaborations

#### National

Mahatma Gandhi University, Kottayam; Mar Athanasios College

for Advanced Studies (MACFAST), Thiruvalla; Central University of Kerala, Kasargode; Central Institute of Fisheries Technology, Kochi; Sree Chithra Tirunal Institute of Medical Sciences and Technology, Thiruvananthapuram; Amrita School of Bio-Technology, Vallikavu; HLL Lifecare Ltd, Thiruvananthapuram; Savitribai Phule Pune University, Ganesh Khind, Pune; CMC, Vellore; Saintgits College of Engineering, Kottukulam Hills, Pathamuttom, Kottayam, Kerala; St. John's Medical College, Bengaluru

#### International

World Health Organization, Geneva; Massey University, Auckland, New Zealand; John Hopkins University, Baltimore, USA; Qatar University, Al Jamiaa St, Doha, Qatar;

### Societal Relevance

- Method to estimate DNA damage in cells of lung tissue based on alkaline comet assay was developed
- Training PhD, MSc, & BSc students in various aspects in bioinformatics, molecular biology, microbiology, biochemistry, and community medicine
- Bio radiance workshops and lecture series organized every year on different themes. 🔍



^ Research and development unit

### Registered Office

Pushpawati Singhanian Research Institute for Liver, Renal and Digestive Diseases  
 Press Enclave Marg,  
 Sheikh Sarai-II  
 New Delhi 110 017  
 T: 011-30611719  
 E: info@psri.net  
 W: www.psrihospital.com/

### Recognition Status

File No.: 14/265/1996-TU-V  
 Initial Recognition: 1996  
 Valid Until: March 31, 2020

### R&D Manpower

Doctorates: 1  
 PGs & Graduates: 4

### Research Areas

- Gastroenterology
- Nephrology
- Cardiology

## PUSHPAWATI SINGHANIA RESEARCH INSTITUTE FOR LIVER, RENAL AND DIGESTIVE DISEASES

### Brief Description

Pushpawati Singhanian Research Institute for Liver, Renal and Digestive Diseases is a multispecialty institute of national & international repute. PSRI hospital is famous for its ambience, quality of care, and high level patient satisfaction. The state-of-the-art facilities coupled with latest equipments and renowned consultants ensures that patients from NCR, various states of India and abroad visit for highly specialized tertiary level treatment. The key thrust areas of the institute are gastroenterology, nephrology, urology, gastro-surgery, kidney transplant, ailments affecting liver, kidney, gall bladder, pancreas, and gastro intestinal tract system.

### R&D Set-up

The research facilities and infrastructure of the institution are being used by the academia, industry, and individuals. These include:

Clinical Services: Anaesthesiology; cardiology (interventional & non interventional); cardiothoracic vascular surgery; coronary care unit; dialysis; emergency medicine; endocrinology including diabetology endoscopy; gastroenterology; general medicine; general & lap surgery; gynaecology; interventional radiology; nephrology; neurology & neurosurgery

Diagnostic Services: 2D ECHO; CT scan; cardio electrophysiological studies diagnostic neurology (EEG, NCV, EMG) ERCP; fibroscan MRI; manometry

### Laboratory Services (NABL

Accredited Lab): Clinical Biochemistry; Clinical Microbiology

& Serology Clinical Pathology; Cytopathology; Haematology Histopathology Immunochemistry Molecular Biology

### Sources of income for R&D

- Donations
- Corpus Fund

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 1,994.29

FY 2015-16 = 2,217.39

FY 2016-17 = 2,414.35

### R&D Achievements

Certain innovative elements developed in the products or services are as follows:

- Global snapshot- Human Subjects Protection Program Research Plan
- A Prospective, Comparative, Randomized, Multicenter Study of Peg EPO in the Treatment of Anaemia due to Chronic Kidney Disease (Multi-centric Study)

### Technical Collaborations

#### National

Lambda Therapeutic Research Ltd; Lupin Ltd; Walter Bushnell.

#### International

Abbott Healthcare Pvt. Ltd; Roche Pvt. Ltd; Dr. Reddy's Laboratories. 

### Research Outcomes

- Papers published:
  - » National: 3
  - » International: 15



^ Research services

**Registered Office**

RGCF Poona Hospital and Research Centre, 27 Sadashivpeth, Pune 411030, Maharashtra  
 T: 020-66096000, 9850447643  
 E: phrcjr@gmail.com,  
 W: www.poonahospital.org

**Recognition Status**

File No.: 14/314/2000-TU-V  
 Initial Recognition: 2000  
 Valid Until: March 31, 2019

**R&D Manpower**

PGs & Graduates: 8

**Research Areas**

- Medicine
- Anesthesia
- Orthopaedics
- Cardiology
- Surgery
- Neurology

# RGCF POONA HOSPITAL AND RESEARCH CENTRE

**Brief Description**

The RGCF Poona Hospital and Research Centre is one of the multi-speciality hospitals in Pune which provides the highest standards of clinical expertise and nursing care by offering the latest technology and state-of-the-art hospital facilities. They provide rapid assessment, intervention, and treatment for numerous common and complex conditions. Patients receive customized, individual care and prompt services. In addition to providing quality health care the focus is also on preventive health programmes, medical education, and clinical research.

**R&D Set-up**

The research facilities used by academia include:

**Diagnostics Services**

Audiology; bronchoscopy; endoscopy; imaging studies; microbiology; mri mammography; pathology; radiology; speech therapy

**Clinical services**

Bariatric & metabolic surgery; cardiothoracic surgery; infectious diseases & hiv medicine; bariatric & metabolic surgery, etc.

**Auxiliary services**

Blood bank; breast surgery; cardiac ambulances; dietetics; medical social worker; operation theatres; physiotherapy; rehabilitation

**R&D expenditure (₹ in lakhs)**

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 80.55

FY 2015-16 = 82.75

FY 2016-17 = 86.25

**R&D Achievements**

The major research projects completed by the organization are:

- Indications and outcomes of non-invasive ventilation in patients admitted in poona hospital
- Outcome of fracture distal end tibia treated with locking compression plate.
- Study of endothelial dysfunction and its correlation with tread mill test, coronary risk factors and coronary artery disease with coronary angiography.
- Comparison between fentanyl and clonidine with local anaesthetics in supraclavicular brachial plexus block for post-operative analgesia
- To study the levels of non-HDL cholesterol, vitamin D, and homocysteine in patients of acute coronary syndrome and acute thrombotic stroke.

**Technical Collaborations**

**International**

“Smile Train” USA.

**Research Outcomes**

- Papers published:
  - » National: 3
  - » International: 2





^ Pneumatic Tube System (PTS)

## SAMAST PATIDAR AAROGYA FOUNDATION

### Brief Description

Samast Patidar Aarogya Trust is a not-for-profit organization. The trust has set up a state-of-the-art multi super-speciality hospital and research centre. The hospital bridged qualitative lacuna in the sphere of medicine, especially amongst the super-speciality branches of modern medical science. This healthcare facility is in the diamond capital of India, Surat, Gujarat, and is open to all patients not only from the state of Gujarat, but also from across the country, and from other countries as well.

### R&D Set-up

The research facilities and infrastructure of the institution include: departments with high-end technology and infrastructure.

- Accident and emergency care
- Orthopaedic surgery
- Anaesthesiology
- Medical oncology
- Cardiology and cardiac surgery
- Surgical oncology
- Clinical research
- Haemato-Oncology
- Critical care department
- Radiation oncology
- Dermatology and cosmetology
- Plastic surgery
- Neurology

### Equipments available

Ultrasonic cutting and coagulation device; CT/MRI compatible stereotactic system; electrosurgical unit; blood gas analyser and cardiac marker; cardiac headlight system; fluorescence microscope;

intracorporeal lithotripter; syringe-infusion-PCA pump, etc.

### Sources of income for R&D

- Corpus fund
- Donation

### R&D expenditure (₹in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 3.3

FY 2015-16 = 12.11

FY 2016-17 = 9.5 

### Research Areas

- Cardiothoracic surgery
- Nephrology
- Pulmonology
- Medical oncology
- Internal medicine
- Critical care (adult)
- Histopathology
- Haematopathology
- Urology
- Neonatology
- Dermatology
- Microbiology
- Biochemistry and molecular pathology
- Orthopaedics
- ENT
- Psychiatry
- Neurology
- Paediatrics
- Oral and maxillofacial surgery
- Obstetrics and gynaecology
- Cardiology and dietetics

### Research Outcomes

- Papers published:
  - » National: 7

### Registered Office

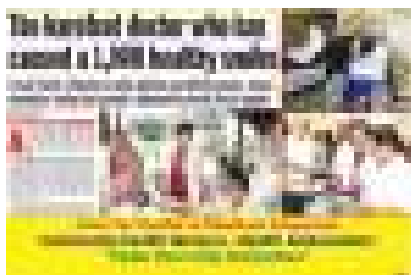
Samast Patidar Aarogya Foundation  
Kiran Multi Super Speciality Hospital & Research Centre, Vastadevdi Road, Landmark-Opposite to SRK, Sumul Dairy Area, Katargam, Surat, Gujarat  
T: 9824196710  
E: drsps07@gmail.com,  
W: www.kiranhospital.com

### Recognition Status

File No.: 14/660/2015-TU-V  
Initial Recognition: 2015  
Valid Until: March 31, 2017

### R&D Manpower

Doctorates: 8  
PGs & Graduates: 6



^ Community Health Workers

### Registered Office

Samatvam Science and Research for Human Welfare Trust  
Jnana Sanjeevini Medical Center,  
# 2, 1st A Cross, Marenahalli,  
J P Nagar 2nd Phase,  
Bengaluru- 560 078, Karnataka  
T: 080-26493040, 26493050  
E: samatvam@gmail.com,  
jsmccindia@gmail.com

### Recognition Status

File No.: 14/692/2015-TU-V  
Initial Recognition: 2015  
Valid Until: March 31, 2019

### R&D Manpower

Doctorates: 6  
PGs & Graduates: 32

## SAMATVAM SCIENCE AND RESEARCH FOR HUMAN WELFARE TRUST

### Brief Description

SAMATVAM (Science and Research for Human Welfare Trust) is a non-profit, charitable public trust founded in 1990 by a group of medical volunteers (coordinated by Dr S S Srikanta), and is dedicated to promotion of human welfare through service in areas of health care, education, and research. The current focus of Samatvam's activities is in the field of diabetes, endocrinology and metabolism. It was registered trust deed and recognized U/s12A & 80G of the income Tax Act.

### R&D Set-up

The research facilities are used by the academia.

The departments are as follows:  
Cardiology; Radiology; Pulmonary;  
Clinical research; Ophthalmology;  
Healthcare IT Laboratory

### Equipments available

ECHO+DOPPLER, BMD-DEXA,  
Mamogram, MRI, CT Scan,  
Nuclear Medicine

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 24.75

FY 2015-16 = 22.00

FY 2016-17 = 13.4

### R&D Achievements

#### Products developed

- Electronic Medical Record: JS Health Clinic
- Electronic Medical Record: JS Health Community; Health

- Personal health record,
- Real time data capture,
- Telemedicine
- Peers for Health- Community Health Worker Model
- Non-invasive glucose monitoring
- Early detection of diabetes (new markers such as glycated hemoglobin)
- Mental Health Screening Instrument MHQ 21

#### Processes developed

- Abbott Free Style Libre pro: Continuous Blood glucose Monitoring System
- Ambulatory Blood Glucose Monitoring System (ABPM)
- PathShodh Multi-analyte Diagnostic Device (Point of care device)

#### Commercialization potential of products/processes developed

Total Products Commercialized:

- JS Health Clinic EMR eHealth - Telemedicine
- JS Health Community EMR mHealth
- Multianalyte Point of Care Device for Diabetes Biomarker

Total Services for Commercialization:

- Peers For Health Model
- DishaDosti Diabetes Care Model
- Mental health screening

#### Technical Collaborations

##### National

Indian Institute of Science; Center of Nano science and Engineering (

## Research Areas

- Dyslipidemia
- Osteoporosis
- Thyroid
- Bone Mineral
- Hypertension
- Atherosclerosis
- Cardiovascular Diseases
- Insulin Delivery Systems
- Diabetic neuropathy, pain
- Novel dyslipidemia drugs
- Novel oral and parenteral antidiabetic drugs

## Research Outcomes

- Papers published:
  - » National: 24
  - » International: 3

IISC CENSE ); Bengaluru; PathShodh Healthcare Pvt. Ltd, Bengaluru; National Institute of Mental Health and Neuroscience (NIMHANS); Public Health Foundation of India (PHFI); Public Private Partnership, Government of India

### International


International Society for Pediatric and Adolescent Diabetes (ISPAD); International Society of Endocrinology , Chinese Society of Endocrinology (ICE CSE); International Diabetes Federation (IDF); American Association of Clinical Endocrinologists (AACE); CDIC: Changing Diabetes in Children – Novo Nordisk; LFAC: Life for a Child - International Diabetes Federation (IDF)

### Societal Relevance

The following R&D outcomes are of national/societal significance:

- E-Clinical Works provides ambulatory healthcare IT, including electronic health

records, patient engagement tools, and population health management.

- Awareness programme on Diabetes Organization Support Training and Interaction.
- Ongoing Peers For Health project of Samatvam – JSMC, Bengaluru, India, is trying to directly impact the health and lives of at risk 25,000 rural and urban poor, through training and deployment of 25 Community Health Workers / Peer Leaders (patients with diabetes or their family members – spouses, mothers, daughters, daughters-in-law, sisters, etc.), drawn from the same community, over a period of 3 years.
- Approximately 2,500 diagnosed people with diabetes/pre diabetes in the community will be offered annual health reviews and complications screenings based on a novel economic model. 



^ Educational Workshop

### Registered Office

Sangath  
House No. 451(168)  
Bhatkar vaddo, Socorro,  
Porvorim, Bardez, Goa 403501  
T: 07887872345  
E: contactus@sangath.in  
W: www.sangath.in

### Recognition Status

File No.:14/349/2003-TU-V  
Initial Recognition:2003  
Valid Until: March 31, 2018

### R&D Manpower

Doctorates: 14  
PGs & Graduates: 77

## SANGATH

### Brief Description

Sangath is a not-for-profit, non-governmental organization (NGO) committed to improving health across the life span by empowering the existing community resources to provide appropriate physical, psychological, and social therapies. Its primary focus areas include child development, adolescent and youth health, adult health, and chronic diseases. Today, it is one of the largest NGOs in the state, with more than 100 service providers, two centres in Goa, projects across India, collaborations with leading institutions global, and international recognition for its path-breaking research and intervention programmes in the community.

### R&D Set-up

- The research facilities and infrastructure of the institution include the following:
- Sangath's new headquarters in Goa houses a training facility as well as offices for research, administrative, and training personnel.
- All project personnel have access to Sangath's system of networked computers with daily back up to a secure server, high-speed internet connections, private telephone lines, and access to physical and electronic libraries.
- Sangath provides access to licensed computer software for word processing, spreadsheets, database management, and statistical analysis. Sangath has two offices in Goa—Porvorim (North Goa) and Raia (South Goa) and has conducted extensive studies

in several other states in the country, such as Haryana, Madhya Pradesh, Maharashtra, Karnataka, and Assam. The organization also has two major field offices in New Delhi and Bhopal, where it works in collaboration with the respective state governments.

### Sources of income for R&D

- Donations
- Grant-in-aid
- International funding

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 717.29

FY 2015-16 = 863.34

FY 2016-17 = 1,090.40

### R&D Achievements

#### Products/processes developed

- STAR Software: Software for research data collection. This software allows customizing questionnaires, data collection, data storage and upload to servers; Healthy Activity Program (HAP); Counselling for Alcohol Problems (CAP); Counselling Relationship (CR); HAP, CAP, and CR training- Online HAP, CAP, and CR training courses hosted on the NextGenU portal. These courses are open access and can be used by non-specialist health workers across the world; SPRING-home-based intervention, delivered by community health workers to mothers from pregnancy through the first two years of the child's life, and evaluating

## Research Areas

- Mental health issues-related problems
- Affordable mental health care

## Research Outcomes

- Papers published:
  - » International :19

the impact on maternal health, child development, growth and survival; PASS Plus - Lay health worker delivered comprehensive intervention, which addresses a wide range of unmet needs of families affected by Autism Spectrum Disease, by incorporating additional modules (for e.g., behaviour management, sleep management); SHARE: Community-based programme for improving the mental health of pregnant and recently delivered mothers through peer (*sakhis*) delivered WHO recommended Thinking Healthy Programme; SEHER: School-based interventions to promote reproductive and sexual health, gender equity, and mitigating gender-based violence and other adverse health outcomes in school going adolescents.

## Technical Collaborations

### National

All India Institute of Medical Sciences, New Delhi; Colorcon Pvt Ltd, Greater Noida, Uttar Pradesh; Public Health Foundation of India, New Delhi; Government of Madhya Pradesh; Government of Delhi


### International

London School of Hygiene and Tropical Medicine, United Kingdom; Wellcome Trust, United Kingdom; Grand Challenges, Canada ; Harvard Medical School, USA; University of Pittsburgh, USA; Medical Research Council, UK; University of Reading, United Kingdom; University of Cape Town

### Societal Relevance

- All the interventions developed at Sangath are innovative and cater to the needs of the community.

The focus is on developing innovative strategies which are cost effective, scalable, and facilitate bridging the mental health treatment gap within the community.

- The projects are modelled across common themes, such as:
  - a) designed to be delivered by non-specialist health workers;
  - b) culturally appropriate;
  - c) integrated into accessible platforms of care, such as PHC, schools, etc.;
  - d) use of technology to improve access;
  - e) targeting priority disorders and focussed on treatments.
- Developed two culturally-appropriate psychological treatments (Healthy Activity Programme and Counselling for Alcohol Problems) delivered by previously lay counsellors in order to bridge the 'access' barrier to mental health services for the treatment of depression and harmful drinking in primary care.
- Grassroots community-based programme on the improvement of mental health literacy indicators and increase in the contact coverage for depression treatment.
- Programme (based on Problem Solving Therapy) to prevent depression and anxiety disorders in older adults, thereby promoting healthy ageing.
- School-based interventions aimed at promoting reproductive and sexual health and gender equity, and mitigating gender-based violence, and other adverse health outcomes in school-going adolescents.
- Digital platform for the training, supervision, and case management for mental health care. 



^ Research laboratories /surgical histopath

## SANJEEVAN MEDICAL FOUNDATION

### Brief Description

A public charitable trust registered under the Bombay Public Charitable Trust Act, 1950, the Sanjeevan Medical Foundation has established a full-fledged cancer hospital at Miraj, in the district Sangli, in Maharashtra. The hospital has been set up to meet the needs of the poor and rural communities of this area, particularly those who are suffering from cancer.

### R&D Set-up

The research facilities and infrastructure of the institution are being used by individuals.

The various departments include the following:

- Surgical pathology lab; clinical pathology; clinical research department; radiation therapy department; medical oncology department

The research equipment include:

- Cobalt Unittheratron 780c; Treatment planning system; brachytherapy machine; monitor aspen; x-ray machine gineus; boil machine ohmeda; suction machine; linear accelerator unit-varian

### Sources of income for R&D

- Donations

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 15.56

FY 2015-16 = 16.79

FY 2016-17 = 18.97

### R&D Achievements

#### Research projects

- Clinical profile and imaging pattern of venous thrombo-embolism in cancer patients in a rural cancer hospital
- Cardiovascular effects of chemotherapy in patients receiving Cisplat for GCT
- Cankit Cancer Detection Test
- Male Breast Cancer – A Clinicopathological Profile— Single institute study
- Changing Trends in the presentation of Breast Cancer over a period of 20 years, a single institute experience

### Technical Collaborations

#### National

Kasturbai Walchand Collage, Sangli; Dr D Y Patil Medical College, Kolhapur; Government Medical College, Miraj; Bharati Vidyapith Medical College & Hospital, Sangli; Surgical Oncology Horizon Hospital, Sangli; Sevasadan Life Line Super Speciality Hospital; Siddhagiri Hospital & Research Center Karwir, Kolhapur; Mahatma Gandhi Cancer Hospital, Miraj; Kulloli Hospital, Vishrambag Sangli; Patil Institute of Orthopedic Science & Multispeciality Hospital, Jaisingpur; Walwekar Hospital, Sangli; Magdum Orthopedic, Trauma and Joint Replacement Center, Miraj

### Societal Relevance

- Awareness camps were organized in the urban and rural areas of

### Registered Office

Sanjeevan Medical Foundation  
Shri Siddhivinayak Ganapati  
Cancer Hospital, Miraj 416 410  
Sangli, Maharashtra  
T: 0233 2211601, 2211602  
E: cancermiraj@gmail.com  
W: www.cancermiraj.com

### Recognition Status

File No.:14/434/2006-TU-V  
Initial Recognition: 2006  
Valid Until: March 31, 2018

### R&D Manpower

Doctorates: 1  
PGs & Graduates: 3

### Research Areas

- Cancer registry
- Cytogenetics
- Clinical research
- Head and neck
- Breast cancer
- Uro oncology

### Research Outcomes

- Papers published:
  - » National: 8
  - » International: 1

Maharashtra and Karnataka on the following areas:

- Deliver lectures (PowerPoint Presentations) on the prevention of cancer
  - Breast self-examination
  - Oral examination for head and neck cancer
  - Prevention of the use of tobacco. [Q](#)



▲ Santhigiri Vidyabhavan students set up a garbage bin called 'Snehadoodan'

## SANTHIGIRI ASHRAM

### Brief Description

The Santhigiri Research Foundation (SRF) was set up to conduct scientific, social, and industrial research. Research is being carried out in completely uncharted areas, such as the significance of 'karma' and 'karmic' influences on one's life and how to correct 'karmadoshas' (karmic debilities) through spiritual intercession. It was registered as Charitable Society under the Travancore Literary Scientific and Charitable Societies Act.

### R&D Set-up

The research facilities and infrastructure of the organization include the following:

### Equipments available

Cooling centrifuge with accessories laboratory centrifuge & rotorhead, microscope – monocular, confocal microscope, microscope olympus, microscope – binocular, dissection microscope, compound microscope, inverted microscope

### Sources of income for R&D

- Donations
- Grant-in-aid

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 569.90

FY 2015-16 = 378.81

FY 2016-17 = 532.40

### R&D Achievements

#### Products developed

- Thribhala, a combination of the deseeded tender fruits of *Terminalia chebula*, *Terminaliabellicrica*, and *Phyllanthus emblica* in equal quantities, is a unique formula of our ancient medical tradition
- Murivenna, is a traditional formulation for which the manufacturing unit have already got proprietary license from the Kerala State Drugs Control Department.
- Fortification of Vallarai tablet
- Fortification of Keezharnelli tablet
- Formula design of Aswagandha Balalakshadi Thailam
- Maathulai Manappagu, is a classical Siddha formulation, indicated for indigestion, vomiting, morning sickness
- Thuringi Manappagu, is a classical Siddha formulation
- Nannari Manappagu, is a classical Siddha formulation
- Adathodai Manappagu, is a classical Siddha formulation, indicated for pulmonary and digestive diseases. A consistent formula has been developed for the same.

The following medicines are under development:

- Brahmi capsule
- Aswagandha capsule
- Manjal capsule

### Registered Office

Santhigiri Ashram (PO),  
Thiruvananthapuram 695 589  
Kerala  
T: 0471-2419313, 2419056,  
24111044, 2411114  
E: research@santhigiriashram.org  
W: www.santhigiriashram.org/  
home.php

### Recognition Status

File No.: 14/435/2006-TU-V  
Initial Recognition: 2006  
Valid Until: March 31, 2019

### R&D Manpower

Doctorates: 11  
PGs & Graduates: 13



### Research Areas

- Scientific validation of Ayurveda and Siddha systems of medicines
- Ayurveda- Siddha medicine development
- Biotechnology

### Research Outcomes

- Papers published:
  - » National: 8
  - » International: 1
- Technologies transferred/commercialized: 4

- Combi-Pack for Osteopaenia and Osteoporosis

### Technical Collaborations

#### National

MoU signed with Rajiv Gandhi Center for Biotechnology, Thiruvananthapuram, Kerala.

### Societal Relevance

The following R&D outcomes are of national/societal significance:

- Medical services extended by Santhigiri Siddha Medical College, Thiruvananthapuram

and Santhigiri Ayurveda Medical College, Palhgate, to the people has considerably assisted them to find solutions to many chronic ailments for which modern medicine has not been very effective.

- Periodical medical camps, with both the components of health care dissemination and free treatment and dissemination classes on bio-farming, soil conservation, water harvesting, etc., have benefitted society and good models could be developed in these areas. 🔍



^ Evaluation of salivary and the plasma level of salivary alpha amylase in patients oral squamous cell carcinoma

## SARASWATI DENTAL COLLEGE & HOSPITAL

### Brief Description

The Saraswati Dental College & Hospital is committed to a balanced pursuit of excellent teaching, significant research, and measurable community service. Established in 1998 in Lucknow, as a non-government organization, it is a professional institution where a student is trained according to the needs of the society to become a competent dental surgeon. A student here is provided with deep knowledge to treat dental and oral ailments with the help of five-year comprehensive course of Bachelor of Dental Surgery (BDS).

### R&D Set-up

The research facilities and infrastructure of the institution are being used by the academia and individuals. These include the various equipments available at the Institute and are listed as follows:

- Endodontic pressure syringe with needle and root canal sealer; Radiographic (x-ray) machine; D-Lux light cure variable intensity brand; Polishing lathe with buff model 501; Radiovisiography (RVG, Satelec); Spot Welder; Vacuum Mixer (Axin); Stero Microscope; Implant Micro surveyor; Dry-cutting machine; Gnatus G3 Dental chair; Hitec & endopore implant surgical kit; Physio-dispencer; Nitrous oxide conscious sedation system; Bio-lase Laser Machine; Bio-fluid Auto Analyzer; Laminar flow; Incubator; Centrifugal machine; Anesthesia Machine;

Autoclave; Bone harvesting kit; Electrocautry; Orthognathic surgical set, etc.

### R&D expenditure (₹ in lakhs)

FY 2014-15 = 132.68

FY 2015-16 = 164.44

FY 2016-17 = 189.11

### R&D Achievements

#### Products developed

- Mandibular advancement device
- Prosthesis obturator for reducing nasality
- Processes developed
- Rainbow passage for evaluating speech in patients using complete denture
- Mallampatti score for classifying soft palate in edentulous patients
- Prosthodontic diagnostic index (PDI) used for completely edentulous patients and for fixed prosthesis
- Helkimo's index

### Technical Collaborations

#### National

Department of Respiratory Medicine, King George's Medical University, Lucknow; Lucknow Cancer Institute for observation and visual learning for PG Students from the department of OMFS and Prosthodontics; Indian Industries Association for Dental Consultancy and Research; Lucknow Golf Club for Dental Consultancy and Research; Lucknow Nursing Homes

### Registered Office

Saraswati Dental College & Hospital  
233, Tiwari Ganj, Faizabad Road,  
PO Juggour, via Chinhat,  
Lucknow 226 028, Uttar Pradesh  
T: 0522 818906369, 3071006  
E: contactsdcs@saraswaticolleges.com  
W: www.sdclucknow.com

### Recognition Status

File No.: 14/654/2014-TU-V  
Initial Recognition: 2014  
Valid Until: March 31, 2020

### R&D Manpower

Doctorates: 1  
PGs & Graduates: 92

## Research Areas

- Oral cancer
- Diabetes mellitus
- Oral Submucosa Fibrosis
- Periodontal diseases
- Platelet rich plasma
- Platelet rich fibrin
- Bone regeneration and augmentation in jaw bones
- Thermal insulation and permeability of restorative crown materials
- Premalignant lesion
- Saliva

## Research Outcomes

- Papers published:
  - » National: 17
  - » International: 15
- IPRs held
  - » Patents: 2
- Technologies transferred/commercialized: 1


Owners Association CLNHA) for blood donation Integral University, Dasauli.

## International

University of Tennessee Health Science Center, 62 S. Dunlap, Suite 300 Memphis, TN, 38163, USA; Prof. Dr Subhash C Chauhan's Laboratory, Department of Pharmaceutical Sciences, Cancer Research Center and College of Dentistry, University of Tennessee Health Science Center, Memphis, USA; Penn Dental Medicine, University of Pennsylvania

## Societal Relevance

- Preventive Treatment / Counselling for various diseases affecting oral and maxillofacial region
- Interceptive treatment of various diseases affecting head and neck region to minimize the deleterious effect on human health and life

- Corrective management of various diseases and defects e.g. Guided Tissue Regeneration (hard and soft tissue) for Periodontal Defects, Surgical treatment for Oral Cancer, Complete denture, removable partial denture, fixed partial prosthesis and maxillofacial prosthesis, Graft less sinus lift surgeries for implant placement
- Use of c-arm to assist the reduction of zygomatic arch fractures
- Awareness programmes on oral hygiene
- Creating awareness about road safety and modification in lifestyle through yoga
- World AIDS Awareness Day
- Events, such as No Tobacco Day and Pink Walk organized for creating awareness breast cancer, clean gomti, etc. 



^ A traditional dental Chair - FLUX

## SARDAR PATEL POST GRADUATE INSTITUTE OF DENTAL & MEDICAL SCIENCES

### Brief Description

The Sardar Patel Post Graduate Institute of Dental & Medical Sciences (SPPGIDMS), Lucknow, is affiliated to Dr Ram Manohar Lohia Avadh University, Faizabad. The aim is to help students reach their highest potential in the areas of intellectual curiosity, and develop personal well-being. They are committed to providing students a wide variety of opportunities to explore leadership styles while also cultivating and practicing new skills.

### R&D Set-up

The research facilities and infrastructure of the institution are being used by the academia and individuals. These department include: Oral surgery; Prosthodontics and implantology; Endodontics; Pedodontics; Periodontics; Oral pathology; Orthodontics

Some of the equipments available are as follows:

Tens Machine (SKYLARK MHS000); pulp tester; sialography kit; punch biopsy kit; intraoral camera; digital machine with printer (DURR DENTAL); OPG machine (SATE1 1 AC, planmeca); lopar machine - oscillating saw - novag md2q; trauma plating kit; implant kit -ad in -xive; electrocautery - perfect TCS II -art rlectrosurge; pulse oximeter -Ascusure; fiber optic light; dermatome; minor oral surgery kit; osteotomy kit; cleft surgery kit; bone grafting kit; distraction osteogenesis kit

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 23.81

FY 2015-16 = 26.76

FY 2016-17 = 5.65

### R&D Achievements

#### Products developed

- Development of a highly advanced and yet economic dental chair, in collaboration with IIT Kanpur in 2015–16.
- Formulation of a new, improved Glass Ionomer Restorative Cement, incorporating the above mentioned ZnO-Nano HaP in order to increase its physical and biological properties.

#### Processes developed

- Development of a new zinc oxide hydroxy apatite nanoparticle, in collaboration with IIT Kanpur.

#### Commercialization potential of products/processes developed

- Low-cost dental chair products have been developed in partnership with Devdhan Infratech, a unit of the Sardar Patel Shikshan Samiti chaired by Shri Anurag Singh, is housing its R&D unit within the Dr O P Chaudhary Hospital and Research Centre, Lucknow.

### Technical Collaborations

#### National

- Memorandum of understanding (MoU) with the IIT Kanpur (signed

#### Registered Office

Sardar Patel Post Graduate Institute of Dental & Medical Sciences, Chaudhary Vihar, Raebareilly Road, Lucknow 226 025, Uttar Pradesh  
T: 0522 2442031-34  
E: spidmsindia@gmail.com  
W: sppgidms.org/

#### Recognition Status

File No.:14/637/2013-TU-V  
Initial Recognition: 2013  
Valid Until: March 31, 2020

#### R&D Manpower

PGs & Graduates: 36

### Research Areas

- Dentistry - Clinical and non-clinical
- Oral cancerous lesions
- Dental implants
- Dental material
- Research in oral and maxillofacial surgery

### Research Outcomes


- IPRs held
  - » Patent filed: 1
- Papers published
  - » National: 195
  - » International: 15
- Technologies transferred/commercialized: 2

in January 2015) for an initial period of 5 years; MoU between Sanjay Gandhi Postgraduate Institute of Medical Sciences (SGPGIMS) Lucknow and Sardar Patel Post Graduate Institute of Dental & Medical Sciences (SPPGIDMS), Lucknow, for enhanced training of resident dental doctors; MoU with the Police Directorate for Dental Check-up Camps for police personnel; MoU with model jails located at Lucknow and Hardoi, for dental treatment of the inmates; MoU with Adarsh Shiksha Niketan, Higher Secondary School, Mourawan, Mohanlalganj, Lucknow, Naveen Public High School, Mohanlalganj, Lucknow, Lucknow Public School, Raibareli Road, Lucknow, Malti Narayan Inter College, Mohanlalganj, Lucknow.

### International

TUFTS University, USA

### Societal Relevance

- The research and development policy of the institution aims at reducing the financial burden of the otherwise costly dental treatment. The overall dental treatment being offered to people in the country is only catering to about 30% of India's total dental disease burden.
- Efforts have been underway to make dental treatment feasible even in the remote areas as well as bringing down the treatment cost by developing indigenous equipments and materials and yet maintaining the global standards of dental treatment. This will also bring down the financial burden of the country towards oral health and ensuring the overall well-being. 



Research Laboratory

## SAROJ GUPTA CANCER CENTRE & RESEARCH INSTITUTE

### Brief Description

The Saroj Gupta Cancer Centre and Research Institute (formerly known as Cancer Centre Welfare Home & Research Institute) is the only Indian cancer hospital to boast of a sprawling 16-acre space with trees, gardens, and water bodies that create an ambience of being cared for in the lap of nature. Established initially with the aim of providing relief to the distressed cancer patients who hail from remote villages treatment the centre today blends art, architecture, and modern machinery with extensive medical knowledge to cure patients.

### R&D Set-up

The research facilities and infrastructure of the institution are being used by the academia and individuals. These include:

#### Epidemiological research:

- Part of the National Centre for Disease Informatics and Research (NCDIR), Government of India
- Population-based cancer registry (PBCR)
- Proposed HBCR (expected to begin in 2018)
- Medical records section
- Digital recording and analysis software

#### Clinical research

- Diagnostic: Well-equipped modern pathology department, including IHC and molecular biology facilities

- State-of-the-art radiotherapy and chemotherapy department and nuclear medicine facility
- Well-equipped operation theatre
- Separate paediatric oncology and haemato-oncology departments
- Palliative care unit with free domiciliary services
- Investigator-initiated clinical academic studies

#### Basic research

- Nucleic acid (RNA and DNA) isolation facility
- Polymerase chain reaction (including real-time PCR system)
- Western blotting platform
- Immunohistochemistry and immunocytochemistry facility
- Cell culture facility
- Project-related tissue banking
- Cold room
- Separate areas for bacterial and mammalian cell culture

The following equipment are available at the centre:

- Real-time PCR machine; microfuge; cold centrifuge; bench-top centrifuge; agarose gel apparatus system; protein gel running apparatus; nanodrop spectrometer; carbon dioxide incubator; vertical laminar air-flow cabinet; inverted microscope; rocking platform; ventana system

#### Sources of income for R&D

- Donations
- Grant-in-aid

### Registered Office

Saroj Gupta Cancer Centre & Research Institute,  
Mahatma Gandhi Road,  
Thakurpukur, Kolkata 700 063  
West Bengal  
T: 033 2467 8001/ 8003; 2453  
2781/82/ 83, 2438 3145  
E: research@sgccri.org;  
researchccwhri@mail.com  
W: www.cancercentrecalcutta.org

### Recognition Status

File No.: 14/249/1995-TU-V  
Initial Recognition: 1995  
Valid Until: March 31, 2019

### R&D Manpower

Doctorates: 4  
PGs & Graduates: 33

### Research Areas

- Epidemiological cancer research
- Clinical cancer research
- Basic cancer research
- Academic cancer research

### Research Outcomes

- Papers published:
  - » National: 6
  - » International :11

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 277.76

FY 2015-16 = 290.39

FY 2016-17 = 304.82

### R&D Achievements

#### Research projects

- HPV 16 methylome methylation and gene expression status of host gene influence on cervical cancer pathogenesis
- Evaluating the gene expression profile of breast cancer stem cells which are resistant to conventional chemotherapeutic drugs
- Induction chemotherapy in OSCC
- Axillary reverse mapping in breast cancer
- Carcinoma gall bladder T and N correlation
- Hypofractionated EBRT in advanced head and neck cancer

### Technical Collaborations


#### National

- Council of Scientific & Industrial Research (CSIR)-Indian Institute of Chemical Biology
- Council of Scientific & Industrial Research (CSIR)-Institute of Genomics and Integrative Biology, University of Calcutta
- National Institute of Biomedical Genomics, Kolkata
- West Bengal University of Health Science

#### International

Medical University of South Carolina

### Societal Relevance

- Cancer India ATLAS, National Cancer Grid, Drug trials
- The institute conducts various cancer-awareness programmes in the districts of West Bengal. 



^ Mouse foot pad



^ Molecular biology

### Registered Office

Schieffelin Institute of Health  
Research & Training Centre  
Karigiri (via Katpadi),  
Vellore District,  
Tamil Nadu 632 106  
T: 0416 2274 223/227/228/229  
E: [director@karigiri.org](mailto:director@karigiri.org)  
W: <http://karigiri.org/blogs/>

### Recognition Status

File No.: 14/244/1995-TU-V  
Initial Recognition: 1995  
Valid Until: March 31, 2019

### R&D Manpower

Doctorates: 1

## SCHIEFFELIN INSTITUTE OF HEALTH RESEARCH & TRAINING CENTRE

### Brief Description

Schieffelin Institute of Health Research & Training Centre started as a facility exclusively for patients suffering from the dreaded scourge of leprosy. The institute is transforming lives, especially those affected by leprosy through holistic health and healing in the Spirit of the Christ. Over the past six decades, Schieffelin Institute of Health Research & Training Centre has treated leprosy and its complications, carried out state-of-the-art research to understand the disease, and trained all levels of health personnel in the management of leprosy.

### R&D Set-up

The research facilities and infrastructure of the organization are used by hospitals and academia. It includes fully-equipped molecular biology and mouse foot pad labs

### Sources of income for R&D

Government

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 0.44

FY 2015-16 = 25.24

FY 2016-17 = 32.86

### R&D Achievements


Alternative chemoprophylaxis for the treatment of leprosy

### Technical Collaborations

#### National

Collaboration with health-related institutions, such as Christian Medical College Vellore, Tamil Nadu

### Societal Relevance

- Health services provided to rural population
- Health education awareness programmes conducted in the surrounding villages for the benefit of the rural society. 

### Research Areas

- Molecular biology of leprosy
- Immunology in leprosy
- Bioinformatics and biomedical engineering

### Research Outcomes

- Papers published:
  - » National: 4
  - » International: 3





^ Event organized by SCARF

## SCHIZOPHRENIA RESEARCH FOUNDATION

### Brief Description

Schizophrenia Research Foundation (SCARF) was founded in 1984 as a non-government organization, by a group of philanthropists and mental health professionals led by Dr M Sarada Menon, an internationally known psychiatrist. Today, SCARF has established itself as a centre of repute in rehabilitation and research in disorders of the mind. The present team, led by the director Dr R Thara, is comprised of psychiatrists, psychologists, social workers, rehab personnel, and administrative and support staff. SCARF is one of the very few NGOs in the world to be named as a collaborating centre of the World Health Organization (WHO) for Mental Health Research and Training.

### R&D Set-up

The research facilities and infrastructure of the institution are being used by the academia and individuals. These include:

- Genetic lab with equipments, such as centrifuges, pipettes, thermo shaker and mixers, -20°C deep freezers, temperature controlled refrigerators, water bath, oven, autoclave, etc.
- Data management and statistical analysis division equipped with electronic data capture devices and storage devices and statistical analysis software
- Ten hospitals dedicated for research purposes
- Library with 4,000 titles in psychiatry and allied fields, subscriptions to national and

international journals, and access to online literature

### Sources of income for R&D

- Donations,
- Grant-in-aid
- International funding

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15= 138.00

FY 2015-16= 93.00

FY 2016-17= 48.00

### R&D Achievements

- Completed over 70 research projects – national and international.
- Published over 200 scientific papers in national and international peer - reviewed journals.
- Organized international and national conferences, the most notable being the International Conference of Schizophrenia (IConS).
- Brought out books and training manuals.
- Trained several students in research methodology
- SCARF is a popular centre for students of psychology and social work to pursue their research interests.
- Centre for DNB in psychiatry
- Centre for Ph.D studies under the Tamil Nadu Dr. MGR Medical University

### Registered Office

Schizophrenia Research Foundation, SCARF Mental Health Centre, R/7A, North Main Road, Anna Nagar West Extension, Chennai 600101, Tamil Nadu  
T: 44 - 26153971  
E: thara@scarfindia.org  
W: www.scarfindia.org

### Recognition Status

File No.:14/103/1988-TU-V  
Initial Recognition: 1988  
Valid Until: March 31, 2018

### R&D Manpower

Doctorates: 1  
PGs & Graduates: 24

### Research Areas

- Mental health, specifically severe mental disorders, such as schizophrenia

### Research Outcomes

- Papers published:
  - » National: 10
  - » International: 36

## Technical Collaborations

### National

- National Institute of Mental Health and Neurosciences [NIMHANS], Bangalore; Department of Psychiatry, All India Institute of Medical Sciences, Delhi ;Sneha Suicide Prevention Centre, Chennai ; Department of Genetics, University of Madras ; SANGATH, Goa.

### International

- World Health Organization [WHO], Geneva & WHO – SEARO; Douglas Hospital, McGill University, Montreal, Canada; University of Queensland, Australia; Institute of Psychiatry, King's College, United Kingdom

### Societal Relevance

- Programmes in urban slums and villages offer treatment and improve awareness. 🔍



^ Neera produced and marketed by Kerala, using SCMS technology

### Registered Office

SCMS Institute of Bioscience & Biotechnology Research & Development of Pratap Foundation For Education and Training  
South Kalamassery,  
Cochin 682 033, Kerala  
T: 0484 2556315  
E: directorsibb@scmsgroup.org  
W: scmsgroup.org/SIBB/

### Recognition Status

File No.:14/504/2009-TU-V  
Initial Recognition: 2009  
Valid Until: March 31, 2019

### R&D Manpower

PGs & Graduates: 2

## SCMS INSTITUTE OF BIOSCIENCE & BIOTECHNOLOGY RESEARCH & DEVELOPMENT OF PRATAP FOUNDATION FOR EDUCATION AND TRAINING

### Brief Description

The SCMS Institute of Bioscience & Biotechnology Research & Development (SIBBR&D) of Pratap Foundation for Education and Training is a leading organization in the fields of bio-science and bio-technology, research, and development. The facilities are open to researchers and students and also students who wish to specialize in the latest biotech areas. High-quality research leading to production and patenting of bioproducts, recombinant proteins, Industrial enzymes, transgenic crops, plant made pharmaceuticals (PMP), and nutraceuticals are the domains of SIBBR&D. The institute is registered as Trust.

### R&D Set-up

The research facilities and infrastructure of the institution include a four-storied modern building with a total built up area of 22,000 sq. ft built on 20 acres of land has been earmarked by the foundation for research and academic activities of the SIBBR&D. The building accommodates six different laboratories required for research, a library, a conference hall, office space for scientists, computer centre, and an administrative office.

Some of the equipment available at the institute are as follows:

- Electroporator; biophotometer ; UV spectrophotometer; stereo zoom microscope ; inverted phase contrast microscope; manual sequencing gel unit; rotary vacuum evaporator; thermomixer, etc.

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 202.74

### R&D Achievements

#### Products developed

- An edible cream with 4% fat was developed from tender coconut endosperm with rich nutrients essential for human health
- As a sweet exudate of coconut inflorescence, a harvesting and processing technology has developed for preparing Neera health drink.
- Anti-fermentation mixture (AFX) was developed for preventing the auto-fermentation of coconut for Neera.
- Kera Nutrivita, a nutritive powder was prepared from coconut haustorium.

#### Protocols developed

A trans esterification protocol was developed for preparing coconut methyl esters from coconut oil and its efficacy was confirmed as a good fuel in diesel engine

### Research Areas

- Production and characterization of recombinant therapeutic proteins
- Cost-effective bioprocessing of natural products
- Molecular investigations on diabetes and cancer therapy with reference to plant compounds
- Metabolic engineering of enzyme-mediated pathways
- Plant tissue culture and transgenics
- Animal cell culture and tissue engineering

### Research Outcomes

- Papers published:
  - » International: 2
- IPRs held
  - » Patents awarded: 2
  - » Patents filed: 7
- Technologies transferred/commercialized: 2

### Improvements in the existing methods and techniques

- The insulinomimetic property of the crude Stevia powder was confirmed with molecular evidences for developing it as a natural, anti-diabetic drug

### Commercialization potential of products/processes developed

- Training programmes organized for Neera technicians with the financial aid of the Coconut Development Board, Government of India
- Transfer technology through CDB, Government of India

### Technical Collaborations

#### National

- MoU signed for Coconut Neera harvesting and processing technology developed by the SCMS Institute of Bioscience and Biotechnology with Kaipuzha Coconut Producers Company, Kerala
- MoU signed for Coconut Neera harvesting and processing

technology developed by the SCMS Institute of Bioscience and Biotechnology with Kuttiyadi Coconut farmers producers Company and Thirukochi Coconut Producers Company, Kerala

### Societal Relevance

- SIBBR&D has conducted six batches of training programmes for the selected traditional Coconut tappers of the state for the hygienic and scientific harvesting of coconut Neera. The training programmes were conducted in collaboration with Technology Mission, Coconut Development Board, Government of India.
- Coconut Neera harvesting and processing technology developed by the Institute has been transferred to Kaipuzha Coconut Producers Company, Kollam, Kerala; Kuttiyadi Coconut farmers Producer Company, Kerala, and Thirukochi Coconut Producers Company, Kerala. 



^ Research laboratories

## SETH G. S. MEDICAL COLLEGE AND KEM HOSPITAL DIAMOND JUBILEE SOCIETY TRUST

### Brief Description

The Seth G. S. Medical College and KEM Hospital, Diamond Jubilee Society Trust was established in 1989 with the objectives to undertake scientific, social, and statistical research in the field of health, medicine, and applied science. The benefits arising out of results of the research undertaken by the trust would be extended to the poor and needy sections of the community, especially the slums dwellers and the working class in textile and other industries in Mumbai, catered by our public hospital as well as to the patient population at large and to promote medical education and continually offer opportunities of upgrading knowledge, skills in the context of innovations, research, and discovery in all fields of health.

### R&D Set-up

The research facilities and infrastructure of the organization were used by industries, institutions, and individuals. They include Molecular biology laboratory; Biochemistry laboratory; and the Immuno assay Laboratory.

### Equipments available

Auto analyzer biochemistry, micropipettes sets, microscope (binocular-light), electronic weighing balance electrophoresis (horizontal, vertical, western), multichannel micropipettes (variable, autoclavable), ELISA reader, pH meter electronic,

spectrophotometer (Nano drop), gel documentation system, ice flaking machine, Incubator 26 Vortex mixer, Liquid N2 tank, magnetic stirrer

### Sources of income for R&D

- Government Sources

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15=258.68

FY 2015-16=369.27

FY 2016-17=321.31

### R&D Achievements

#### Products developed

- Clinical trials are being done by the trust and these drugs may come in the market.
- Developed a mobile-based app on 'Rapid detection of water contamination in well water', 'App on Rapid assessment & redressal of health issues in antenatal, intra-nasal and post-natal period in collaboration with TCS and Alberta University Canada'.

#### Processes developed

- Successful performance of 'Swap Kidney transplant' that is paired kidney exchange. This is the first incidence of such transplant at public hospital.
- Telemedicine programme for peripheral hospitals.

### Registered Office

Seth G. S. Medical College and KEM Hospital Diamond Jubilee Society Trust, 1st Floor, College Bldg., Above Dean Office, Acharya Donde Marg, Parel, Mumbai 400 012, Maharashtra, T: 022-24156513  
E: avisupe@gmail.com  
W: www.kem.edu

### Recognition Status

File No.: 14/377/2004-TU-V  
Initial Recognition: 2004  
Valid Until: March 31, 2019

### R&D Manpower

Doctorates: 6  
PGs & Graduates: 49

### Research Areas

- Medical Research -metabolic diseases, gastroenterology ,
- Pharmacology nephrology,
- Cardiovascular and thoracic diseases, pediatrics, neonatology

### Research Outcomes

- Papers published:
  - » National: 97
  - » International: 73
- Technologies transferred/commercialized: 4

## Technical Collaborations

### National

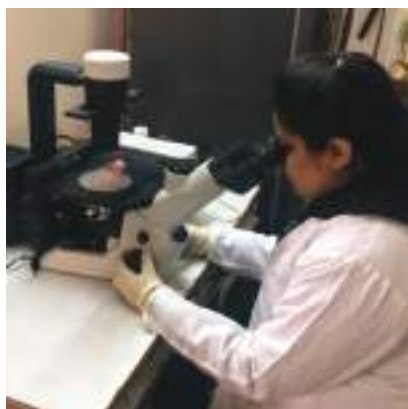
- National Environment Engineering & Research Institute (NEERI), Government of India, for project on Prevalence of Asthma and effects of Air pollution on Asthma (Department of Chest Medicine) Department of Biotechnology, Government of India
- Analysis and search for leads from research project reports supported by DBT through the Medicinal and Aromatic Plants Task Force (Department of Clinical Pharmacology) Pharmacogenetics of Antiepileptic drugs– Role of CYP2C9, CYP2C19, ABCB1, SCN1A & SCN2A in optimizing therapy (Department of Clinical Pharmacology)
- Association of genetic polymorphisms of CYP2C9, VKORC1 and CYP4F2 with adverse effects of warfarin (Department of Clinical Pharmacology)
- Genotype, Phenotype and Radiological Correlation of Idiopathic Hypogonadotropic Hypogonadism (Department of Endocrinology)
- Department of Science and Technology, Government of India, for the study on Genotype – Phenotype correlation of Asian Indian patients with

Pheochromocytoma & Paraganglioma (PHEO& PGL) (Department of Endocrinology)

- Department of AYUSH, Government of India, for the project on a proof of concept, open, and prospective clinical study to explore the frequency of single nucleotide polymorphism of P2Y12 gene and its correlation with different *prakriti* types in normal healthy individuals and patients of atherosclerosis (Department of Clinical Pharmacology)
- Evaluation of the role of *Withaniasomnifera* and *Celastruspaniculatus* in animal models of alcohol addiction

### Societal Relevance

- Workshop for Parents on 'Management of Child with a diagnosis of ADHD at Home'
- Organized "Camp Karma" the 3rd Burn Survivor Camp for children of our country to benefit post burn contracture patients (Department of Plastic Surgery)
- Organ Donation Awareness organized at Indian Medical Association (IMA), Goregaon
- Conducted training and awareness session on AIDS for ITI and CHV students. 🔍



^ Research Laboratory

### Registered Office

Seth Research Foundation  
Building No. 5, Third Floor,  
B-Block, Community Centre,  
Janakpuri, New Delhi 110 058  
T: 9810311407, 0124-4380885  
E: seth.res.fdn@sethfoundation.in;  
president@sethfoundation.in  
W: www.sethfoundation.in

### Location of R&D Units

D-119, Albany Street, Rosewood  
City, Sector 49, Gurugram 122 018

### Recognition Status

File No.:14/579/2011-TU-V  
Initial Recognition:2011  
Valid Until: March 31, 2019

### R&D Manpower

PGs & Graduates: 3

### Research Areas

- HIV-1 Vaccine,
- HIV1 & 2
- HCV
- HBV
- Recombinant DNA technology
- Genetic engineering
- ELISA
- PCR
- Multiplex PCR

## SETH RESEARCH FOUNDATION

### Brief Description

Seth Research Foundation is a non-profit research foundation registered as a non-profit society. The mission of this non-profit organization is to conduct research to ensure a proper management of diseases, including infectious, non-infectious, malignant and genetic disorders through next-generation diagnostic tests, discovery of newer drugs and treatment schedules and development of novel vaccines through genetic engineering and recombinant DNA technology.

### R&D Set-up

The research facilities and infrastructure of the organization include the following:

- Fully-equipped tissue culture laboratory and facility for propagation of cells and isolation of viruses.
- Serology lab to conduct ELISA assay and immunofluorescence assays.
- Molecular biology lab for cultivation of plasmids, cloning DNA into plasmids, polymerase chain reaction (PCR) assay

### Sources of income for R&D

- Government sources

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 19.88

FY 2015-16 = 34.15

FY 2016-17 = 11.87


### R&D Achievements

#### Processes developed

- DNA & rMVA vaccine constructs
- HIV1 [human immunodeficiency virus]
- HCV [Hepatitis C] and HBV [Hepatitis B] detection by multiplex polymerase chain reaction [PCR] followed by liquid hybridization

### Societal Relevance

The following R&D outcomes are of national/societal significance:

- HIV-1 Subtype C Vaccine: It is likely to go for human trials in 2019. It may be used for prevention of HIV infection.
- ELISA-NAT kit: It is likely to go for commercialization in 2018/2019. It will be used by blood banks for screening of donated blood during window period of HIV/ HBV/HCV infections when specific antibodies against these viruses are not detected in the blood. 

### Research Outcomes

- Papers published:
  - » International: 1
- IPRs held
  - » Patent awarded: 4
  - » Patents filed: 1
- International
  - » Patent awarded: 1



^ Research laboratory

## SHARMILA INSTITUTE OF MEDICINAL PRODUCTS RESEARCH ACADEMY

### Brief Description

The Sharmila Institute of Medicinal Products Research Academy (SIMPRA) was established by Shri R J A Raj, chairman, in 1995. SIMPRA, located in Thanjavur, is a research organization duly registered under the Charitable Trust Act. Research activities promoted at SIMPRA is directed towards the most topical issues in medicinal plant genetics and biotechnology. Recently, the orientation of research has been devoted to the studies of functional genomics also, namely, in plant embryogenesis (zygotic, somatic and Gametic). The cytological, morphological, biochemical, and molecular aspects of these processes including cDNA libraries and EST (expressed sequence tag) sequencing of important medicinal plants are followed. The regulation of plant regeneration and development in situ and in vitro conditions are studied in selected medicinal plant species. It caters to the demands of the research scholars from different educational and research institutions.

### R&D Set-up

Some of the equipment available for research are listed as follows:

Alcohol determination apparatus complete set; volatile oil determination apparatus; boiling point determination apparatus; melting point determination apparatus(digital controller); refract meter; polari meter; viscometer; tablet disintegration apparatus; moisture

determination apparatus (IC filtrator); UV Spectro-photometer; muffle furnace; electronic balance (top loading); hot air oven different range of temperature vacuum oven; glass/ steel distillation apparatus; water supply demineralised equipment; heating mandle; TLC apparatus with all accessories

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 0.0011

FY 2015-16 = 0.0011

FY 2016-17 = 0.0011

### R&D Achievements

- Twelve technologies were developed and transferred by SIMPRA to the manufacturing organization.
- A compilation of select essays under the title "Indian System of Medicines: Herbal Remedies— An Overview".

### Products developed

- Sharmi-libi - syrup/cap
- Sharmi-baby - syrup/drops
- Shar stress off - cap
- Shar skin - syrup/cap
- Sharno-kof - syrup/cap
- Asma off - cap
- Adopting a technique using dehumidifier averts microbial contamination drug storage of raw materials. It is to prevent aflotoxic growth and bacterial infections.

### Registered Office

Sharmila Institute of Medicinal Products Research Academy (SIMPRA),  
12/203, Medical College Road,  
Thanjavur 613 007, Tamil Nadu  
T: 04362 245612  
E: enquiry@simpra.co.in  
W: www.simpra.co.in/home.htm

### Recognition Status

File No.:14/380/2004-TU-V  
Initial Recognition: 2004  
Valid Until: March 31, 2019

### R&D Manpower

Doctorates: 58  
PGs & Graduates: 5



### Research Areas

- Fingerprinting analysis for medicinal plants and elemental analysis in medicinal plants
- Phytochemical studies, analysis and quality control of pharmaceutical formulations
- Scientific validation, efficacy profile, and the standardization of the Indian system of medicine

### Research Outcomes

- Papers published:
  - » National: 3
  - » International: 7

### Transfer of technology

- The existing procedure of extraction of crude extract from herbs using hot percolation and cold extraction have been slightly modified to obtain more quantity of extract in better quality by installing indigenous self-designed apparatus.

### Commercialization potential of products/processes developed

- Sharnosol: gastric upset, nausea, vomiting during pregnancy, travel, and radiation sickness


- Sharmens s a product used for regulation f process and management cycle.

### Technical Collaborations

#### National

MoU with Bharathidasan University, Tiruchirapalli, Tamil Nadu; Tamil University, Thanjavur, Tamil Nadu

#### Societal Relevance

Bacillary, amoebic diarrhea, and dysentery products have been commercialized for treatment purposes. 



^ Research Laboratory

## SHIVRATH CENTRE OF EXCELLENCE IN CLINICAL RESEARCH

### Brief Description

Shivrath Centre of Excellence in Clinical Research is committed to provide value-oriented quality education with a view to developing professionals in the field of clinical research and trial management with scientific approach and global outlook. Their endeavour is continuous improvement in quality management system through imparting excellence in training programmes to encourage the overall escalation and advancement of its participants.

### R&D Set-up

The research facilities and infrastructure of the organization include:

- Shivrath Centre of Excellence in Clinical Research has state-of-the-art Wi-Fi facility in around 5,000 sq. ft.
- It also has three air-conditioned training rooms with latest audio-visual aids, conference hall, reception and counselling zone, spacious administrative block, faculty cubical, Information Centre (With 20 LCD computers with updated licensed version of Microsoft windows and SAS 9.2).
- Shivrath Centre of Excellence is also acquainted with an updated library with adequate reference books, journals, and e-books.

### Equipments available

UV visible spectrophotometer; digital pH meter; conductivity meter; reflex condenser; ion exchanger;

colorimeter; vortex mixture; mechanical stirrer; desiccators; burette; and iodine flask


### Technical Collaborations

#### National

Synchron Research Pvt. Ltd; InterVein Laboratories Pvt. Ltd.; Gujarat State Biotechnology Mission, Department of Science and Technology, Govt. of Gujarat; Gujarat University

### Societal Relevance

The following R&D outcomes are of national/societal significance:

- Help to bring the generic molecules in the market. These generic molecules are economical alternatives of the branded drugs as they are marketed at a low price.
- They make the low-priced drugs available to the society as an alternative to costlier drugs. 

### Research Areas

- Molecular biology of leprosy
- Immunology in leprosy
- Bioinformatics and biomedical engineering

### Research Outcomes

- Papers published:
  - » National: 4
  - » International: 3

### Registered Office

Shivrath Centre of Excellence in Clinical Research  
Clinical Research Programs,  
c/o Department of Microbiology,  
School of Science,  
Gujarat University, Navrangpura  
Ahmedabad 380 009, Gujarat  
E: shivrathclinical@gmail.com  
W: www.shivrath.com

### Recognition Status

File No.: 14/570/2011- TU V  
Initial Recognition: 2011  
Valid Until: March 31, 2017

### R&D Manpower

Doctorates: 1



^ Antenatal Care

### Registered Office

Shri Dharamsthala  
Manjunatheshwara Educational  
Society, Ujire. Belthangady,  
Taluk-Dakshina Kannada  
District 574 240, Karnataka  
T: 08256-236225, 236488  
E: ho@sdmsociety.in  
W: www.sdmcde.edu

### Location of R&D units

- SDM Centre for Ayurveda and Allied Sciences and SDM College of Ayurveda, Udupi
- SDM College of Dental Sciences & Hospital, Dharwad
- SDM College of Engineering & Technology, Dharwad
- SDM College of Medical Sciences & Hospital, Dharwad
- SDM Biomedical Research Center, Dharwad, formerly known as SDM Life Science Research Center

### Recognition Status

File No.: 14/707/2016-TU-V  
Initial Recognition: 2016  
Valid Until: March 31, 2019

### R&D Manpower

Doctorates: 32  
PGs & Graduates: 250

## SHRI DHARAMSTHALA MANJUNATHESHWARA EDUCATIONAL SOCIETY

### Brief Description

Shri Dharamsthala Manjunatheshwara Educational Society, Ujire, Karnataka (SDM), is providing education in health and social service for the last 20 years in the state of Karnataka. SDM Educational Society is a center known for its educational excellence that has an outstanding track record of nearly two decades of dedicated service in the sector of education, health, and social service. SDM believes in the dissemination of knowledge with a macroscopic dimension to harness the best of the latent talent and translate it to the academic scenario. The Society is instrumental in elevating the standards of education and empowering the youth with the potent strength of education in a broad spectrum of subjects.

### R&D Set-up

The infrastructure is being used by pharmaceutical industries, academic institutions of Karnataka and neighbouring states and individual scholars.

The total areas covered are as follows:

- SDM Centre for Research in Ayurveda & Allied Sciences (sq. ft)
- Animal house (sq. ft)
- SDM College of Dental Sciences & Hospital (sq. ft)
- SDM College of Engineering & Technology (sq. ft)
- SDM College of Medical Sciences & Hospital with Allied Sciences Research (sq. ft)

- Animal house (sq. ft)
- SDM Biomedical & Life science Research (sq. ft)
- Pharmaceutical Grade Clean Room Clean classified areas designed and built according to ISO-14644 standards and cGMP guidelines (sq. ft)

### The list of instruments is detailed as follows:

- Dissection microscope, Olympus Binocular microscope, Zeiss Stereo microscope with CCTV, Zeiss Trinocular Microscope with Leaf area meter, Analytical balance, High precision single pan balance, Herbarium cabinets of different size, Sieve Shaker with various types of Sieves, CAMAG High Performance TLC Systems (HPTLC), UV-Visible double beam spectrophotometer, Thin layer chromatography set

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 61.48

FY 2015-16 = 414.52

FY 2016-17 = 702.98

### R&D Achievements

#### Products developed

- Guru rasayabna capsule
- Keshyam Granules
- Khadiradi yoga
- Kooshamandam Granules
- Shatavari Granules

### Research Areas

- Medical, dental
- Ayurveda, engineering
- Life Science & biomedical sciences

### Research Outcomes

- Papers published:
  - » National: 108
  - » International: 129
- Technologies transferred/commercialized: 10

- Gandha karpoura
- Manjushree hari oil
- Shishuposhaka taila
- Abhaya Massage oil
- Two Polymeric membranes developed for per evaporation separation of azeotropic mixtures.
- Algorithms were developed for the restoration of Magnetic Resonance Imaging (MRI)
- Nephroabhaya
- Antiobesity formula

### Processes developed

- Spouted bed draft tube bioreactor process technology for denitrification.
- A new prototype with emphasis on driver support system which detects and recognizes traffic signs along with identifying attentiveness of a driver is developed.
- Algorithms were developed for the restoration of MRI.

### Revenue earned by way of licensing Products/Processes/ prototypes, etc., developed

- Shivagutika, SandhiAbhay, Meha Abhay, Pile Abhaya (Developed by Dr Srinivasa Acharya & Dr Muralidhar), Sandhalin (M), Bhargava Prokta Rasayana, Lasoona rasayana, Pippali rasayana
- Murvadhi Ghanavati (Dr Nirnajan) Krishna nirgundi Tailsa (Dr Bairi).

### Technical Collaborations

#### National

National Center for Cell Sciences, Pune; Bhabha Atomic Research


Center, Mumbai; Nitte University, Mangalore; Karnataka University, Dharwad; Kuvempu University, Shimoga Indian Institute of Technology Bombay

#### International

University of North Texas Health Science Center at Fort Worth, Texas, USA

### Societal Relevance

The following R&D outcomes are of national/societal significance:

- Isolation, characterization, and establishment of Cancer Stem Cells lines will promote research and development of newer and improved drug molecules for cure of cancer, the incidence of which is on the rise.
- Generation and characterization of disease-specific induced pluripotent stem cells and their systematic in-vitro, in-vivo, and molecular studies will help in developing novel therapies for life-threatening disorders.
- Primary cell extraction, in-vitro growth, and its transplantation to the respective vitiligo patients will help these individuals to avoid social bias.
- Physical performance enhancing mouth guards in Sports, Dentistry, and Dental Sleep medicine
- First to develop a new technique for assessment and management of congenital vascular malformations via conventional radiography. 



Research Lab

## SHRIMATI KASHIBAI NAVALE MEDICAL COLLEGE & GENERAL HOSPITAL

### Brief Description

The research vision of Shrimati Kashibai Navale Medical College & General Hospital is to lead in advancing human health through excellent patient care, pioneering research, and the education of tomorrow's leaders in health sciences in a culture that supports ethics, diversity, critical thinking, and creativity. Their mandate focusses on generating, preserving, and sharing knowledge for the development of a vibrant society.

### R&D Set-up

The research facilities and infrastructure of the institution are being used by the academia. This is inclusive of the laboratory of the include cumulative research laboratory area spanning around 2,237.026 sq m.

- The equipments dedicated to R&D include the following:
- Chronovisor Ambulab (Autonomic functions & HRV)
- Chronovisor HRV Dx (Autonomic functions & HRV)
- Hain genotype system for the rapid detection and multi drug resistance pattern of Mycobacterium tuberculosis.
- Vitek 2 compact automated system for the rapid identification and antibiotic sensitivity pattern of aerobic bacteria.
- Bact/Alert Automated Blood culture system for rapid detection of microorganism

- OAE Machine - hearing assessment
- Transcutaneous Bilirubinometer – non-invasive bilirubin measurement
- PH monitor probe (ambulatory) – Oesophageanpal PH monitor
- Video EEG machine – to diagnose epilepsy
- Spirometer – pulmonary function test
- High-frequency ventilator– specialized ventilation
- OCT
- Perimetry, etc.

### Sources of income for R&D

- Grants
- National funding

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 15.99

FY 2015-16 = 21.47

FY 2016-17 = 9.49

### R&D Achievements

#### Prototypes developed

- Render professional input to company software, that is the device to measure heart rate variability

#### Technology know-how Transfers

- Pterygium surgery: Newer techniques of securing the graft with the help of autologous blood

### Registered Office

Shrimati Kashibai Navale Medical College & General Hospital,  
S.No. 49/1, 49/2, Off Mumbai–  
Pune Bypass Road, Narhe  
(Ambegaon), Pune 411 041,  
Maharashtra  
T: 020 24106215/256  
E: crd@sknmcgh.org  
W: www.sknmcgh.org

### Recognition Status

File No.: 14/636/2013-TU V  
Initial Recognition: 2013  
Valid Until: March 31, 2019

### R&D Manpower

PGs & Graduates: 475

### Research Areas

- Diabetes mellitus
- Heart rate variability
- Yoga and autonomic neuroscience
- Bio-molecules oncopathology
- Immuno-histochemical markers
- Antigram pattern
- Neuro-ophthalmology

### Research Outcomes

- Papers published:
  - » National: 243
  - » International: 205
- IPRs held
  - » Patents filed: 4
- Technologies transferred/commercialized: 1

### Technical Collaborations

#### National

Parivartan Trust Rehabilitation under the structured program, INCENSE (programme for the inclusion and empowerment of people with severe mental disorders); Smt. Kashibai Navale College of Pharmacy, Kondhwa (bk), Pune; Sinhgad College of Pharmacy, Vadgaon-Ambegaon (bk), Pune; Sinhgad Dental College and Hospital, Pune; Smt. Kashibai Navale College of Physiotherapy, Pune; Sinhgad College of Nursing, Pune; INTOX Pvt. Ltd, Pune; APT Research Foundation, Pune

### Societal Relevance

- Awareness programmes organized on *Beti Bachao*, International Women's Day, World Health Day, World Population Day, Breastfeeding Week, World Heart Day
- Antibiotic sensitivity pattern helps in deciding the antibiotic policy of the hospital
- Catchment area for the management of diseases
- Studies on pathogens epidemiology of the pathogenic strains present in the community
- HRV technology for the assessment of autonomic dysfunction in diabetes, prediction of CAD, preeclampsia, and neonatal sepsis. 🔍



^ Research Laboratory

### Registered Office

Sir Ganga Ram Trust Society  
Rajinder Nagar, Sir Ganga Ram  
Hospital Marg,  
New Delhi 110 060  
T: +91 11 25750000  
E: gangaram@sgrh.com  
W: <https://www.sgrh.com/>

### Recognition Status

File No.: 14/350/2003-TU-V  
Initial Recognition: 2003  
Valid Until: March 31, 2020

### R&D Manpower

Doctorates: 25  
PGs & Graduates: 12

## SIR GANGA RAM TRUST SOCIETY

### Brief Description

Sir Ganga Ram Trust Society is responsible for the functioning of Sir Ganga Ram Hospital, which is a 675-bedded, multispecialty, and a state-of-the-art hospital. A premier medical institution, the hospital provides comprehensive health care. The hospital has been continuing its charitable acts in accordance with the wishes of its founder, wherein it has committed to make available 20% of its beds for the admission of indigenous and financially weaker sections of society, inclusive of all the expenditures related to investigations, medicines, and operative procedures. The Ganga Ram Institute for Postgraduate Medical Education and Research (GRIPMER), an overarching body, was constituted in 2012. Its primary aim is to facilitate and enhance the growth and advancement in healthcare within the organization. The GRIPMER functions under the authority and supervision of the Board of Management, Sir Ganga Ram Hospital.

### R&D Set-up

The research facilities and infrastructure are used by the hospital faculty and university collaborators.

### Infrastructure used for Research activities:

Dept. of Research; Hematology; Biochemistry; Histopathology; Genetic Lab (SSRB); Genetic Lab (Old building); Microbiology; Blood Bank; Ultrasound; Radiology; I.V.F. Lab; Nuclear Medicine & PET Scan; Urology; C.T. Scan & MRI; Echo Lab

### Sources of income for R&D

Government sources and donations

### R&D expenditure (₹ in lakhs)

The SIRO maintaining separate accounts for R&D

FY 2014-15 = 650.49

FY 2015-16 = 502.27

FY 2016-17 = 571.20

### R&D Achievements

#### Major research outcomes

Developed a prototype sternal closure device (PI: Dr S Shad in the field of Cardio surgery ) clinical trial conducted

### Technical Collaborations

#### National

Jamia Hamdard University, Delhi

#### International

Khesar Gyalpo University of Medicines & Sciences, Thimpu, Bhutan (for medical science training and collaborations)

### Societal Relevance

- Participation in several national missions, especially related to healthcare, including practice of good sanitation (for both children and adults).
- Parent awareness camp for kidney diseases in children.
- Free 'Health Mela' in association with the World Brotherhood Organization at the Buddha Jyanti Park.
- Free hypertension and kidney disease screening camp for

### Research Areas

- Clinical and translational research, including stem cell

### Research Outcomes

- Papers published:
  - » National: 204
  - » International: 197
- IPRs held
  - » Patents filed: 3

children organized in association with Sneham School.

- Free heart camp organized in association with the resident welfare association, Prasad Nagar, on the occasion of World Heart Day.
- Free health mela for senior citizens at Anugraha India, a Government of India initiative was organized in association with the Ministry of Social Justice at the Chinmaya Mission, Lodhi Road.
- Yoga camp organized in association with Women on Wealth (WOW).
- Free obesity and diabetes awareness camp organized in association with Rajasthani Bhawan Nirman Group Housing Samiti.
- Breast cancer awareness camp and so on. 🔍





^ The central laboratory

## SIR HURKISONDAS NURROTUMDAS MEDICAL RESEARCH SOCIETY

### Brief Description

The Sir Hurkisondas Nurrotamdas Medical Research Society, registered under the Societies Registration Act, 1860 (XXI of 1860), conducts biomedical applied research, which involves studying and discovering new molecules in the human body so as to assist in acquiring a better understanding of human disease and its treatment. The society has its own independent research laboratory and dedicated MSc and PhD research scientists.

### R&D Set-up

The institution's research facilities and infrastructure are being used by academia, research scientists, and clinical investigators. The organization has independent premises and an exclusive research laboratory along with offices for research/administrative staff and students.

The exclusive and self-owned research equipment for research activities of the SIRO are listed as follows:

- Klenzaid's horizontal laminar flow; gamma counter; universal cooling centrifuge; cyclo mixer (REMI); klenzaid's class 100 vertical "gradvel laminar downflow"; remi general purpose revolutionary lab centrifuge; one vertical autoclave size = 14" x 22" d'sco brand; one bacteriological incubator- s.S. Inside & thermostatic control; klenzaid's laminar flow; olympus inverted tissue culture microscope model CD2; 1 allwyn : 300 ltrs. Double door refrigerator; olympus trinocular microscope; fisher

model microcentrifuge; laboratory incubator; binoplan binocular microscope; lyophiliser 18 dna amplifacat, etc.

### Sources of income for R&D

Grant-in-aid

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 56.92

FY 2015-16 = 49.94

FY 2016-17 = 55.09

### R&D Achievements

- Study on "Extraction of Siderophores from Mycobacterium Smegmatis and Their Evaluation As Novel Therapeutic Agents" provides a "proof of concept" that iron chelation therapy may be useful against drug-resistant pathogens and thus reinforces the antimicrobial potential of siderophores against drug-resistant pathogens and may be useful in adjunctive therapy. In some ways this should contribute towards the "End TB Strategy" initiated by WHO with the aim of ending TB by 2035.
- Study on "Longitudinal Study of Relationship of B12, Folate, Homocysteine and FDG-PET Scans to the Risk of Dementia in Elderly Population" has contributed to the understanding of the conversion of MCI and normal controls to Dementia with specific reference to their serum B12, folate, and vitamin D levels, subclinical

### Registered Office

Sir Hurkisondas Nurrotumdas  
Medical Research Society  
Raja Ram Mohan Roy Road  
Prarthana Samaj, Girgaon  
Mumbai 400 004, Maharashtra  
T: 022 35493881/2  
E: kiron.manekar@ril.com  
W: www.grid.ac

### Recognition Status

File No.:14/24/1988-TU-V  
Initial Recognition:1988  
Valid Until: March 31, 2018

### R&D Manpower

Doctorates: 4  
PGs & Graduates: 3

### Research Areas

- Applied research in biomedical sciences
- Genetics
- Biochemistry
- Applied biology
- Microbiology
- Clinical medicine and clinical research

### Research Outcomes

- Papers published:
  - » National: 14
  - » International: 10
- Technologies transferred/commercialized: 3

peripheral nerve dysfunction, association of Apolipoprotein-E (APOE) gene and methylene tetrahydrofolate Reductase (MTHFR) gene expression in cases of dementia, and the role of FDG-PET scans in dementia and MCI.

### Technical Collaborations

#### National

Topiwala National Medical College and B Y L Nair Hospital, Mumbai; Jaslok Hospital & Research Centre, Mumbai; P D Hinduja Hospital & Research Centre, Mumbai; Conwest Jain Trust Hospital, Mumbai; Nana Palkar Smruti Samiti, Mumbai; Homi Bhabha National Institute, Government of India (BARC), Mumbai

#### International

European Society for Intensive Care Medicine (ESICM); Ghent University, Belgium

### Societal Relevance

- Siderophores as drug delivery agents in drug-resistant organisms

will help in the fight against multi-drug tuberculosis and hospital-acquired infections.

- Study of molecular and cellular immune mechanisms to understand the link between diabetes and cardiac problems has helped clinicians at the hospital to appreciate the molecular link between diabetes and metabolic syndrome, a very common and rampant lifestyle disease in India and across the world.
- The study on the role of FDG-PET scans in dementia is the first such study in India and in the world and its results will enhance the use of FDG-PET scans to diagnose and follow-up on the progression of dementia amongst the elderly Indian population.
- Study on the increased risk of tuberculosis in patients with rheumatoid arthritis has offered proof that Whole Blood Interferon Gamma Assay is far superior to the conventional Tuberculin Skin Test in the diagnosis of tuberculosis. 🔍



^ Blood donation camp

### Registered Office

Sitaram Bhartia Institute of  
Science & Research  
B-16, Qutab Institutional Area,  
New Delhi 110 016  
T: 42111100  
E: enquiries@sitarambhartia.org  
W: www.sitarambhartia.org

### Recognition Status

File No.: 14/76/1988-TU-V  
Initial Recognition: 1988  
Valid Until: March 31, 2018

### R&D Manpower

Doctorates: 1  
PGs & Graduates: 9

## SITARAM BHARTIA INSTITUTE OF SCIENCE & RESEARCH

### Brief Description

Established with the spirit of serving society through research, the Sitaram Bhartia Institute of Science & Research has evolved into an organization that combines medical research with excellence in patient care. Their research focusses on collecting health-related information, translating evidence-based guidelines in clinical practice, developing cost-effective interventions for improving care, investigating factors influencing disease development, and analysing medical literature for developing clinical guidelines.

### R&D Set-up

The institution's research facilities and infrastructure are being used by the academia and individuals. These include:

- Facilities for patient examinations, laboratory, record room, and other facilities, such as diabetes, nutrition, physiotherapy, and research centre.
- Facilities for ultrasound, PFT, ECG, operation theatre, procedure room, labour room, NICU, intensive care unit, and endoscopy.
- Other departments— such as administration, medical record room, accounts, electronic data processing (EDP), library, engineering department, and medical documentation— are these as well.

The list of available equipment are as follows:

- Defibrillator; C-Arm; mobile X-ray; chiller plant; phototherapy unit; radiant heat warmer;

- Auto refractometer; ultrasound system logiq, etc.

### Sources of income for R&D

- Donations
- Grant-in-aid
- International funding

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 451.09

FY 2015-16 = 502.96

FY 2016-17 = 613.79

### Technical Collaborations

#### National

- S L Jain Hospital; All India Institute of Medical Sciences, New Delhi; Institute of Home Economics, University of Delhi; St John's Research Institute, Bengaluru; St. John's National Academy of Health Sciences; University College of Medical Sciences; CCDC; IGIB.

#### International

- MRC Unit of Epidemiology, University of Southampton; COHORTS collaboration (Brazil, South Africa, Guatemala, Philippines); Emory University, US; London School of Tropical Medicine and Hygiene

### Societal Relevance

- The research output has been utilized for formulating national and global policies.
- Specifically, an evidence-based booklet has been produced and

### Research Areas


- Clinical epidemiology
- Nutrition
- Maternal and child health
- Cardiovascular health

### Research Outcomes

- Papers published:
  - » National :18
  - » International: 30

antenatal workshops have been organized periodically to educate the participants about maternal and child well-being.

- The institution has co-organized the Second International Workshop on Micronutrients

and Child Health and hosted CME on anterior knee pain, interactive session with community doctors, and workshop on "Recent Advancement in Shoulder and Spine Rehabilitation". 



▲ Production of therapeutic food in a health clinic

## SOCIETY FOR APPLIED STUDIES

### Brief Description

The Centre for Health Research and Development (CHRD), Society for Applied Studies (SAS), is a not-for-profit organization engaged in community-based research related to child health and nutrition, development of interventions and their evaluation, and evaluation of childhood vaccines. High moral values and good work ethics are an integral part of the work environment. CHRD has a supportive and nurturing environment where an individual is given the guidance and space to work and perform. The dedicated team has won many accolades for their commitment. Integrity, quality, and efficiency are the key components of the organization. It was registered as a society—non-governmental organization with registration number: S/66380.

### R&D Set-up

The research facilities and infrastructure of the organization are used by the research staff:

- Research Coordination and Management Support Centre in Kalu Sarai, New Delhi: 9000 sq. ft of constructed space spread over 5 floors with a Big Data Facility, Young Investigators Training Centre, Offices of several principal investigators, offices for administrative, and human resources and finance teams.
- A Clinical Science Centre in Devli, New Delhi: Around 10,000 sq. ft with facilities for screening, enrollment, randomization, assessment, collection and storage of biological specimens, patient monitoring and outpatient care for evaluation of vaccines and diagnostics and other health care technologies for the academia and industry.
- A Population Science Research Centre in Palwal, Haryana: 5,500 sq. ft covered area in Tatarpur, District Palwal. In addition, it also maintains R&D support infrastructure in District Sirmour, Himachal Pradesh and District Sonapat, Haryana.
- Data Management and Analysis Centre, New Delhi: SAS has established a big data management centre for storage and analysis of data from cohort and intervention studies in humans done by SAS. Specialized systems for security (restricted access), fire safety (fire resistant cabinets, smoke detectors, automatic fire alarms, fire extinguishers and water sprinklers), and unauthorized data control (restricted access server rooms, antivirus and spyware, Windows Firewall) are available as per global standards.
- Clinical and research laboratories: An in-house laboratory 'Clinical and Research Laboratories' is located in the South Delhi field office of SAS. It is equipped for specimen processing for serum/plasma separation, storage of specimens in  $-20^{\circ}\text{C}$  deep freezers, continuous monitoring through Temperature Monitoring Systems with SMS and call alerts to designated persons for temperature deviations. The

### Registered Office

Society for Applied Studies  
CF-198, Salt Lake, Sector-1,  
Kolkata 700 064  
West Bengal  
T: 011-46043751-55  
E: chrd@sas.org.in  
W: <http://sas.org.in>

### Recognition Status

File No.:14/308/1999-TU-V  
Initial Recognition: 1999  
Valid Until: March 31, 2020

### R&D Manpower

Doctorates: 8  
PGs & Graduates: 78

### Research Areas

- Maternal, neonatal, and child Health
- Nutritional sciences
- Infectious diseases and vaccines
- Implementation research

### Research Outcomes

- Papers published:
  - » International: 44
- Technologies transferred/commercialized: 1

laboratory equipment includes Hematology Automated Analyser (Sysmex XN100), Biochemistry Automated Analyzer (Cobas CI 11), Bactec FX40 Automated Modular Blood Culture System, EVOLIS Twin Plus Fully Automated ELISA Processor, Creamatocrit Plus Centrifuge, Millipore Water Purification System, Elix Essential Water Purification System - 30 litre reservoir, Super Pro Dual Filter Prefiltration System, cooling centrifuge, autoclave, incubator, microscope, -20°C and -80°C deep freezers, refrigerators, biosafety cabinet and Sartorius Analytical Weighing Balance.

- Storage and Archival Facility: SAS has two storage and archival facilities (spread over 1,800 sq. ft and 2,250 sq. ft) in South Delhi where all study related documents are stored. The offsite data management back-up is also kept in this facility. Documents are stored in fire resistant cupboards.
- Vaccines Storage Facility: A limited access, fully air conditioned vaccine storage facility has been set up in the field office. The vaccines are stored in refrigerators or deep freezers according to the storage requirements. Calibrated continuous temperature monitoring systems are installed in each facility to maintain and record the temperature in the desired range.

### Sources of income for R&D

- Government International
- Other Sources

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 2,401

FY 2015-16 = 3,368

FY 2016-17 = 5,756

## R&D Achievements

### Products developed

- Clinical development of 116E oral rotavirus vaccine: Investigators at SAS were involved in the clinical development of the neonatal strain 116E, isolated from an asymptomatic newborn at the AIIMS nursery. This candidate vaccine has undergone phase I, II and III trials that demonstrated the safety, immunogenicity and clinical efficacy. The vaccine is now licensed as ROTAVAC® and was introduced in the Universal Immunization Program on March 26, 2016.
- Development of Regimens for Home Treatment of Uncomplicated Severe Acute Malnutrition using Lipid-based Biological Foods—Ready-to-Use for Therapeutic Food.
- Involvement in Phase III Clinical Trial of the Bovine Rotavirus Vaccine

### Processes developed

- Development of Integrated Management of Neonatal and Childhood Illness; Evaluation of its Efficacy on Neonatal and Infant Mortality and Severe Clinical Infection

### Revenue earned by way of licensing products/processes/ prototypes, etc., developed

- SAS was involved in the clinical development of ROTAVAC vaccine manufactured by Bharat Biotech International Ltd, Hyderabad, Telangana
- SAS is providing consultation to Bharat Biotech International Ltd for evaluation of a new rotavirus vaccine which is stable at 4°C to 5°C as against the current vaccine at -20°C introduced in the national programme.

- SAS participated in the phase III trial for evaluation of the safety and efficacy of the BRV-PV rotavirus vaccine manufactured by Serum Institute of India Ltd, Pune

## Technical Collaborations

### National

Core Vaccine Evaluation Unit of the Department of Biotechnology, Government of India; Population Science Partnership Centre with Translational Health Science and Technology Institute, Faridabad; Collegium of Clinical Research Excellence of the Clinical Development Services Agency (CDSA) of the Department of Biotechnology, Government of India; Memorandum of Understanding with Christian Medical College, Vellore and KEM Hospital Research Centre, Pune; Collaboration with Hamdard Institute of Medical Sciences & Research (HIMSR) and Associated Hakeem Abdul Hameed Centenary Hospital (HAHC Hospital); Collaboration on Implementation Research in Child Health and Nutrition between the Department of Health and Family Welfare, Government of Haryana and SAS.

### International

Collaborating Centre for Research, Community-based Action and Programme Development in Child Health of the World Health Organization, Geneva; Centre for Intervention Science in Maternal and Child Health of the Centre for International Health at the University of Bergen, the Norwegian Institute of Public Health, and the Christian Michelsen Institute, Norway; Family Health Research Platform Award by Bill & Melinda Gates Foundation;

Collaboration on the Global Initiative on Healthy Birth, Growth, and Development (HBGD); Knowledge Integration (HBGDA7), a Big Data Initiative; Knowledge Integration and Translational Platform (KnIT)

## Societal Relevance

The following R&D outcomes are of national/societal significance.

- Affordable, safe, and efficacious vaccine against rotavirus whose clinical development components were conducted by investigators at SAS. This vaccine has been introduced in several states of India and is scaled up to cover rest of the country in the next few months.
- SAS was one of the six sites across India to assess efficacy and safety of the bovine rotavirus vaccine manufactured by the Serum Institute of India Ltd. The vaccine was found efficacious and safe in Indian infants and can be a cost effective and heat stable option in the global diarrhoea prevention strategy.
- SAS published findings of a trial demonstrating the safety and efficacy of lipid-based, non-aqueous, ready-to-use, fortified food formulation for treatment of severe acute malnutrition. This will transform the way severely malnourished children are treated in India.
- SAS has set up a model district in Sonipat where 90% of low birth weight will receive KMC in facilities where they are born or at home. This is an outstanding example of research to practice. 🔍



^ External counter pulsator (ECP)

### Registered Office

Society for Biomedical  
Technology, DEBEL,  
Bengaluru 560 075, Karnataka  
T: 080-25284235  
E: contact@sbmtindia.org  
W: www.sbmtindia.org/

### Recognition Status

File No.:14/448/2007-TU-V  
Initial Recognition: 2007  
Valid Until: March 31, 2018

### R&D Manpower

PGs & Graduates: 3

### Research Areas

- Biomedical technology
- Medical devices
- Design and Development
- Affordable healthcare

## SOCIETY FOR BIOMEDICAL TECHNOLOGY

### Brief Description

The Society for Biomedical Technology (SBMT) was established in June 1993 with the primary objective to indigenously develop medical products using defence technology spin-offs so that they can be made affordable for the common man and thus provide better healthcare facilities to larger sections of our population. SBMT is an inter-ministerial initiative with participation from the Department of Science & Technology (DST), Defence Research & Development Organization (DRDO), and the Indian Council of Medical Research (ICMR).

### R&D Set-up

- The research facilities and infrastructure of the organization are used by R&D organizations and academic institutions.
- The Society supports R&D through labs of R&D organizations, such as DRDO and academic institutions. In addition, an area of 1,200 sq. ft is earmarked in DEBEL to carry out biomedical research in line with the mission of SBMT.

### Sources of income for R&D

- Grant-in-aid

### R&D Achievements

#### Products developed

- Cochlear implant
- MEMS-based intracranial pressure sensor
- Above knee (transfemoral) prosthesis (AKP)

- Electrocorticography electrodes (ECoG)
- Hydroxyapatite-based improved orbital implant (IOI)
- External Counterpulsator (ECP)

### Commercialization potential of products/processes developed

- CI, above knee prosthesis, ECoG electrodes, improved orbital implant, and the external counterpulsator are in the phase of clinical validation before commercialization.

### Societal Relevance

The following R&D outcomes are of national/societal significance:

The organization is involved in national or societal missions, some of them are:

- SBMT selects and develops biomedical devices which are of considerable impact on making healthcare affordable, which is also the mission of SBMT. 🔍

### Research Outcomes

- IPRs held
  - » Patent filed: 1





- ^ Antenatal Care
- Weekly CHV's Meeting
- Vaccination
- Door to Door Survey

## SOCIETY FOR HEALTH ALLIED RESEARCH AND EDUCATION, INDIA (SHARE-INDIA)

### Brief Description

Society for Health Allied Research and Education, India (Share-India) was formed and registered in 1986 as a research society. It provides universal effective health care to the rural population within the financial means of Indian society.

### R&D Set-up

The research facilities and infrastructure of the organization are used by society for its projects which include the following:

#### College Building

The College Building has three Blocks, each consisting of 4 floors- 'A' Block houses the pre-clinical departments, Community Medicine, two Lecture Halls, and one Examination Hall with floor area of 5,947 sq. m. 'B' Block houses Para-clinical departments and Administrative chambers, Principal, Dean's Offices and Council Hall with floor area of 5,947 sq. m. 'C' Block houses the Central Library, two Lecture Halls, Mortuary, and extension of Para-clinical departments with a floor area of 4,832 sq. m.

#### Central Laboratories

- Central & experimental laboratories are managed by staff of Pathology, Microbiology, & Biochemistry departments fully equipped with latest equipment.

The list of equipments is as follow:

- Building with an area of 12,000 sq. ft area, DCA Analyzer; Freezers -86°

C, Server for storage of electronic records of the studies Kirloskar Sledge Pump, Baby Weighing Scale, Weighing Scale – Adult

#### Sources of income for R&D

- Donations
- Grant-in-aid
- Others (corpus & interest)

#### R&D Expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 828.16

FY 2015-16 = 1,094.46

FY 2016-17 = 1,655.51

#### R&D Achievements

Major research projects undertaken by the organization are:

- SHARE INDIA has been conducting training courses since 5 years from 2012 for the medical faculty and the students of MediCiti Institute of Medical Sciences (MIMS) on research methods through Graduate School of Public Health (GSPH), University of Pittsburgh. Dr Clareann H Bunker, Associate Professor, Graduate School of Public Health, University of Pittsburgh, USA, is the Principal Investigator of this programme. The goal is to develop the research skills and teach the methodology in the conduct of research. Around 30–35 faculty members from MediCiti Institute of Medical Sciences were trained for five years from 2012 to 2016.

#### Registered Office

Society for Health Allied Research and Education INDIA (SHARE INDIA), MIMS Campus, Ghanpur Village, Medchal Mandal & District 501 401, Telangana  
T: 08418-256237, 256153  
W: www.sharefoundations.org

#### Recognition Status

File No.: 14-153/1990-TU-V  
Initial Recognition: 1990  
Valid Until: March 31, 2017

#### R&D Manpower

Doctorates: 2  
PGs & Graduates: 27

### Research Areas

- Maternal and Child Health
- Communicable and Non-communicable Diseases
- Healthy Aging

### Research Outcomes

- Papers published
  - » National: 9
  - » International: 4

- Prospective dengue seroprevalence Study in 5–10 year old children in India: a community-based descriptive cross sectional study.
- Mobility and Independent Living in Elders Study
- Technology-Enabled Community Health Worker Led Intervention to Reduce Cardiovascular Disease Burden in India - TETRA extension of REACH 2 (NCD)
- Caesarean Surgical Site Infection (CSSI) Study
- Develop and Test 3D Printing Technology to Produce Innovative Limbs at Affordable Costs for the Disabled in India

- Empowering Indian Health Researchers with Computational Modelling Tools

### Technical Collaborations

#### National

- Public Health Foundation of India (PHFI); Centre for Chronic Disease Control (CCDC); Indian Institute of Public Health (IIPH) ; Birla Institute of Technology & Science (BITS) Pilani, Hyderabad Campus

#### International

- University of Pittsburgh; Johns Hopkins University. [Q](#)



## SOCIETY FOR WELFARE OF THE HANDICAPPED PERSONS

### Brief Description

The Society for Welfare of the Handicapped Persons, a non-profit philanthropic organization, has been working in India since 1981 towards elimination of leprosy. The institute's fundamental activity is to undertake research, education, and training in homoeopathic system of medicine for prevention of disability. They work to not be blindly influenced by precedent, but rather proactively seek out alternative solutions to the world's health problems. The Institute of Health Studies and Rehabilitation under the umbrella of the Society for Welfare of the Handicapped persons is such a research and development organization which has been striving with a vision since its inception to provide low-cost health care facilities to the underprivileged people. They believe that through such improvement in health, particularly of the poor, 'vicious circle' of poverty can be converted into 'virtuous circle' of prosperity.

### Sources of income for R&D

Donations

### R&D expenditure (₹in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 49.953

FY 2015-16 = 45.690

FY 2016-17 = 39.773

### R&D Achievements

#### Processes developed

- Treatment of leprosy

#### Research projects

- The clinical researches undertaken in the homoeopathic system of medicine so far, recorded a remarkable success in the treatment of planter ulcer and nerve impairment in leprosy-cured persons who have been released from multi-drug therapy and are suffering from different residual effects, such as chronic ulcers, peripheral anaesthesia, and other secondary complications.
- Apart from the clinical evaluation, the histopathologic study demonstrated that one single homoeopathic medicine has got potentiality to reverse degenerative changes of nerve cells.
- Studies on the efficacy of a homoeopathic medicine in the treatment of osteomyelitis in neuropathic feet in leprosy.
- A randomized double-blind clinical trial of a homoeopathic medicine in the treatment of trophic ulcer and neuropathy in leprosy.
- Role of homoeopathic medicines in upregulation of host immunity using leprosy disease model.
- Prevention of disability in multi-drug treated leprosy affected

### Registered Office

Society for Welfare of the Handicapped Persons  
27 Tagore Avenue, Durgapur 713 204,  
Dist. West Burdwan, West Bengal  
T: 9476133143,  
E: drdhrubachakraborty@gmail.com  
W: [http://ihsr.in/ihsr\\_contact.html](http://ihsr.in/ihsr_contact.html)

### Recognition Status

File No.: 14/364/2004-TU-V

Initial Recognition: 2004

Valid Until: March 31, 2018

### R&D Manpower

Doctorates: 3

### Research Areas

- Prevention and control of disability in leprosy-affected persons
- Treatment of leprosy through homoeopathy
- Neuropathic diseases and its associated complications
- Study and treatment of mentally- retarded persons
- Study of toxicity of homoeopathic medicine

### Research Outcomes


- Papers published:
  - » National: 4
  - » International: 4

persons through homoeopathy in two districts of Chhattisgarh, India—a pilot study.

### Societal Relevance

The following R&D outcomes are of national/societal significance:

- To achieve the goal of eradication of leprosy, early diagnosis of the disease is very essential and creation of public awareness is the only tool to involve community.

- Provide free treatment in homoeopathic system of medicine to all the leprosy-affected persons who have completed multi-drug therapy but suffering from loss of sensation in their hands and feet.
- Treat patients with type I reaction case without steroid without MDT. 



Regular medical check-up for all

## SOUKYA FOUNDATION CHARITABLE TRUST

### Brief Description

SOUKYA Foundation was established with a vision of making 'Complete Health Care' accessible to the common man through Ayurveda, Naturopathy, Homeopathy, and Yoga, the focus being preventive, early intervention, and cure. SOUKYA Foundation runs several charitable and free clinics in different parts of Bengaluru, benefitting patients from all sectors of society.

### R&D Set-up

The research facilities and infrastructure of the organization include the following:

Multi-centric Facility

- Dr Mathai's SOUKYA Indian Holistic Health Centre Pvt Ltd, SOUKYA Road, Samethanahalli, Whitefield, Bengaluru 560 067
- Dr Mathai's Bangalore Holistic Medical Centre, 1,700 sq. ft 202 Parvathi Plaza' 105 Richmond Circle, Bengaluru 560 025
- Dr Mathai's Rural Holistic Health Centre lab 1,600 sq. ft, Primary Health Centre premises, Jadigenahalli, Hoskote Taluk, Karnataka

The land and buildings and area earmarked for R&D activities includes the following:

- Dr Mathai's SOUKYA Indian Holistic Health Centre Pvt Ltd
- Dr Mathai's Bangalore Holistic Medical Centre
- At DMRC there is special area earmarked for R&D

### Equipments available

- Autoclave, apparatus and belts, lab equipments, pathology kits, laboratory glass and plastic wares, incubator machine, cell counter machine, easy one spirometer, etc.

### Sources of income for R&D

- Donations
- Grant-in-aid

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 29.68

FY 2015-16 = 25.90

FY 2016-17 = 29.59

### R&D Achievements

Major research projects undertaken by the organization are:

- A retrospective study on 2,500 cases suffering from respiratory diseases
- An observational study conducted on paediatrics age group suffering from acute respiratory infections
- An observational study in bronchial asthma and allergy using homeopathy and auxiliary methods
- Spirometry study on KSRTC employees
- Effect of Vitamin D supplementation on the anthropometric, selected biochemical parameters, and blood pressure levels of Vitamin D-deficient healthy pre-menopausal women

### Registered Office

SOUKYA Foundation Charitable Trust, 202 Parvathi Plaza, 105 Richmond Circle, Bengaluru 560 025, Karnataka  
T: 080-2801 7000  
E: info@soukya.com  
W: www.soukyafoundation.org/

### Recognition Status

File No:14/648/2014-TU-V

Initial Recognition:2014

Valid Until: March 31, 2019

### R&D Manpower

Doctorates: 2

PGs & Graduates: 12

### Research Areas

- Conducts R&D work in holistic and integrative medicine, especially in the field of AYUSH (Ayurveda, Yoga & Naturopathy, Unani, Siddha, Homeopathy) and Nutrition.

### Research Outcomes

- Papers published
  - » National: 1

- An open observational trial of homeopathic treatment in mild and moderate COPD with spirometry evaluation
- Comparison of Vitamin D and bone mineral density status amongst indoor and outdoor pre-menopausal women workers of low-income groups
- A randomized controlled trial of homeopathic remedies in the treatment of alcohol dependence

### Societal Relevance

The following R&D outcomes are of national/societal significance:

- Water to the affected areas was sent by water tankers till they could restore their basic water facilities.

- Cholera-preventive homeopathic medicines were distributed in four affected cities covering at least 15,000 people.
- Preventive medicine for conjunctivitis was distributed through Dr Mathai's Holistic Homeopathy Clinic at Christel House to the children and staff of Christel House.
- H1N1 preventive medicine was distributed to the patients at the clinics during the outbreak and nearly 15,000 patients were helped with this preventive medicine.
- Preventive medicine for Chikungunya was distributed through the various clinics of the organization during the epidemic. 🔍



^ The vein-viewer device which shows the precise location of the veins and eliminates the pain of injection

### Registered Office

Sree Chitra Tirunal Institute for Medical Sciences & Technology,  
Thiruvananthapuram 695 011  
T: 0471 2443152  
E: sct@sctimst.ac.in  
W: www.sctimst.ac.in

### Location of R&D Units

- Poojappura,  
Thiruvananthapuram, Kerala

### Recognition Status

File No.: 14/106/1988-TU-V  
Initial Recognition: 1988  
Valid Until: March 31, 2018

### R&D Manpower

PGs & Graduates: 155

## SREE CHITRA TIRUNAL INSTITUTE FOR MEDICAL SCIENCES & TECHNOLOGY

### Brief Description

The Sree Chitra Tirunal Institute for Medical Sciences & Technology focusses on high-quality patient care, technology the development of industrial significance, and health research studies of social relevance. The emphasis is on the development of facilities that are less readily available elsewhere in the country, such as interventional radiology, cardiac electrophysiology, presurgical evaluation and surgery for epilepsy, microsurgery and deep brain stimulation for movement disorders, new biomedical devices and products, evaluation of medical devices to global specifications, new academic programmes, and global public health networks. An institute of national importance, it was constituted under an Act of Parliament (Act 52 Of 1980) under the Department of Science and Technology, Government of India.

### R&D Set-up

- The research facilities and infrastructure of the institution are being used by the academia and individuals. These include various labs with sophisticated equipment and facilities involved in different areas of research, such as bioceramics, biosurface technology, polymer division, polymer analysis, tissue culture, microbiology, molecular medicine, thrombosis research unit, device testing lab, modelling and prototyping lab, instrumentation, dental products, Polymer processing, etc.

- There are also various supporting facilities for research, such as technology-proving facility, scanning electron microscopy, animal house, histopathology, precision fabrication facility, transmission electron microscopy, toxicology, division of in vivo models and testing, intellectual property rights cell, technology business division, etc.
- Sophisticated equipment, such as Confocal Raman, AFM, FT Raman, Micro CT, scanning and transmission electron microscopy, confocal microscopy, 3D prototyping equipment, profilometry, UTMs, spectrophotometers, wear-testing machines, environmental chambers, etc.
- Unique facilities, 3D bioprinting, such as facility, large-animal operation theatre, animal house, precision fabrication facility, Diamond-like carbon coating facility, incinerators, etc.
- The institute has an incubation centre known as TIMed for start-ups in the medical devices segment.

Some of the equipment available are as follows:

- Oec 9900 Elite 12" C Arm, precision cut-off, grinding machine, particle image velocimetry, leica dvm6s digital microscope, left heart, simulator

### Sources of income for R&D

- Donations
- Grant-in-aid

## Research Areas

- Biomedical engineering domain- designing, modelling, prototyping and testing of cardiovascular and neuroprosthetic devices and implants
- Biomaterials - polymers for drug-delivery applications, sensor applications, coatings on medical devices, bioceramics-based composites platforms, and dental materials
- Biological research area - tissue engineering research, bioreactor development and electro spinning stations for tissue engineering, blood material interactions, decellularization of animal tissues, developing alternate and new test systems for animal testing, and development of growth factors

## Research Outcomes

- Papers published:
  - » National: 100
  - » International: 485
- IPRs held
  - » Patents awarded: 112
  - » Design registrations: 12
  - » Trademark application: 1
- Technologies transferred/commercialized: 50

- International funding
- Industrial funding

## R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 21,106.65

FY 2015-16 = 23,697.10

FY 2016-17 = 24,038.55

## R&D Achievements

### Products developed

- Calcium Phosphate Cement – M/S Surgiwear Ltd
- Poly Vinyl Alcohol (PVA) sponge - M/S Surgiwear Ltd
- Fibrin sealant-M/s Zum Heilen
- Rapid diagnostic kit for diagnosis and antibiotic sensitivity of Urinary Tract Infection (UTI)- M/s Agappe Diagnostics
- Cholecyst derived scaffold – M/s Optimus Lifesciences Ltd
- Vein viewer – M/s Agappe Diagnostics Ltd
- Tricalcium phosphate (TCP) – M/s Onyx Medicals
- Hydroxyapatite and TCP composite – M/s Onyx Medicals

The following products have entered into the clinical evaluation stage:

- Improved MRI compatible heart valve
- Coated-vascular graft

The following products are under advanced stages of development and are exploring industrial tie-ups:

- Dental bioactive composites
- Pneumatic compression device

### Processes developed

- Process of glutaraldehyde-treated pericardium for cardiovascular applications

- Process of coating of vascular grafts

## Prototypes developed

- Improved MRI compatible heart valve
- Coated vascular graft
- Infant warmer – bassinet and wrapper
- Blood/IV fluid warmer
- Vein viewer

## Technical Collaborations


### National

Public Health Foundation of India/ Indian Institute of Public Health, Delhi; GE Healthcare; Bhabha Atomic Research Centre (BARC), Mumbai; The South India Textile Research Association (SITRA) Coimbatore; Indian Institute of Technology (IIT) Kanpur

### International

Graduate School of Medicine, Osaka City University; Toyo University, Japan; Wake Forest Institute, USA; Aarhus University Denmark; University of Southern Denmark

## Societal Relevance

- The medical devices in India are imported to a large extent. The institute thus has developed devices which are cost-effective without compromising their functionality and quality. The institute sticks to the principle, therefore, that the R&D efforts are translated into products which reach the patients thus reducing the economic burden that India faces due to the high-import costs. 





Smart grid-tied solar power plants on the rooftop of the Ashram buildings using net electricity metering

### Registered Office

Sri Aurobindo Ashram Trust  
No. 12, Rue de la Marine,  
Pondicherry 605 002  
T: 91 413 2233628  
E: centraloffice  
sriurobindoashram.org  
W: www.sriurobindoashram.org

### Recognition Status

File No.: 14/59/1988-TU-V  
Initial Recognition: 1988  
Valid Until: March 31, 2019

### R&D Manpower

Doctorates: 13  
PGs & Graduates: 75

## SRI AUROBINDO ASHRAM TRUST

### Brief Description

Sri Aurobindo Ashram, registered as a public charitable trust, is a spiritual community dealing in the practice of integral yoga that aims to enrich lives.

### R&D Set-up

- The institution's research facilities and infrastructure are being used by individuals and researchers from various universities and institutions. These include:
- Agricultural Research Site and Lab, Reforestation Site, Centre of Education, Biology Lab, Physics Lab, Chemistry Lab, Aquarium for Marine Studies, Engineering Lab, Sound Engineering Lab, School for Perfect Eyesight (for research in the practice of Bates Method), Research and Development Lab and Archives for Physical Parameters Measurement, Conservation and Preservation Lab and Archives

### Sources of income for R&D

- Donations

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 2,440.25

FY 2015-16 = 2,632.53

FY 2016-17 = 2,816.88

### R&D Achievements

#### Products developed

- Original device was built to curb mosquito breeding grounds and to address the spread of malaria using a sustainable energy power

source. This device has been christened as Solar Scare Mosquito.

- Green Lab: An interdisciplinary, space-farming research project was developed combining the branches of physics, chemistry, biology, electronics, renewable energy, and computer science.
- Round the Corner: A connected collision-warning system reinforcing traffic safety was developed in-house at the Sri Aurobindo International Centre of Education (SAICE).
- Successful working model of a mangrove tidal tank set up where daily tides the rise and fall of the water level were simulated with the help of a timer-operated pump.
- Development of Particle Sky: A software engine-based music synthesizer, based on 5 granulation engines, including pitch, length, attack, decay, distance, and the position of grain.
- A two-movement music piece named Spandan was developed for medical therapy, which was based on Indian classical music, traditional Indian aesthetics (*navarasas*), and cardiology.
- Eva was developed for optimizing evaporation-prevention strategies
- Innovative Smart Garbage Monitoring System (SGMS) has been developed inspired by the concept of 'The Internet of Things (IoT)': SGMS gives a real-time indicator of the garbage level in a trash can at any given point in time.

## Research Areas

- Physical education programmes for promoting health, physical fitness, delayed ageing, etc.
- Integrated and holistic health services
- Integral education for children
- Evolution of religious, philosophical, and yogic systems

## Research Outcomes

- Papers published:
  - » National: 2
  - » International: 16

## Processes developed

- Study of Bates Method
- Posture analysis of teenage boys and girls through dorsal and lateral grid photographs
- A pilot project was carried out to study the resource efficiency to ensure sustainable development.
- Effective and original methodology of learning Sanskrit is in the process of development, including using song and dance to teach the language.
- Developing processes for eco-restoration and greening of a barren wasteland.
- Preservation and conservation of thousands of manuscripts

## Technical Collaborations

### National

French Institute of Pondicherry; Pondicherry University; Indian Institute of Technology, Roorkee; Jadavpur University, Kolkata; Sam Higginbottom University of Agriculture, Technology and Sciences, Allahabad; National Institute of Design, Ahmedabad; Ashoka University, Haryana; Indira Gandhi National Centre for the Arts, New Delhi; Ministry of Railways, Government of India; Ministry of New and Renewable Energy, Government of India

### International

California Institute of Integral Studies, USA; Waseda University, Japan; University of Hamburg, Germany;

Centre National de la Recherche Scientifique, France; Catholic University of America, USA; Shenzhen University, China; Charles University, Czech Republic; Forbidden City Palace Museum, China; Salisbury University, USA; Asian Institute of Technology, Thailand

## Societal Relevance

- Thousands of persons have availed the alternative therapy (Bates Method) offered free of charge at the Sri Aurobindo Ashram's School for Perfect Eyesight to correct eyesight problems that are caused by errors of refraction, such as astigmatism, spherical, and cylindrical.
- About 450 children continue to benefit every year from the unique teaching methodology.
- The number of original and unique sound textures created using Particle Sky, the in-house software engine-based music synthesizer based on 5 granulation engines, and an entire cache of original and unique sounds developed by undertaking experimentation with waveform creation using Serum wavetable technology, are freely available to sound engineers and others who would like to make use of them.
- Preservation, conservation, and digitization of original manuscripts and images and their accessibility by a large number of scholars forms an important mandate of the institution. 🔍



^ First and the only Medical college and hospital to have the Da Vinci Robot in central India

## SRI AUROBINDO INSTITUTE OF MEDICAL SCIENCES

### Brief Description

Sri Aurobindo Institute of Medical Sciences, registered as a non-governmental society, is an embodiment of devotion and selfless service. It provides dependable and accurate solutions to medical issues, ranging from sophisticated cardiac surgery to common ailments at minimum expense and maximum benefits to the common people.

### R&D Set-up

- The research facilities and infrastructure of the institution are being used by the academia. These include land and buildings and the following:
  - Sri Aurobindo Institute of Medical Sciences Campus Housing
  - Sri Aurobindo Medical College and PG Institute
  - SAIMS Hospital
  - College of Dentistry
  - Nursing College
  - College of Physiotherapy
  - Mohak Hi-Tech Speciality Hospital
  - Learning Academy of Simulated Education and Research (LASER)
  - SAIMS Institute of Engineering Technology
  - SAIMS Management Institute
  - SAIMS Pharmacy College
  - SAIMS Urban Center
  - SAIMS Rural Center

Some of the available equipments are listed as follows:

- Deep Freeze (New Brunswick Eppendorf) U410HEF, RT -(Applied Biosystem) 7500 Fast- DX , E-Gel Image (life technology) for gel capture and analysis, PCR (applied biosystem), cooling microfuge (eppendorf) 5415 R , Dry bath (Shalom Instrument) SLM DB- 120,
- Spinwin Centrifuge (Tarson) MC-00 Spinix Vortex (Tarson) , Hula Mixture (Life Technology) , Magnetic Stirrer with hot plate (REMI) - 1MLH

### Sources of income for R&D

- Grant
- Donations

### R&D expenditure (₹ in lakhs)

The SIRO is not maintaining separate accounts for R&D.

FY 2014-15 = 12.00

FY 2015-16 = 22.25

FY 2016-17 = 23.5

### R&D Achievements

#### Processes developed

- Developed a low-cost bone marrow transplantation
- Established dedicated Cardiac MRI programmes for congenital heart diseases
- The miRNAs as a prognostic marker for gastric cancer

### Registered Office

Sri Aurobindo Institute of Medical sciences  
Indore-Ujjain State Highway,  
Near MR 10 Crossing Sanwer Road, Indore 453 111,  
Madhya Pradesh  
T: 0731-4231000 /4231406  
E: help@saimsonline.com  
W: www.saimsonline.com

### Recognition Status

File No.:14/552/2011-TU-V  
Initial Recognition: 2011  
Valid Until: March 31, 2020

### R&D Manpower

Doctorates: 4  
PGs & Graduates: 17

### Research Areas

- Epidemiological methodology
- Biostatistical principles
- Health information systems
- Health services research
- Health behaviours, disease prevention, and health promotion

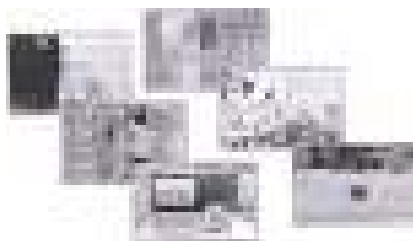
### Research Outcomes

- Papers published:
  - » National: 272
  - » International: 83
- Technologies transferred/commercialized: 1

- Diced cartilage: An effective graft material in post-traumatic and revision rhinoplasty
- Developed a method of restoration of vision with amniotic membrane transplant in spheroidal degeneration

### Societal Relevance

- Organized awareness programmes and camps on rural and urban health . 🔍



^ Research unit

## SRI BALAJI EDUCATIONAL & CHARITABLE PUBLIC TRUST

### Brief Description

Sri Balaji Educational & Charitable Public Trust is a registered trust founded by Sri M K Rajagopalan, a dynamic entrepreneur, in association with result oriented and innovative professionals to establish trendsetting educational institutions in the union territory of Puducherry. Sri Balaji Vidyapeeth deemed-to-be university is a modern university with innovative ideals. The trust aims to produce highly efficient, competitive, and a potentially resourceful student community to meet the challenges and exploit opportunities in the new millennium.

### R&D Set-up

The research facilities and infrastructure of the organization used by industries, institutions, and individuals includes some of the following equipments:

- PCR thermal cycler, micro centrifuge, dna electrophoresis, homogeniser, model a class iii bio safety cabinet, fluorescent phase contrast microscope, micro centrifuge, shaker autoclave, HPLC stereo microscope

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15= 370.55

FY 2015-16= 484.61

FY 2016-17= 710.30

### R&D Achievements

#### Products developed

- Universal Back resting device, Dr M Senthil – Professor of Public Health Dentistry

### Technical Collaborations

#### National

Letter of intent between AVP Research Foundation, A Constituent of AVP Group of Institutions Associated with The Arya Vaidya Pharmacy (Coimbatore), Ltd.; CARETS CIDRF & Palle Srujana, Secunderabad; CARETS CIDRF & Department of Animal Science, Bharathidasan University, Trichy; Centre for Nanoscience & Technology, Pondicherry University; School of Basic Medical Sciences, Bharathidasan University, Trichy; National Engineering College, K R Nagar, Kovilpati; Synkromax Biotech Pvt. Ltd, Chennai; National Institute of Technology, Department of Chemistry, Trichy

### Societal Relevance

The organization is involved in national or societal missions, some of them are:

- Economically and indigenously designed dental chair has been developed in-house at the Indira Gandhi Institute of Dental Sciences (IGIDS), a constituent college of SBV. This is an important societal contribution as the dental chair developed at IGIDS is cost viable

### Registered Office

Sri Balaji Educational & Charitable Public Trust, Mahatma Gandhi Medical College and Research Institute Campus, Pondy–Cuddalore Main Road, Pillayarkuppam, Puducherry 607 402

T: 0413- 2615449 to 458

E: sbect@vsnl.net

W: www.balajitrust.org/

### Recognition Status

File No.:14/606/2012-TU-V

Initial Recognition: 2012

Valid Until: March 31, 2018

### R&D Manpower

Doctorates: 38

PGs & Graduates: 434


### Research Areas

- Personalized medicine (Pharmacogenomics)
- Developmental therapeutics (Cancer biology, dengue)
- Evidence-based traditional medicine (marine algae, Terminalia arjuna)

### Research Outcomes

- Papers published
  - » National: 911
  - » International: 569
- IPRs held
  - » Patents filed: 3
  - » Patents awarded: 1

and could be put to use for the patients, especially those drawn from underprivileged sections.

- The Centre for Yoga Therapy Education and Research (CYTER), a constituent centre of SBV has developed two state-of-the-art Yoga protocols, namely, Chair Yoga—to ease stress and tension amongst white collar professionals through simple yogic postures and 'Silver - Yoga'—a specially designed Yoga Protocol for senior citizens.
- The Centre for Music Therapy Education and Research (CMTER), another centre of SBV has been offering patient services, besides academics and research, akin to the activities of CYTER.
- Live Music has been taken into the wards as a therapeutic modality. Music for Hospice/palliative care has received wide attention because of the societal implications in general and enhancement in the quality of life, in particular. 



^ Research units

## SRI LAKSHMI AMMAL EDUCATIONAL TRUST

### Brief Description

Sri Lakshmi Ammal Educational Trust was established in the year 1984 with the philanthropic intention of providing creditable higher education and research in professional courses in southern India. The centres offer the right kind of opportunity to pursue choice-based professional courses. The trust provides education, knowledge, skills, and training to the youth and transforms them into professionals, gifted with exemplary qualities, so as to make them committed citizens of the country.

### R&D Set-up

The research facilities and infrastructure of the organization are used by industries, institutions, and individuals.

### Equipments available

Carlzeiss Fluorescence microcopy with Camera attached – dedicated with a computer, Remi-RFV -245- (-20° C) with a stabilizer, Laminar air flow ( Classic Air Systems), Akta chromatography- with fraction collection with a dedicated computer and printer and accessories, Water distillation unit, Electronic weighing balance, Rotary Shaker; pH Meter, Beckmen Coulter-Ultra centrifuge with stabilizer, incubator, autoclave, Sludge Microtome- Kroy Instruments, Microtome, Digital Calorimeter, Digital Analytic Balance, Colling Refrigerator Centrifuge With Rotor, Mini Centrifuge, Transilluminator, Electrophoresis Powerpack

### Sources of income for R&D

- Donation
- General funds
- Designated/earmarked fund

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 437.72

FY 2015-16 = 537.26

FY 2016-17 = 562.32

### R&D Achievements

#### Products developed

- Anticancer compound
- A topical wound healing membrane
- A topical wound healing formulation for faster and beneficial antimicrobial and wound healing effect
- A pharmaceutical formulation exhibiting antimicrobial activity against multidrug resistance bacteria
- A process of preparing processed human amniotic collagen membrane free from chorion for use as wound dressing
- A pharmaceutical composition exhibiting antiviral activity against human parainfluenza virus
- A synergistic formulation for peptic ulcer
- A pharmaceutical formulation for treating urolithiasis

### Registered Office

Sri Lakshmi Ammal Educational Trust # 29, Tilak Street, T Nagar Chennai 600 017, Tamil Nadu  
T: 044-2241 5600-03  
E: sbmc\_h@yahoo.com, bhumi.sbdch@gmail.com, directorprsbmch@bharathuniv.ac.in  
W: www.sbmch.ac.in

### Recognition Status

File No.: 14/681/2015-TU-V  
Initial Recognition: 2015  
Valid Until: March 31, 2018

### R&D Manpower

Doctorates: 30  
PGs & Graduates: 248

## Research Areas

- Bioactive materials and experimental medicine
- Research centre for cellular genomics
- Research centre for concord health and ageing in men
- Research centre for disparities and global mental health
- Bone biology research
- Integrated neuroscience and neurodegenerative centre
- Oral and dental health

## Research Outcomes

- Papers published:
  - » National: 754
  - » International: 764
- IPRs held
  - » Patents filed: 21
  - » Patents awarded: 1

## Processes developed

- Determination of bone mineral density of hip region from anthropometric and upper femoral geometry using accessory attached to digital X-ray in post-menopausal woman
- A method for specific detection of pathogenic gram-negative bacterium *salmonella typhimurium*
- Bio-synthesis of egg albumin doped zinc oxide nanoparticles for biomedical applications
- A process of extraction of antimicrobial activity exhibiting novel peptide from *clarias batrachus*
- Skin regeneration membrane for burned wounds
- A process of preparing skin regeneration membrane for burned wounds
- A novel method for isolation and long-term storage of lytic phages of vibrio
- A bacteriophages preparation for bio control of vibriosis

## Commercialization potential of developed products/processes

- Self-operated manual passive abduction of both lower limbs
- Amniotic membrane (AM)
- Bacteriophage preparation

## Technical Collaborations

### National

Exchange programme of training of Laboratory experts of SBMCH

Metropolis Healthcare Ltd Mumbai; Academic & Research Collaboration India -Diabetes Research Foundation, Chennai; Funding for research Projects: Metropolis Health Care Ltd, Chennai; Funding for research projects-Dr Ganesans Hitech Diagnostic Centre Pvt. Ltd. Chennai; Funding for research projects-Cologenes Health Care Pvt. Ltd, Salem; Academic & Research Collaboration-Omega Rural Medical Educational Trust (ORMET), Nellore; Funding research Projects of SBMCH & Transfer of Know-how-United Biotech (P) Ltd, New Delhi

### International

MoU agreement approved via Skype call by the French Ministry of Research (Institute of Biological and Medical Research Section) and The Institute of Experimental Medicine of the Czech Academy of Sciences-Czech Republic; Joint collaboration in the field of: Hospital Administration and Faculty exchange in the field of Health, Engineering, and Management; Students & Staff exchange programme-Weill Cornell Medical College of Cornell University, New York, USA; Collaboration on education, training & research: Indo-British FRCR group (Brandford Teaching Hospitals), UK; Sharing of knowledge and expertise-Central Middlesex Hospital, The London North West Healthcare NHS Trust, London, UK; Prostatitis -Establishment of separate institute for Prostatitis -Florida Ltd Liability Company, FI 34221 USA. 🔍





Research Scholar setting up a PCR assay

### Registered Office

Sri Narayani Hospital & Research Centre,  
Sri Sakthi Amma Health Care Trust  
Thirumalaikodi, Sripuram  
Vellore - 632 055, Tamil Nadu  
T: +91-0416-2206300  
E: info@snhrc.org  
W: <http://narayanihospital.org/>

### Recognition Status

File No.: 14/487/2008-TU-V  
Initial Recognition: 2008  
Valid Until: March 31, 2018

### R&D Manpower

Doctorates: 9  
PGs & Graduates: 4

### Research Areas

- Infections
- Molecular diagnosis
- Bioinformatics
- Development of serological assays
- Dyslipidemia – phytochemicals
- Diabetic and other endocrine research diseases

## SRI NARAYANI HOSPITAL & RESEARCH CENTRE OF SRI SAKTHI AMMA HEALTH CARE TRUST

### Brief Description

The institution is situated in Thirumalaikodi, a tiny hamlet about 9 km from Vellore. Its prime objective since inception is to provide quality medical service to the less privileged rural population at par with hospitals of metropolitan cities.

### R&D Set-up

The research facilities and infrastructure of the organization are used by academic individuals and PhD scholar training as well as for patient care. It includes state-of-the-art biochemistry, microbiology, pathology, molecular biology, and bioinformatics laboratories

### Sources of income for R&D

Donations

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 20.00

FY 2015-16 = 22.00

FY 2016-17 = 52.00

### R&D Achievements

#### Products developed

- Jyothi Oushadam (Nutritional supplement for the control of dyslipidemia)

#### Processes developed

- Triplex PCR for three pathogens causing PUO

- IgM ELISA for parvovirus B19
- Multiplex real time PCR assay for TORCH-S agents
- Heptaplex multiplex real time PCR assay for PUO agents

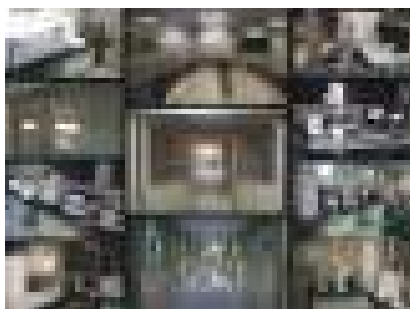
### Societal Relevance

The following R&D outcomes are of national/societal significance.

- Jyothi Oushadam nutritional supplement was shown to be very effective in the control of dyslipidemia.
- Developed multiplex real-time PCR for TORCH-S agents that will help to diagnose congenital abnormalities amongst new born babies.
- Development of a novel two-tube multiplex real-time PCR assay to detect seven major PUO agents in children and adults will help diagnose and treat deadly bacterial diseases early.
- Hygiene awareness in rural and tribal areas. 🔍

### Research Outcomes

- Papers published:
  - » National: 5
  - » International: 1
- Patents filed: 1
- Technologies transferred/commercialized: 3



Research activity

## SRI RAMACHANDRA UNIVERSITY

### Brief Description

Sri Ramachandra University, ranked amongst the top health sciences universities in India, had its origin as Sri Ramachandra Medical College and Research Institute which was established by Sri Ramachandra Educational and Health Trust in the year 1985 as a private not-for-profit self-financing institution, dedicated to serve the society as a centre of excellence with emphasis on medical education, research, and health care.

### R&D Set-up

The research facilities and infrastructure of the organization comprises equipments and R&D expenditure:

### Equipments available

- Heart-Lung Machine SIII Stockart, Flowcytometer Bench Top BD FACS Aria and FACS Calibur, high performance liquid chromatography system, alpha-T-FT-IR spectrometer complete with accessories, electro chemical detector with accessories, high performance thin layer chromatography (HPLC) (analytical & preparative), ultra centrifuge & accessories (Model Optimal L100), spectrophotometer UV with all accessories, animal house Instruments and OT Devices, etc.

### Sources of income for R&D

- Government sources
- International funding
- Grant-in-aid

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 154.31

FY 2015-16 = 132.97

FY 2016-17 = 218.67

### Technical Collaborations

#### National

- Central Research Facility (SRMC&RI)**  
**MedGenome Labs Pvt. Ltd**  
 Collaborative Research and Development Programs  
 From 05.07.2017 to 04.07.2020
- Sports Medicine**  
**Life Saving Society of India**  
 Establishment of a Skill development Training Centre  
 From 09.08.2017 to 08.08.2018
- Sri Ramachandra University - Central Research Facility**  
**HCL Technologies Ltd**  
 Wet Laboratory space in the Sophisticated Instrumentation Laboratory of CRF for HCL deployment and test medical equipment from HCL's clients  
 From 03.03.2017 to 02.03.2020
- Faculty of Pharmacy**  
**M/s Sai Mirra Innopharm Pvt Ltd, Chennai**  
 Collaborative Research and Development Programmes  
 From 02-03-2017 to 01-03-2020
- Sri Ramachandra University Foundation for Innovation and Social Entrepreneurship (FISE)**

### Registered Office

Sri Ramachandra University,  
 Porur, Chennai 600 116,  
 Tamil Nadu  
 T: 044-45928665  
 E: deanresearch@sriramachandra.edu.in  
 W: www.sriramachandra.edu.in

### Recognition Status

File No.: 14/459/2007-TU-V  
 Initial Recognition: 2007  
 Valid Until: March 31, 2019

### R&D Manpower

Doctorates: 57  
 PGs & Graduates: 1

### Research Areas

- Lifestyle diseases
- Environmental health and climate change
- Genetics of non-communicable diseases
- Stem cell research
- Translational research
- Perinatal sciences
- Indian systems of medicine

### Research Outcomes

- Papers published:
  - » National: 506
  - » International: 291
- IPRs held:
  - » Patents filed: 20

- Promoting innovation and entrepreneurship  
From 16.06.2016 to 15.06.2026
- **Department of Radiology  
Skanray Technologies Pvt Ltd,  
Mysore**  
Collaborative Research and  
Development Programmes  
From 15-07-2015 to 14-07-2018
- **Department of Neonatology  
Phoenix Medical Systems Pvt.  
Ltd, Mysore**  
Collaborative Research and  
Development Programmes  
From 24-08-2015 to 23-08-2018
- **Department of Neonatology  
HELYXON Healthcare Solutions  
Pvt. Ltd, Chennai**  
Collaborative Research and  
Development Programmes  
From 24-08-2015 to 23-08-2018. 🔍



^ Research laboratory

## SRI SANKARADEVA NETHRALAYA

### Brief Description

Sri Sankaradeva Nethralaya, a hi-tech eye care centre and postgraduate institute of ophthalmology in the northeast is a non-profit service organization established by a registered charitable trust—Sri Kanchi Sankara Health and Educational Foundation. It is the only state-of-the-art ophthalmic service centre as well as postgraduate training institute in the entire northeast. The hospital was established through public donations, bank loans, and with a team of dedicated doctors and staff. It is a professional institution rendering quality eye care services with the highest moral, legal, and ethical standards.

### R&D Set-up

The research facilities and infrastructure of the institution comprise the following:

- It is built on a 50,000 sq. ft area comprising clinical research out patient departments, clinical laboratories, basic science laboratory, and operation theatres

The list of available equipment for research and developmental activities comprise the following:

- Blood mixer, blood cell counter, semi auto biochemistry analyzer, elisa plate reader, v.d.R I rotator (rotary shaker), vortex, magnetic stirrer (JSGW), electronic balance, bio-safety cabinet, serological water bath

### Sources of income for R&D

- Donations
- International funding

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 24.07

FY 2015-16 = 19.00

FY 2016-17 = 5.66

### R&D Achievements

#### Products developed

- Newer findings in the pathology department and published in peer-reviewed journals
  - » A new rosette in retinoblastoma
  - » Effericytosis in retinoblastoma
  - » Molecular pathologic interpretation of new retinoblastoma rosettes
- Ophthalmic surgical technique development and published in peer-reviewed journal
  - » Comparative analysis of the use of porous orbital implant with mucus membrane graft and dermis fat graft as a primary procedure in the reconstruction of severely contracted socket
  - » Liquefied after cataract and its surgical treatment
  - » Single-stage socket reconstruction with vascularized temporalis muscle flap following total orbital exenteration

#### Technology know-how Transferred

- A project titled "To train and develop infrastructure for molecular ophthalmic pathology

#### Registered Office

Sri Sankaradeva Nethralaya  
96, Basistha Road,  
Guwahati 781 028, Assam  
T: 0361 2233444, 2228879  
E: ssngghyl@gmail.com  
W: ssnguwahati.org

#### Recognition Status

File No.:14/501/2009-TU-V  
Initial Recognition: 2009  
Valid Until: March 31, 2018

#### R&D Manpower

PGs & Graduates: 8

## Research Areas

- Basic science research- Correlation of Biomedical Parameters Hba 1c And Lipid Profile and Apo Lipoproteins
- Clinical research - Amblyopia in Children aged 6 months to 16 years
- Clinical drug trials - Study of Flucinolone Acetonide Intravitreal insert in subjects with chronic, non- infectious uveitis affecting the posterior segment of the eye

## Research Outcomes

- Papers published:
  - » National: 14
  - » International: 16
- Technologies transferred/ commercialized: 2

and rapid diagnosis of ocular infections in an ophthalmic institute in Assam”, sanctioned by the Indian Council of Medical Research, was conducted collaboratively by Sri Sankaradeva Nethralaya, Guwahati, and Vision Research Foundation, Sankara Nethralaya, Chennai.

- An Ophthalmic Telepathology project is being conducted jointly by Sri Sankaradeva Nethralaya, Guwahati, and Sankara Nethralaya, Chennai, where various slides and clinical photographs are shared


on both sides for discussion and proper diagnosis and treatment of the patients.

## Technical Collaborations

### National

- Vision Research Foundation, Sankara Nethralaya, Chennai
- EXCEL Life Sciences Pvt. Ltd, Uttar Pradesh

### International

QUARK Pharmaceuticals, Inc., Fremont, CA 94555, USA. 



^ Patient clinical case

## SRI VENKATESWARA INSTITUTE OF MEDICAL SCIENCES

### Brief Description

Sri Venkateswara Institute of Medical Sciences (SVIMS) is a tertiary care referral centre and a jewel in the crown of the Tirumala Tirupati Devasthanams. The institute has acquired state-of-the-art equipment with well-recognized faculty and best practices, offering evidence-based-patient-centred care as well as population health in order to ensure population health management. It was established with a view to provide super specialty facilities at nominal cost to the poor. Its major objectives include service, training, and education and research in advanced medical sciences and technology. It was registered as a government university (state) by an Act of Andhra Pradesh State Legislature (Act No. 12 of 1995).

### R&D Set-up

The research infrastructure is used by the hospital for conducting various investigations, surgical procedures, and also for the diagnosis of the disease. The postgraduates admitted in MSc, MD, DM, and MCh courses are utilizing the equipment as part of their award of degree for preparing dissertation for thesis. The faculty is utilizing the data of the investigations for paper presentation in conferences, multi-centric research studies, and for publications of papers.

Some of the available equipment at the institute are listed as follows:

- Deep freezer vertical -20 °C, kyphoplasty set, anaesthesia

ventilators, surgical diathermy machines, chemiluminescence autoanalyzer, electrolyte machine, neuro endoscope, defibrillators, stryker electrical drill and sagittal saw

### Sources of income for R&D

- Donations

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 177.24

FY 2015-16 = 221.61

FY 2016-17 = 124.88

### R&D Achievements

#### Products developed

Indigenous parathormone kit by radio-immunoassay in collaboration with Bhabha Atomic Research Centre 2014-15, developed by the Department of Endocrinology

#### Processes developed

- VDRL polymorphism
- Internal jugular vein sampling
- Virtual and autopsy
- Upgradation of the virology lab for culture and isolation of virus
- Use of F-18 FDG PET scan for the evaluation of patients with neurodegenerative disorders
- Using whole body PET CT in the evaluation of chronic kidney disease (CKD) in patients on renal replacement therapy with a fever of an unknown origin

### Registered Office

Sri Venkateswara Institute of Medical Sciences, Alipiri Road, Tirupati 517 507, Andhra Pradesh  
T: 0877 2287152  
E: svimsdirector@yahoo.com  
W: <https://www.svimstpt.ap.nic.in>

### Recognition Status

File No.:14/230/1994-TU-V  
Initial Recognition:1994  
Valid Until: March 31, 2020

### R&D Manpower

Doctorates: 25  
PGs & Graduates: 296

## Research Areas

- Anaesthesiology
- Biochemistry
- Bioinformatics
- Biotechnology
- Cardiology
- Cardiothoracic surgery
- Endocrinology

## Research Outcomes

- Papers published:
  - » National: 325
  - » International: 112
- IPRs held
  - » Patents filed: 1

## Commercialization potential of products/processes developed

- Indigenous parahormone kit by radioimmunoassay in collaboration with Bhabha Atomic Research Centre, Department of Endocrinology

## Technical Collaborations

### National

Memorandums of Understanding (MoUs) were signed with the following institutions:


- Sri Venkateswara University, Tirupati; Sri Venkateswara Veterinary University, Tirupati; Sri Padmvavathi Mahila Viswavidyalayam, Tirupati; Narayana Medical College & Hospital, Nellore; Dr NTR Vaidya Seva Trust (Government of Andhra Pradesh); Nephrocare Health Service Pvt Ltd, Nephroplus

### International

- Memorandums of Understanding (MoUs) were signed with the following institutions:
- Department of Surgery, Virginia Commonwealth University, Richmond,

VA, USA; Virginia Commonwealth University Level 1 Trauma Center, Panamerican Trauma Society, Richmond, VA, USA; International Society of Cardiovascular Ultrasound, AL, USA

## Societal Relevance

- Awareness programmes on different themes are conducted at the institute throughout the year some of these are as follows: World Cancer Day, International Women's Day, World Kidney Day, World TB Day, World Health Day, International Nurses Day, World 'No Tobacco Day', Blood Donors Day, Doctor's Day, Organ Donation Pledge Programme, International Organ Donation Day, Teacher's Day, World Physiotherapy Day, World No Cancer Day, World Heart Day, National Voluntary Blood Donation Day, Breast Cancer Awareness Rally, National Cancer Awareness Day, World Diabetic Day, National Organ Donation Day. 



^ Antenatal Care

## SRM INSTITUTE OF SCIENCE AND TECHNOLOGY

### Brief Description

SRM Institute of Science and Technology (formerly known as SRM University) is one of the top ranking universities in India offering a wide range of undergraduate, postgraduate, and doctoral programmes in Engineering, Management, Medicine and Health Sciences, and Science and Humanities. The vision of SRM is to emerge as a world class university in creating and disseminating knowledge and providing students a unique learning experience in science, technology, medicine, management, and other areas of scholarship that will best serve the world and ensure the betterment of mankind.

### R&D Set-up

The research facilities and infrastructure of the organization are used by industry, individuals, and the academia.

Land and buildings and area earmarked for R & D activities is listed as follows:

- Main campus Kattankulathur Directorate of Research spread over an area of 46,376 sq. ft,
- IV Floor Technology park 3,40,170 sq. ft, Bio Technology Laboratories 68,000 sq. ft, Aeronautical Laboratories with built up area of 20,590 sq. ft Libraries 1 lakh sq. ft, Medical Research 20,820 sq. ft, Central Medical Research Laboratories 6,000 sq. ft, Departmental Laboratories 2,820 sq.ft,

- Clinical Research Laboratories 12,000 sq. ft, ISISM 13,800 sq. ft Six Labs 5,400 metabolic ward 8,400 Ramapuram campus 68,000 sq. ft Ramapuram 2 Vadapalani 1.0 lakh sq. ft Modi Nagar near Delhi 20,000 sq ft.

### The major facilities are listed as follows:

High Resolution Transmission Electron Microscope (TEM), Photoluminescence Spectroscopy, Dual magnetron RF sputtering facility with turbo molecular pump, Magnetron DC sputtering facility with turbo molecular pump, Class AAA solar simulator, Battery Cycler, Raman Spectrometer, Two Compartmental Glove boxes, UV-VIS-NIR spectrophotometer, Low-angle and wide-angle X-ray diffractometer with in-situ lithium ion battery characterization facility, Class 10000 clean room facility, Optical lithography flood exposure tool, Electrochemical Workstation, Scanning Tunnelling Microscope

### R&D expenditure (₹in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 2,517.26

FY 2015-16 = 2,438.32

FY 2016-17 = 2,711.40

### R&D Achievements

#### Products developed

- SRM Research Institute jointly with Titan Company Ltd, Jewellery Division developed a technology for hardening 22K gold (91.7%)

### Registered Office

SRM Institute of Science and Technology,  
SRM Nagar,  
Kattankulathur 603203,  
Kancheepuram District,  
Tamil Nadu  
T: 044-27454646  
E: registrar@srmuniv.ac.in  
W: www.srmuniv.ac.in

### Recognition Status

File No.: 14/595/2011-TU-V  
Initial Recognition: 2011  
Valid Until: March 31, 2018

### R&D Manpower

Doctorates: 345  
PGs & Graduates: 436



## Research Areas

- Lower and middle Atmospheric Dynamics,
- GPS Radio occultation technique for Atmospheric Probing,
- Metal-mediated Organic
- Green Chemistry using Nanomaterials,
- Photocatalysis, Organophosphorous Chemistry,
- Environmental Chemistry & Eco-Toxicology, Hazardous solid water management, Environmental Nanotechnology, etc.

## Research Outcomes

- Papers published:
  - » National: 1,795
  - » International: 1,800
- IPRs held
  - » National: Patents filed: 65
  - » International: Patents filed: 17 Patents awarded: 3

similar to 18K gold for light weight jewellery. The concept of this new technology is to make thinner jewellery products with higher strength using hard 22k gold.

### Commercialization potential of products/processes developed

SRM Research Institute, jointly with Titan Company Ltd, Jewellery Division, developed a technology for hardening 22K gold (91.7%) similar to 18K gold for light weight jewellery. The concept of this new technology is to make thinner jewellery products with higher strength using hard 22k gold. Presently the load carrying part of 22k jewellery is made thicker to avoid buckling during regular use, which unduly increases the price of the jewellery. The other important use of this hard gold is for making studded jewels, which is presently made using 18K gold. The following products are available in flagship boutiques of Tanishq from October 28, 2016.

### Technical Collaborations

#### National

- Banaras Hindu University, Varanasi; Vodafone South Ltd, Chennai;

IDEA Cellular Ltd, Chennai; Besten Engineers & Consultants India Pvt Ltd, Chennai; Indus Towers Ltd, Chennai; ESF Labs Ltd, Ameerpet, Hyderabad

#### International

- The University of Reading, United Kingdom; Changchun University of Science and Technology; School of Public Health and Community Medicine, The University of South Wales (UNSW), Sydney; Shizuoka University, Japan; Tzu Chi University; International Movement for Tamil Culture, Canada

### Societal Relevance

The development of technology which ensures hardening of 22K gold similar to 18K gold to manufacture light weight yet strong jewellery ensures equal availability of resources to the people, irrespective of their financial status. 🔍



^ Phytochemical screening and estimation of phytoconstituents from spring onion samples

### Registered Office

St. James Hospital Trust  
 Pharmaceutical Research Centre,  
 Chalakudy, Thrissur 680 307, Kerala  
 T: 04802710936  
 E: stjamesphannacyprojecttfc@gmail.com  
 W: www.stjameshospital.in

### Recognition Status

File No.:14/639/2013-TU-V  
 Initial Recognition: 2013  
 Valid Until: March 31, 2019

### R&D Manpower

Doctorates: 6  
 PGs & Graduates: 3

### Research Areas

- Biomaterials
- Tissue Engineering
- Cancer Biology
- Herbal Medicine

## ST. JAMES HOSPITAL TRUST PHARMACEUTICAL RESEARCH CENTRE

### Brief Description

St. James Hospital, registered as a non-government trust, is a multi-super speciality hospital where a competent team of specialists and super specialists work together with the support of sophisticated technology to deliver high-quality medical and health care protection.

### R&D Set-up

The institution's research facilities and infrastructure are being used by the academia and industry. These include:

- Information facilities such as an Internet Library
- Computational facilities
- Laboratory space/ furniture
- Power generators, etc.

The equipment available at the centre are as follows:

- Lyophilizer, high-performance liquid chromatography, spectrofluorimeter, UV spectrophotometer, millipore water unit, brook field viscometer, cold centrifuge

### Sources of income for R&D

- Grant-in-aid

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 17.00  
 FY 2015-16 = 21.00  
 FY 2016-17 = 30.00

### R&D Achievements

#### Products developed

Diclofenac nano-gel has been developed for effective topical application

#### Processes developed

New process developed for the extraction of collagen from fish scale waste and the extracted collagen could be used for bone tissue engineering

### Technical Collaborations

#### National

- Agricultural Research Station (ARS), Kerala Agricultural University (KAU), Thrissur, Kerala
- Variety Pharmaceutical Pvt LII), Industrial Estate, Shoranur 679 122, Kerala

### Societal Relevance

Diclofenac nano-gel developed for Variety Pharmaceuticals. 🔍

### Research Outcomes

- Papers published:
  - » National: 60
  - » International: 15
- Technology transferred/ commercialized: 1



^ Health awareness programme

## ST. MARTHA'S HOSPITAL

### Brief Description

St. Martha's Hospital (SMH), Bengaluru, was founded in 1886 by the Congregation of Our Lady of Charity of the Good Shepherd (also known as the Sisters of the Good Shepherd) in response to the urgent need for medical aid to those affected by the epidemic of plague and famine. SMH welcomes, with open arms, all people of varied backgrounds to an environment of tranquility, holistic healing, and compassion.

### R&D Set-up

The research facilities and infrastructure of the organization are used by the academia. These include the following:

- The hospital is centrally located, in a spacious 'green' campus, over an area of 18 acres. It treats over 2,50,000 out-patients and about 22,000 in-patients annually.
- The hospital offers facilities such as: state-of-the-art diagnostic services – CT scan, X-Ray, colour doppler ultrasound scan, endoscopies, laboratory, blood bank, 24X7 services, such as emergency unit, pharmacy, ambulance, etc.
- Well-equipped diagnostic and therapeutic centre, such as dialysis unit and operation theaters, physiotherapy unit, birthing rooms and painless labour with ANC (ante-natal care) package, diet

counselling, preventive health packages, ICU, CCU, NICU, PICU, deluxe, private and semi-private Rooms, Regular OPDs and Special Morning & Evening Consultations.

### Technical Collaborations

#### National

Indian Institute of Science, Bengaluru, for a diagnostic test development programme

#### International

Swedish University (Umea University)

### Societal Relevance

The organization is involved in national or societal missions.

Dosing and cheaper methods of treatment have been tested and implemented. 🔍

### Registered Office

St. Martha's Hospital  
No.5, Nrupathunga Road,  
Opposite RBI, Bengaluru 560 001  
Karnataka  
T: 080-22212427, 9686452705  
E: director@stmarthas.in  
W: www.stmarthas.in

### Recognition Status

File No.: 14/684/2015-TU-V  
Initial Recognition: 2015  
Valid Until: March 31, 2018

### R&D Manpower

Doctorates: 2  
PGs & Graduates: 29

### Research Areas

- Clinical disciplines:
- General Medicine
- General Surgery
- Family Medicine
- Orthopaedics
- Anaesthesia
- Pediatrics
- Obstetrics & Gynaecology

### Research Outcomes

- Papers published
  - » International: 20



Research lab

# ST. STEPHEN'S HOSPITAL OF ST. STEPHENS HOSPITAL SOCIETY

## Brief Description

St. Stephen's Hospital of St. Stephens Hospital Society aims to provide comprehensive health care to all the sections of society with special emphasis on the underprivileged, irrespective of caste, creed or social status. St. Stephen's Hospital, working in the spirit of Jesus Christ, is dedicated to the building of a healthy, equitable society, thus contributing to the development of the nation.

St. Stephen's Hospital Society is registered under the Societies Registration Act No. XXI of 1860.

## R&D Set-up

The research facilities and infrastructure of the organization are used by hospital and academia.

The hospital has access to the latest equipments in the medical field for clinical use and research, listed as follows:

- Separate computers with 24 hours Internet facility for online data transfer and research project work.
- Classroom with LCD for education activities, presentations and site monitoring visits of research projects.
- Special stroke unit with qualified and trained medical professionals/ nurses available 24 hours with stroke kit for critical stroke patients.

## Sources of income for R&D

- Grant-in-aid
- Government sources

## R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 22.49

FY 2015-16 = 3.00

FY 2016-17 = 7.08

## R&D Achievements

### Principles/theories developed

Evaluation of the protection provided by Hepatitis B Vaccination in India.

The Major research projects undertaken by the organization are:

Family led rehabilitation after stroke in India: The ATTEND trial—To test hypothesis that a family led caregiver delivered home-based rehabilitation intervention, designed for Indian context, will reduce the poor outcome of death or dependency at 6 months after stroke, involving 1,200 patients across 14 hospitals, a randomized control trial with blinded outcome assessment.

## Societal Relevance

The organization is involved in national or societal missions, some of them are:

- Improved management of patients in specific clinical settings
- Full-fledged Community Health Department working in an urban slum in Sundar Nagari, Delhi, and in a rural slum in Gurugram, Haryana. 🔍

### Registered Office

St. Stephen's Hospital of St. Stephens Hospital Society,  
Tis Hazari, Delhi 110 054  
T: 011-23966021-27  
E: sshdelhi@gmail.com,  
ssh@vsnl.com  
W: www.ststephenshospital.org

### Recognition Status

File No.:14/580/2011-TU-V  
Initial Recognition: 2011  
Valid Until: March 31, 2020

### R&D Manpower

PGs & Graduates: 2

### Research Areas

- Healthcare

## Research Outcomes

- Papers published:
  - » National: 59
  - » International: 12



^ The Indo-UK research group with cohorts at an interactive meeting

## SUNDERLAL JAIN CHARITABLE EYE HOSPITAL SOCIETY

### Brief Description

Sunderlal Jain Charitable Eye Hospital Society was set up by Late Seth Sunder Lal Jain in the year 1969, with the objective of providing quality healthcare to all the sections of the society, especially the underprivileged. This hospital is currently operating from Motia Khan in Central Delhi and has been providing free treatment in the field of ophthalmic to thousands of people belonging to the weaker sections of society since the last 40 years. It was registered as Society-NGO (non-government organization) under the Societies Registration Act XXI of 1860.

### R&D Set-up

The research facilities and infrastructure of the organization are used by academia and individuals.

- Super-specialty 218-bedded ultramodern hospital spread over 3.14 acres of land in the north-west part of Delhi.
- The S L Jain Hospital is a multi-disciplinary referral hospital with well-developed clinical, laboratory, and imaging departments. It believes in promoting research relevant to their needs and is committed to providing space and/or additional equipment to support research activities.
- All clinical and para clinical departments are available for research. A separate block of research office is used as an administrative office, for full time

staff and storing data files records and a conference hall for meetings

### Sources of income for R&D

- Donations
- Grant-in-aid
- International funding

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 69.0

FY 2015-16 = 67.85

FY 2016-17 = 218.15

### R&D Achievements

Major research projects undertaken by the organization are:

- Determinants of birth weight and growth trajectory and influence of parental genotype on these anthropometric indicators proposed a study by identifying genetic determinants of birth weight and growth patterns and how these will provide new insights to understanding the associations between birth size and later life health and mechanism of development of adult metabolic disorders.
- Relationship of birth size, infant, and childhood growth on telomere length in adulthood: Growth during the first two years of postnatal life may be critical but catch-up growth subsequent to that may be detrimental. Telomere length may serve as a marker of higher rate of cell division during

### Registered Office

Sunderlal Jain Charitable Eye Hospital, Centre for Research, Ashok Vihar – III, Delhi 110 052  
T: 011-47008563  
E: vk\_jain1@yahoo.co.in; delhicohort@gmail.com  
W: www.sljhospital.com

### Recognition Status

File No.: 14/410/2005-TU-V  
Initial Recognition: 2005  
Valid Until: March 31, 2020

### R&D Manpower

Doctorates: 2  
PGs & Graduates: 5

### Research Areas

- Pregnancy, birth, and outcome
- Size at birth, body growth, body composition
- Child survival, health and disease
- Growth, cognitive development, and nutrition
- Childhood growth, adult health & disease and human capital
- Parental influences on adult health
- Intergenerational and trans-generational studies
- Mental health

### Research Outcomes

- Papers published:
  - » National: 6
  - » International: 6

catch-up growth. Identifying subjects predisposed to chronic diseases would help in formulating preventive strategies.

- Inter-generational change in childhood anthropometry and its relation with grandmother's age at child birth: intergenerational change (F2-F1) in height, weight, and body mass index (BMI) of children in comparison to their parents at corresponding ages.

### Technical Collaborations

#### National

Sitaram Bhartia Institute of Science and Research, New Delhi; Centre for

Chronic Disease Control, New Delhi; All India Institute of Medical Sciences, New Delhi; Christian Medical College, Vellore.

#### International

Oxford Center for Diabetes, Endocrinology and Metabolism, Oxford University, Oxford, United Kingdom; MRC Lifecourse Epidemiology Unit, University of Southampton, United Kingdom. 🔍



^ Research Laboratory

### Registered Office

Surat Raktadan Kendra and Research Centre  
1st Floor, Khatodara Health Centre, Near Chosath Joganiya Mata Mandir, Udhana Magdalla Road, Khatodara, Surat 394 210 Gujarat  
T: 0261-3937742, 3937700  
E: info@srkrc.org  
W: www.srkrc.org

### Recognition Status

File No.:14/337/2002-TU-V  
Initial Recognition: 2002  
Valid Until: March 31, 2019

### R&D Manpower

Doctorates: 2  
PGs & Graduates: 8

## SURAT RAKTADAN KENDRA & RESEARCH CENTRE

### Brief Description

The Surat Raktadan Kendra & Research Centre (NABH Accredited Regional Blood Transfusion Centre) aims to provide the highest quality of human blood collected from healthy, disease-free, and voluntary blood donors at a minimum processing charge.

### R&D Set-up

The research facilities and infrastructure of the institution are being used by the academia, and individuals. These include the Surat Raktadan Kendra & Research Centre as the first-of-its-kind in Gujarat with its state-of-the-art laboratory with molecular biology, cell biology, immunology, haematology, and biochemistry, and flow cytometry facilities. These facilities provide cutting-edge instrumentation, library/reading room with computers, all standard office and communications facilities, and staff room with kitchen facilities.

The equipment available are as follows:

- Real-time PCR instrument, fully automated DNA/RNA extractions system, nano photometer, thermal cycler (PCR), Horizontal Electrophoresis unit, laminar flow hood, Milli-Q Water purification system, light microscope
- There are more instruments/ equipment installed in this facility, such as refrigerated centrifuges, microwave oven, water bath, mechanical shaker, electronic weighing balance; UV-visible spectrophotometer, pipetmen/

pipette Aids, -20 °C freezer, hot plate + magnetic stirrer, PH meter, electrophoresis and power supply units.

### Sources of income for R&D

- Donations

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 69.72

FY 2015-16 = 54.68

FY 2016-17 = 147.73

### R&D Achievements

#### Products developed

- Development of Hb assay used the standard cyanmethemoglobin method on ELISA plate
- Assessment of semi-automated NAT testing a regional blood transfusion centre in western India
- A multiplex ARMS PCR approach to detect the common p-globin gene mutations among p-Thalassaemia carriers and patients, a cost-effective method for developing countries
- Use of alternative clastogenic agents (Vincristine) for cytogenetic preparation
- A new economic method for preparing activated platelet-rich Plasma

### Societal Relevance


- Exploring the use of non-colcemid mitosis arresting agent for the karyotyping of peripheral blood lymphocyte culture

### Research Areas

- Transfusions Medicine: HIV, HBV, HCV, Malaria, and other transfusion-transmitted infections
- Blood Components
- ALLO antibodies
- Cell therapy, Stem Cells, and Hemoglobinopathy

### Research Outcomes

- Papers published:
  - » National: 15
  - » International: 21
- IPRs held
  - » Patents filed: 2

- Evaluation of microtitre plate-based Haemoglobin estimation
- Multiplex ARMS PCR approach to detection of common f)-globin gene mutations estimation
- Assessment of semi-automated nucleic acid testing programme in a Regional Blood Transfusion Centre
- Voluntary Blood Donation Awareness Workshops organized
- CME and Workshop Programme on 'Automation in Immunohaematology Laboratory'. 





▲ Research laboratory

### Registered Office

Sushrut Medical Care and Research Society  
Hardikar Hospital 1160/61  
Shivajinagar University Road,  
Pune, Maharashtra 411 005  
T: 912041095000  
E: smcrshh@hotmail.com  
W: [http://www.hardikarhospital.org/html/about\\_us.asp](http://www.hardikarhospital.org/html/about_us.asp)

### Recognition Status

File No.: 14/286/1998-TU-V  
Initial Recognition: 1998  
Valid Until: March 31, 2017

### R&D Manpower

PGs & Graduates: 60

### Research Areas

- Cancer cell biology,
- Immunology and infection (leishmaniasis, malaria, tuberculosis, and HIV),
- Biomaterial engineering
- Stem cell and regenerative medicine

## SUSHRUT MEDICAL CARE AND RESEARCH SOCIETY

### Brief Description

Sushrut Medical Care and Research Society, a public charitable trust, was established in 1974 with the aim of providing professional expertise with a socialistic commitment. Operating under the aegis of the trust, Hardikar Hospital soon came to be known as the leading hospital for dealing with accidents, trauma, and a range of orthopedic cases. Hardikar Hospital has specialized teams for all surgeries related to orthopaedics with a joint replacement unit. The orthopaedic unit primarily deals with hip and knee replacements, shoulder and elbow joint replacements along with arthritic and arthroscopic surgeries.

### R&D Set-up

The research facilities and infrastructure include pathology labs; physiotherapy, X-ray, and an operation theatre; a casualty department consultation room; an academics department; a library; and a drug store.

### R&D expenditure (₹in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 34.83

FY 2015-16 = 32.88

FY 2016-17 = 30.92

### R&D Achievements

#### Research projects

- Research in orthopaedics trauma, rehabilitation, and community orthopaedics.
- Evaluation of forearm bone fractures treated by various modalities.
- Augmented Wagner's external fixator in proximal tibial fractures.
- High tibial osteotomy.
- Kinematic studies in children with cerebral palsy and their surgical rehabilitation.

### Societal Relevance

- Developed cell-based assays and experimental models to study pathogenesis or utility in drug discovery.
- Developed technologies which are of high relevance in regenerative medicine. 🔍

### Research Outcomes

- Papers published:
  - » National: 7
  - » International: 2



^ Research laboratory

### Registered Office

Swami Rama Himalayan University, Swami Ram Nagar, PO Jollygrant 248 016, Dehradun, Uttarakhand  
T: 135 2471600  
E: info@srhu.edu.in  
W: www.srhu.edu.in

### Recognition Status

File No.: 14/134/1999-TU-V  
Initial Recognition: 1999  
Valid Until: March 31, 2019

### R&D Manpower

Doctorates: 29  
PGs & Graduates: 257

### Research Areas

- Community medicine
- Predictive and prognostic molecular markers
- Biosciences
- Energy and environment engineering
- Knowledge management and organizational learning

## SWAMI RAMA HIMALAYAN UNIVERSITY

### Brief Description

The Swami Rama Himalayan University is a research-oriented university and focusses on translational research and applications that lead to improvised treatment and patient care. Research activities are in progress at the university in several areas under medicine & bio-sciences, engineering & technology, and management studies.

The university is registered as a private university established by the Himalayan Institute Hospital Trust.

### R&D Set-up

The research facilities cover an area of 7,019.18 sq. ft and comprise infrastructure in the faculties of medicine, bio-sciences, engineering & technology, and management.

### Sources of income for R&D

- Donations
- Research grants
- Hospital and educational receipts

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 10.13

FY 2015-16 = 54.06

FY 2016-17 = 79.02

### R&D Achievements

#### Products developed

- Piloting of a Health Demographic Surveillance System in Dehradun: The Health Demographic Surveillance System (HDSS) is a population registration system that monitors health and demographic

dynamics in a geographically defined population.

- Packed bed bioreactor for the treatment of river water: Assessment and treatment of organic and biochemical pollutant in water of Gola River in Nainital.

### Technical Collaborations

#### National

Indian Institute of Technology, Roorkee, Uttarakhand

#### International

Mitra Biotech, USA; University of Rostock, Germany

### Societal Relevance

The following R&D outcomes are of national or societal significance:

- The hospital-based database for cancer in Uttarakhand region has recorded clinical and laboratory data of more than 10,000 cancer patients. The information generated is the first-of-its-kind and magnitude in this region of the country.
- The institute organizes Annual Symposium on Clinical Biostatistics and workshop series on clinical biostatistics, statistical computing: R/MATLAB software, meta-analysis and clinical trials, multivariate regression modelling, and statistical modelling using health data.
- Regular health camps, eye camps, and blood donation camps are held by the university. 🔍

### Research Outcomes

- Papers published: 449



Members of the 35th ISEA practicing yoga on the ice-shelf, Antarctica

### Registered Office

Swami Vivekananda Yoga Anusandhana Samsthana (S-VYASA), #19 Eknath Iihavan, Gavipuram Circle, K G Nagar, Bengaluru 560 019, Karnataka  
T: 080-2661 2669  
E: info@svyasa.edu.in  
W: www.svyasa.edu.in

### Location of R&D Units

- University Campus, Prashanti Kutiram
- Vivekananda Road, Kalluballu Post, Jigani, Anekal, Bengaluru 560 105 Karnataka

### Recognition Status

File No.:14/43/1988-TU-V  
Initial Recognition: 1988  
Valid Until: March 31, 2018

### R&D Manpower

Doctorates: 16  
PGs & Graduates: 10

## SWAMI VIVEKANANDA YOGA ANUSANDHANA SAMSTHANA

### Brief Description

The Vivekananda Yoga Anusandhana Samsthana or S-VYASA, registered as a non-governmental organization, has been instrumental in working towards making yoga a socially relevant science. The mission of the organization, is based on the teachings of Swami Vivekananda. The four streams of Yoga with unity in their diversity as the key essence of Indian culture, applications of yoga aim to bring health, harmony, and peace, is to combing the best of the east (Yoga and spiritual lore) with that of the West (modern scientific research). It is registered as a society NGO.

### R&D Set-up

The research facilities and infrastructure of the institution are being used by the academia. The research groups are listed as follows:

- Molecular bioscience laboratory
- Psychophysiology laboratory
- Cognitive neuroscience laboratory
- Psychology laboratory
- Bioenergy laboratory
- The equipment are as follows: channel eeg (mr compatible), polygraph for autonomic function testing, poly-somnography system for recording of sleep architecture, miiller-lyer apparatus to assess geometric optical illusion, agilent microarray scanner, etc.

### Sources of income for R&D

- Donations

### R&D expenditure (₹ in lakhs)

FY 2014-15 = 417.44

FY 2015-16 = 685.54

FY 2016-17 = 674.61

### R&D Achievements

#### Products developed

- A cost-effective, quantitative, multiplexing kit to evaluative subjective stress levels using biomarkers Yoga module for diabetes
- Yoga module for extreme climatic conditions

#### Processes developed

- Algorithms for a non-invasive detection of pathologies from signs of iris
- Algorithm to ascertain psychological stress levels based on breath
- Algorithm for a non-invasive diagnosis of diabetes and cancer using electrophotonic emission from the human body
- Algorithm for compensating arterial stiffness in the quantification of *tridoshas* (Ayurvedic principles) from radial artery pulse

#### Prototypes developed

- Breath Sensor
- Pranayama Automator
- Iridoscope

### Research Areas

- Yoga therapy
- Yoga and psychophysiology
- Yoga and psychology
- Yoga and molecular bioscience
- Yoga and cognitive neuroscience

### Research Outcomes

- Papers published:
  - » National: 112
  - » International: 65
- IPR held
  - » Patents filed: 2

### Technical Collaborations

#### National

- Narayana Hrudayalaya Ltd, Bengaluru; Dayananda Sagar University (DSU), Dayananda Sagar College of Engineering, Bengaluru; All India Institute of Medical Sciences (AIIMS), New Delhi; Defence Institute of Physiology and Allied Sciences, DRDO, Government of India

#### International

- Shanghai University of Sport, China; Yunnan Minzu University, China; Shanghai University of Political Sciences, China; Zhengzhou Normal University,

China; Massachusetts Institute of Technology (MIT), D- Lab Mobile Technology Group, USA

### Societal Relevance

- The institute conducts Yoga camps periodically for all, irrespective of age, in nearby villages to bring them to face with the problems of life, through Surya Namaskar, meditation, counselling, and group games.
- To promote a Yoga-based lifestyle change for prevention and management of diabetes as a collective effort throughout the country.
- To create awareness in society about Yoga and diabetes. 🔍



Wound care and GSK VAC (Vaccume Assisted Closure) Machine

### Registered Office

Swasthiyog Pratishthan  
Research Centre, Fracture &  
Orthopedic Hospital,  
Extension Area,  
Miraj 416 410  
T: 0233-222590  
E: swasthiyogmiraj@gmail.com  
W: swasthiyog.org/Contact

### Recognition Status

File No.: 14/534/2010-TU-V  
Initial Recognition: 2010  
Valid Until: March 31, 2019

### R&D Manpower

PGs & Graduates: 9

### Research Outcomes

- Papers published:
  - » National: 12
- IPRs held
  - » Patents filed: 1
- Technologies transferred/  
commercialized: 3

## SWASTHIYOG PRATISHTHAN RESEARCH CENTRE, FRACTURE & ORTHOPEDIC HOSPITAL

### Brief Description

The Institute for Superspeciality Orthopedics and Trauma and Centre for Ilizarov Method has served thousands of patients during its 40 years of standing. They stand by their principles of ethics and evidence-based practice of orthopaedics and have inculcated these values in various students and doctors.

### R&D Set-up

The research facilities and infrastructure of the organization used by individuals.

### List of equipment

- Diathermy, Generator, TV, Theatre Light, Pulse Oximeter, Image Intensifier, Sterilizer, Scrubbing Machine, Solar, Ortho Table, Laminar Air Flow, Camera, Computer with internet, Ambulance, Refrigerator, Gym Instruments, Shoulder CPM, Control Panel, Anaesthesia Machine, Auto Analyzer, Electric Equipment, Boiler, Lift, Nyas Server

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 12.54

FY 2015-16 = 11.15

FY 2016-17 = 0.70

### R&D Achievements

#### Products developed

- Locked compression plate (LCP) as a locking plate
- Antibiotic impregnated interlocking intramedullary nails

for open fracture and infected nonunion of the tibia.

- Intramedullary nail in fractures of the distal femur
- Masquelets induced membrane
- Use of internal fixation

#### Processes developed

- Development of Poller screws fixation
- Use of antibiotic rods in open fracture with ilizarov method
- Vaccum Assisted Closure (VAC) system in various types of open wounds.

### Commercialization potential of developed products/processes

#### Total Products Commercialized

- VAC Instillation Systems
- CPM Machines
- Enders Nail

Revenue is earned by Prasaditi Pvt. Ltd.

### Technical Collaborations

#### National

Developed the VAC systems in collaborations with PRASADITI Pvt. Ltd. Plot No. C-30 C M.I.D.C. Miraj 416 410

### Societal Relevance

The following R&D outcomes are of national/societal significance:

- Awareness related to Orthopaedic surgeons. 

### Research Areas

- Orthopaedics



^ Transfusion Medicine Department

### Registered Office

Tata Medical Centre Trust  
14, Major Arterial Road (E-W),  
Newtown, Rajarhat,  
Kolkata 700 156, West Bengal  
T: 033-66057582  
E: mammen.chandy@tmckolkata.com  
W: www.tmckolkata.com

### Recognition Status

File No.: 14/647/2014-TU-V  
Initial Recognition: 2014  
Valid Until: March 31, 2020

### R&D Manpower

Doctorates: 10  
PGs & Graduates: 47

## TATA MEDICAL CENTRE TRUST

### Brief Description

The Tata Medical Centre, a non-governmental, not-for-profit trust, is committed to research and development in all aspects of cancer and its management in order to promote the prevention, diagnosis and treatment, rehabilitation, and palliation and research.

### R&D Set-up

The research facilities and infrastructure of the institution include the following:

- State-of-the-art diagnostic facilities for radiology, biochemistry, cytogenetics, pathology, haematology, and microbiology
- Clonal sequencing
- Fluorescent and confocal microscopy
- Quantitative PCR
- Mass spectrometry
- Tumour biobank
- Clinical trials unit

The list of available equipment are as follows:

- Patient bed side monitor, suction machine, centrifuge, digital dry bath, centrifuge, biosafety cabinet, automated cell counter, SPINIX VORTEX, spin win, biosafety cabinet

### Sources of income for R&D

- Grant-in-aid
- Donations

### R&D expenditure (₹ in lakhs)

FY 2014-15 = 302.76

FY 2015-16 = 394.45

FY 2016-17 = 426.20

### R&D Achievements

The activities of the centre aims standardising the care children with acute lymphoblastic leukaemia across the major centres in India, including the Delhi, Chandigarh, Mumbai, Kolkata, and Chennai. This includes the standardization of diagnosis and monitoring he responses to the disease. As a result, patients no longer need to travel to other cities to obtain high standards of care; the monitoring of the same may be achieved through a bespoke clinical trials management system, which allows remote data entry, access to information, and provides decision support for risk stratified therapy. This is provided as a free resource.

### Technical Collaborations

#### National

Memorandum of Understanding (MoU) with Tata Consultancy Services

#### International

Collaborations with University of Manchester, Newcastle University, University of Zurich

### Societal Relevance

- Identified as a not-for-profit tertiary care cancer centre, all the research

### Research Areas

- Clinical hematology and bone marrow transplantation
- Pediatric oncology
- Medical oncology
- Digestive diseases (medical gastroenterology)
- Radiotherapy
- Nuclear medicine
- Radiology

### Research Outcomes

- Papers published:
  - » National: 51
  - » International: 74
- Technologies transferred/commercialized: 1

at the Tata Medical Centre aims to improve the care of patients. The research is for the benefit of

society along with the provision of cheaper, faster, and more effective cancer care. 🔍



^ Hemoglobin A2 testing by high-performance liquid chromatography

### Registered Office

Kamala Hospital and Research Centre for Thalassemia and Sickle Cell Patients,  
Door No. 22-8-496, Chatta Bazar,  
City Civil Court, Purani Haveli,  
Hyderabad, Telangana  
T: 040-24560011, 24520159  
E: tscsap@gmail.com  
W: www.tscsindia.org

### Recognition Status

File No.:14/651/2014-TU-V  
Initial Recognition: 2014  
Valid Until: March 31, 2018

### R&D Manpower

Doctorates: 3  
PGs & Graduates: 7

## THALASSEMIA AND SICKLE CELL SOCIETY

### Brief Description

The Thalassemia and Sickle Cell Society (TSCS), registered as a non-government organization, was established to promote appropriate treatment and quality life for every thalassemia-affected child. Thalassemia is an inherited condition affecting the blood. The main objective of the organization is to promote the provision of appropriate treatment and to achieve a good quality of life for every patient with Haemoglobinopathies and encourage prevention policies with the aim of reducing the number of newly-affected births.

### R&D Set-up

The research facilities and infrastructure of the institution are being used by the academia. These include:

- The research and development work of Thalassemia and Sickle Cell Society is spread over 2 floors with a total area of 200 sq. m. The area for research work has a total of 9 rooms including 4 labs, a cold room, freezer room, blood collection room, counselling room for patients, and a conference room.
- The Thalassemia Society has a good flow of patients with 20–30 patients visiting every day for blood transfusion and 1,815 patients from all over Andhra Pradesh are registered with society and 20–25 new cases visit the society every month.

- They have collaborated with major government hospitals, such as Niloufer, Gandhi and Osmania Hospitals and research institutes, such as Centre for DNA Fingerprinting and Diagnostics (CDFD), Institute of Genetics and Hospital for Genetic Diseases, Osmania University, and CODEWEL Nireekshana, Hyderabad.

The list of available equipments are as follows:

- Elisa Washer + Micro Plate Reader, VDRL Rotator, Incubator, Digital Colorimeter, Microscope, Digital PH meter, Plasma Expressor, Sysmex KX 21 automated cell counter, Variant II analyser (HPLC)

### Sources of income for R&D

Donations

### R&D expenditure (₹ in lakhs)

The SIRO is not maintaining separate accounts for R&D.

FY 2014-15 = 120.17

FY 2015-16 = 219.98

FY 2016-17 = 408.34

### R&D Achievements

#### Major research projects

- Amelioration of the severity of Beta thalassemia by modifier genes
- The Diagnostic and Prognostic value of assessing nerve damage by High Resolution and Color Doppler in leprosy patients
- Ultrasound Nerve Test in the early diagnosis of leprosy



### Research Areas

- Care, Awareness, Control, and Clinical research of Thalassemia and Sickle Cell Disorder

### Research Outcomes


- Papers published:
  - » National: 1
  - » International: 5

### Technical Collaborations

#### National

- Centre for DNA Fingerprinting and Diagnostics (CDFD) for molecular testing and prenatal diagnosis of Thalassemia and Sickle Cell Disease
- Institute of Genetics and Hospital for Genetic Diseases, Hyderabad
- Osmania University for studying mutations observed in Thalassemia patients and Genetics Department
- Osmania University for studying Thalassemia disease burden in Telangana region

### Societal Relevance

- With their vast experience of 19 years in management and prevention of Thalassemia and Sickle cell disease, the organization will help in coordinating with the government in organizing better prevention programmes for reducing the burden of these dreadful and expensive genetic blood disorders. 



▲ Babe Jaswant Singh Dental College, Hospital & Research Institute, Sec 40, Chandigarh Road, Ludhiana



▲ Treatment Area

### Registered Office

Baba Jaswant Singh Dental College, Hospital & Research Institute, Sec 40, Chandigarh Road, Ludhiana, Punjab  
T: 0161-5055162, 5055163  
E: bjsdental@rediffmail.com  
W: www.bjsdentalcollege.com

### Location of R&D units

Baba Jaswant Singh Dental College, Hospital & Research Institute, Sec 40, Chandigarh Road, Ludhiana

### Recognition Status

File No.: 14/289/1998-TU-V  
Initial Recognition: 1998  
Valid Until: March 31, 2019

### R&D Manpower

Doctorates: 1  
PGs & Graduates: 10

## THE BABA JASWANT SINGH TRUST

### Brief Description

The Baba Jaswant Singh Trust (Regd.), Ludhiana, a registered non-government organization has been established with the overall objective of human welfare irrespective of caste, creed, and social/economic status. The improvization of health care facilities, imparting education & conducting research has been high on the agenda of the Trust. However, in tune with the ethos of humanization, the Trust has been continuously nursing the needy and deserving with free medical aid, medicines, clothes, etc. In order to provide the solution of major dental diseases, the Trust has set up Baba Jaswant Singh Research Institute at Chandigarh Road, Ludhiana. It offers state-of-the-art dental care to the people in the region besides providing the best quality dental education and research facilities.

### Sources of income for R&D

Donations

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 61.46

FY 2015-16 = 66.43

FY 2016-17 = 51.54

### R&D Achievements

#### Major research outcomes

- Study of oral health attitudes and oral hygiene status of students in dental college in Ludhiana (Punjab): A Comparative Study—This study will throw light on

knowledge and awareness about dental health among (dental) students.

- Prevalence of oro-mucosal lesions in factory workers in Ludhiana, Punjab—The objective of the research project was to assess the prevalence of oro-mucosal lesions in factory workers in Ludhiana which is an industrial town as well as to correlate the relationship between tobacco, alcohol habits, and oro-mucosal lesions.
- Relationship between width of anterior teeth and length of fingers—The aim of the study is to evaluate the relationship between width of anterior teeth and length of fingers. Study is in progress and 40 patients have been examined with well-aligned teeth, aged 20–50 years.
- To check the attitudes and awareness of urban parents regarding infant oral health—Health awareness camps and seminars are being organized in schools, factories, villages, city colonies, religious places and special care institutions- this study was carried out in urban parents to evaluate their awareness and attitudes regarding infant oral health.

### Societal Relevance

The following R&D outcomes are of national/societal significance:

- Highly specialized and subsidized dental and medical services are provided to the local population by the institute.


### Research Areas

- Oral health, dental care, preventive dentistry, orofacial rehabilitation, medical health

### Research Outcomes

- Papers published:
  - » National: 49
  - » International: 24

- Extension of health services are provided by a rural dental clinic "Satellite Clinic" in the Village Kuliwal of Ludhiana.
- Routine dental check-up and treatment camps are being

organized in villages, schools, factories, religious places, and special care institutions. 



^ Child Care

## THE CHILD'S TRUST MEDICAL RESEARCH FOUNDATION

### Brief Description

The Child's Trust Medical Research Foundation (CTMRF) lays emphasis on educational excellence and boundary-pushing research work. CTMRF conducts extensive research in the field of paediatrics and allied specialities, including basic clinical research. It is a society non-government organization registered with the Registrar of Societies, Chennai.

### R&D Set-up

The research facilities and infrastructure of the institution are being used by the academia. These include:

- Haematology
- Biochemistry
- Histopathology
- Microbiology
- Labs, X-ray machine
- Genetic lab
- Library

The list of equipments are detailed as follows:

- ICR Dash monitor
- Ultrasound Machine,
- Hyperthermia System,
- Patient Monitor

### Sources of income for R&D

- Donation
- Rental Income

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 134.86

FY 2015-16 = 139.06

FY 2016-17 = 129.43

### R&D Achievements

#### Research outcomes

Rapid Antigen Diagnostic Test (RADT) is implemented in our laboratory services, after an exclusive study to rule out bacterial infections affecting the pediatric population

#### Research projects

- Study to determine the thiopurinemethyl transferase (TPMT) status in children with acute lymphoblastic leukemia to customiz thiopurine dosage
- Profile of enteric fever with azithromycin – A prospective descriptive study
- Management of burn wound infection and healing: An approach using probiotic
- Immune hematological profile of children with suspected primary immune deficiency
- Bio-molecular changes in skin up on permeation of potential biologically active molecules/ auxiliaries – An exvivo study
- Extramural neonates with burkholderia cepaciae septicemia
- Clinic-a etiological profile of pancytopenia in paediatric practice
- Etiological spectrum of hemolytic anemias in children – prospective study

### Registered Office

Child's Trust Medical Research Foundation, 12-A, Nageswara Road, Nungambakkam, Chennai 600 034, Tamil Nadu  
 T: 044-42001800 (extn. 189)  
 E: anandmanoharan@kkcth.org  
 W: www.ctmrf.org/

### Recognition Status

File No.:14/119/1988-TU-V  
 Initial Recognition:1988  
 Valid Until: March 31, 2018

### R&D Manpower

Doctorates: 1  
 PGs & Graduates: 12

### Research Areas

- Paediatric medicine
- Paediatric surgery
- Wound healing
- Paediatric oncology
- Paediatric pulmonology
- Infectious diseases

### Research Outcomes

- Papers published:
  - » National: 50
  - » International: 12

### Technical Collaborations

#### National

Memorandum of Understanding (MoU) signed with King Institute of Preventive Medicine & Research, Guindy, Chennai (May 2016). [Q](#)



^ Special Selective drive for leprosy case detection conducted by FMR at Gadchiroli

## THE FOUNDATION FOR MEDICAL RESEARCH

### Brief Description

The Foundation for Medical Research, registered under the Bombay Public Trust Act of 1950, practices a combination of basic biomedical and translational research for diseases affecting vulnerable sections of the society. Devoted to advanced laboratory research in the field of neurology, immunology, and microbiology, the organization also engages in creating awareness around life threatening diseases and their timely diagnosis and cure.

### R&D Set-up

The research facilities and infrastructure of the institution are being used by the academia. These include:

- Animal House, TB research facility (BSL 11+), Molecular biology facility, Histopathology, Clinical facilities support for leprosy research, Central instrumentation facility, Computational facility for bioinformatics and data management, Water research facility, Medicinal plant research facility

### Sources of income for R&D

- Grant-in-aid
- Donations
- International funding

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 384.66

FY 2015-16 = 377.35

FY 2016-17 = 463.29

### R&D Achievements

#### Processes developed

- Demonstrated the anti-mycobacterial activity of *Andrographispaniculate* and *Alpinia galangal (L.)* under axenic microaerophilic conditions and in the intracellular assay system suggesting its potential in treatment of latent tuberculosis.
- Established the feasibility of using whole genome sequencing technology for prediction of drug susceptibility and strain lineage from clinical TB isolates.
- Developing a pipeline for determination of drug susceptibility profile and strain lineage from large-scale whole genome sequence data.
- Developing a process for isolation of TB bacteria from patient masks which can be used for research in understanding TB transmission.
- Demonstrated the safety of guava leaf extract in murine model for acute toxicity collaboration with Indian Institute of Integrative Medicine (HIM), Jammu
- Demonstrated the efficacy of guava leaf extract for treatment of infectious diarrhea in a mouse model using *Citrobacterrodentium*; imparting confidence to undertake clinical trials in humans which is currently ongoing.
- The characterization of major drinking water sources and household drinking water from rural Pune and Satara

#### Registered Office

The Foundation for Medical Research  
84A, R. G. Thadani Marg,  
Worli, Mumbai 400 018  
Maharashtra  
T: 91 22 24934989, 24938601  
E: fmr@fmrindia.org/fmrmum@gmail.com  
W: www.fmrindia.org

#### Recognition Status

File No.:14/4/1988-TU-V  
Initial Recognition:1988  
Valid Until: March 31, 2019

#### R&D Manpower

Doctorates: 6  
PGs & Graduates: 3

## Research Areas

- Leprosy
- Tuberculosis
- Medicinal plants
- Water-related environmental research

## Research Outcomes

- Papers published:
  - » National : 27
  - » International: 24

was carried out with respect to faecal coliforms based on WHO guidelines for drinking water. Additionally, a survey was conducted to find out water treatment and storage interventions, sanitation and hygiene practices, and households' perception of and satisfaction with the drinking water quality.

## Principle/theory developed

- Induction of DNA repair genes recA and recX is faster in multidrug resistant (MDR) TB strains than drug susceptible strains explaining faster adaptability and increased fitness of MDR strains (Publication List - 6/2014).
- Alternate drug resistance mechanisms, such as efflux and cell wall processes, help in increasing the fitness of the TB bacteria till stable drug resistance is developed. Among the genes belonging to these processes, ppsD involved in synthesis of cell wall lipids is significantly associated with development of drug resistance. Hence, expression levels of ppsD may serve as a marker for predicting development of resistance in TB.

## Technical Collaborations


### National

- Hinduja Hospital, Mumbai; Institute of Chemical Technology, Mumbai; Indian Institute of Technology, Bombay; Kushtarago Nivaran Samiti, Raigad District; Medanta Hospital, Gurugram

### International

- Oxford University, United Kingdom; European Bioinformatics Institute, United Kingdom; Swiss Tropical & Public Health Institute, Switzerland Royal Tropical Institute, The Netherlands; Imperial College, United Kingdom; Norwegian Institute of Water Research, Norway

## Societal Relevance

- Gauva Leaf decoction formulation will be an efficacious, economical, and anti-diarrhoeal which can be made available even in rural areas where doctors are not easily accessible
- Service is provided for conducting microbiology and molecular biology experiments on H37RV strain to Indian Institute of Technology (IIT) and Institute of Chemical Technology (ICT) either by collaboration or on non-profit basis for development of new methods of treatment and detection of TB.
- Pipeline development for rapid and accurate determination of drug susceptibility profile and lineage of clinical isolates from whole genome sequence data.
- Holding public meetings for creating awareness towards TB and its treatment via publications. 



^ Diabetes Management Programme in Rural Maharashtra

## THE FOUNDATION FOR RESEARCH IN COMMUNITY HEALTH

### Brief Description

The Foundation for Research in Community Health (FRCH) was established in 1975 as a non-profit voluntary organization in the field of health care. FRCH carries out field studies and conceptual studies primarily in rural India to gain a better understanding of the factors which affect health and health services. FRCH works to evolve, support, and promote alternate models of health and medical care. It was registered as public charitable trust.

### R&D Set-up

The research facilities and infrastructure of the organization include the following equipments:

SSPS Research Package, Tally Accounting package, BP App Dial Regulators, Mx Qda, BP Apparatus, Hemocue, Digital Recorder, Dell Computer, etc.

### Sources of income for R&D

- Donations
- Grant-in-aid
- International funding

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 133.33

FY 2015-16 = 122.63

FY 2016-17 = 148.04

### R&D Achievements

#### Products developed

- Strategy of Diabetes and

Hypertension care and control for rural areas at primary and secondary care level (applied in Maharashtra and Sikkim)

- Standard Operating Procedures (SOPs) for functions undertaken in the rural diabetes care models
  - Training modules for trainers and grassroots workers, prepared on the basis of evidence-based guidelines for care and control of diabetes and hypertension
  - Demonstration of stepped care model for early identification and management of priority mental disorders
  - Curriculum for training Community Health Workers for suspicion and referral of mental health conditions
  - Appraisal of Indian Maternal Child Health Guidelines with an international standard tool AGREE II
  - Assessment of training needs of Auxiliary nurse midwife (ANMs) based on a case study in Jharkhand and Maharashtra and an in-depth literature review
  - Mapping of vulnerable areas modified by extreme climate change in Pune and Satara districts and bacteriological and chemical data for water resources
- #### Processes developed
- Improvement in management of mental disorders in different states at the rural community level. Training norms developed for Community Health Workers.

### Registered Office

The Foundation for Research in Community Health  
84A, R G Thadani Marg,  
Worli, Mumbai 400 018  
Maharashtra  
T: 022-24934989, 24938601  
E: mr@fmrindia.org  
W: www.frchindia.org/

### Recognition Status

File No.:14/135/1990-TU-V  
Initial Recognition: 1990  
Valid Until: March 31, 2020

### R&D Manpower

Doctorates: 2  
PGs & Graduates: 10



## Research Areas

- Models and care & control of non-communicable diseases, namely diabetes, hypertension & mental diseases
- Epidemiology purity of rural water sources and resilience patterns of communities
- Gaps in delivery of quality health care for maternal and child health

## Research Outcomes

- Papers published:
  - » National: 2
  - » International: 8

- Defining tools for assessment of impact of community mental health programmes.
- Building up capacities for care-givers of mental health patients
- Gaps in training and skills of ANMs outlined for Jharkhand.

## Technical Collaborations

### National

Parivartan Trust, Pune; National Health Systems Resource Centre, New Delhi; National Health Mission and Health Directorate, Government of Sikkim; Foundation for Medical Research, Mumbai


### International

Royal College of Obstetricians & Gynecologists, United Kingdom; NICE International, United Kingdom; Liverpool School of Tropical Science, Liverpool, United Kingdom; Queen Mary University of London, United

Kingdom; Swiss Tropical & Public Health Institute, Basel

## Societal Relevance

The following R&D outcomes are of national/societal significance.

- Multiple training modules and SOPs for care and control of non-communicable diseases at the community level
- Training curricula for state-level trainers and community-level workers in non-communicable diseases (NCDs) being implemented in the state of Sikkim
- Provision of high quality training to state level primary care workers and master trainers for Maharashtra and Sikkim
- Communities served on all projects of the Foundation (non-communicable diseases and water-based projects). 



^ Cancer Awareness Programmes organized by the institute

## THE GUJARAT CANCER SOCIETY

### Brief Description

The Gujarat Cancer & Research Institute is a full-fledged comprehensive cancer care and research Centre recognized by the Ministry of Health and Family Welfare, Government of India, as a state cancer institute. The Gujarat Cancer Society aims to be the leading health organization dedicated to combat cancer by reducing the incidence of cancer through prevention and awareness drives and supporting the best cancer care services to the community.

### R&D Set-up

The research facilities and infrastructure of the organization are used by individuals and academia. It includes the Department of Cancer Biology; Immunohematology Lab; Tumor Biology Lab; Carcinogenesis Lab; Molecular Oncology Lab; Stem Cell Biology Lab; Cytogenetic Lab; Central Research Laboratory; Anatomy Department; Department of Biochemistry; Department of Community Medicine; Department of Forensic Medicine; Department of Microbiology; Department of Pathology; Department of Pharmacology; Department of Physiology

### The list of equipments available are as follows:

- Thermal Cycler, Ultra Low Freezer –80° C, Refrigerated centrifuge Gel documentation System, Laminar Flow, Automated Immunohistochemistry Stainer, Automatic Scanning and Capturing Metafer System, Zeiss

Epi fluorescence microscope with automatic karyotyping system, Single Laser flow cytometer

### Sources of income for R&D

Donations

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 7,329.48

FY 2015-16 = 6,591.77

FY 2016-17 = 7,921.69

### R&D Achievements

Major research projects undertaken by the organization are:

- Detection of circulating tumor cells in breast cancer patients by multi-parameter flowcytometry:** Multiparametric flowcytometry can detect CTCs in circulation which we are observed in 33% of patients with breast cancer and found associated with aggressive clinical parameters (age, menopausal status) and pathological parameters (tumor size, disease stage). Further the prognostic assessment of CTCs will be conducted by following up with these patients for a longer period of time.
- Detection of cancer stem cells in breast cancer patients by multi-parameter flowcytometry:** The study described CD44+CD24-/low and ALDH positive stem like phenotypes seem to identify cancer stem cell and noted in 8% of breast carcinoma patients. The study needs to be conducted in a larger group of patients as there is

### Registered Office

The Gujarat Cancer Society,  
Room No. 68, M P Shah Cancer  
Hospital, New Civil Hospital  
Campus, Asarwa,  
Ahmedabad 380 016, Gujarat  
T: 079-22688036  
E: admin@gujaratcancersociety.org  
W: www.gujaratcancersociety.org

### Recognition Status

File No.: 14/58/1988-TU-V  
Initial Recognition: 1988  
Valid Until: March 31, 2019

### R&D Manpower

Doctorates: 21  
PGs & Graduates: 211

### Research Areas

(1) Drug Resistance (2) Prognosis (3) Colorectal Cancer, (4) Medical Science (5) Her-2/neu and EMT pathway in breast cancer, (6) Flowcytometry (7) Ikaroz gene and MRD evaluation in B ALL (8) Etiology Factors (9) Oral cancer, (10) Chromosomal abnormalities Molecular Cytogenetic (Fluorescence In Situ Hybridization)

### Research Outcomes

- Papers published:
  - » National: 53
  - » International: 46

a persistent need for paramount method and biomarkers that identify breast CSC and probably within distinct molecular subtypes to translate the CSC concept to clinical practice. In the near future, the recognition of reliable markers to distinguish the CSC pool in each molecular subtype will be decisive for the development of specific target therapies.

### Societal Relevance

The following R&D outcomes are of national/societal significance.

- Clinical Diagnostic work for patient care and benefit
- Awareness programmes/ camps organized around Cancer Detection, Cancer Awareness, Sanjeevani Rath, Cancer Detection with Siddhpur Sanjeevani Rath. 🔍



^ Field Data Collection\_HBNC Plus

## THE INCLN TRUST INTERNATIONAL

### Brief Description

The INCLN Trust International is a 'not for profit' research organization conducting collaborative, multi-disciplinary studies on high priority global health issues. INCLN is a unique global network of clinical epidemiologists, bio-statisticians, health social scientists, health economists and other professionals affiliated to key academic institutions. The institution provides a platform for working professionals to engage in research activities and improve the health of disadvantaged people in low and middle-income countries and promote evidence-based equitable healthcare practices. It is registered as non-government trust.

### R&D Set-up

The research facilities and infrastructure of the institution include:

- INCLN has about 2,200 sq. m area for research infrastructure with well-organized researcher space and conference/meeting area.
- There are 70 computers/laptops, 4 network printers, 12 independent printers, videoconference and teleconference facilities, two servers for data backup, and a dedicated leased line internet connection.
- Various necessary software programmes, including MS Office, Epi-info, Stata, R software, N-Master, CHNRI Priority Setting Software, ArcGIS, and several customized software for qualitative data analysis and demographic surveillance, and population tracking are available.

- A data management and biostatistics unit is supporting the researchers for data management and analysis.
- INCLN research laboratory, supporting the microbiology research at INCLN, managed by an experienced microbiology team is presently functional in Palwal.
- A demographic, development, health and environmental surveillance site, covering 51 villages and ~200,000 populations in Palwal district, Haryana, has been established. INCLN has entered into a memorandum of understanding (MoU) with the Government of Haryana for undertaking research activities and also providing technical assistance to the government.
- It has established an elaborate working network with the community, families, and the government functionaries. Five community health clinics are operational in this area for providing health services by doctors and nurses. Several projects are on ground at this site.

### Registered Office

The INCLN Trust International  
F1/5, Second Floor,  
Okhla Industrial Area, Phase 1,  
New Delhi 110 020  
T: 011-47730000-99  
E: ieodelhi@inclntrust.org  
W: inclntrust.org/incln/

### Recognition Status

File No.: 14/475/2008-TU-V  
Initial Recognition: 2008  
Valid Until: March 31, 2019

### R&D Manpower

Doctorates: 10  
PGs & Graduates: 49

### Sources of income for R&D

Grant-in-aid

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 8.87

FY 2015-16 = 7.70

FY 2016-17 = 15.78

## Research Areas

- Public health
- Demographic surveillance

## Research Outcomes

- Papers published:
  - » National: 23
  - » International :35
- Technologies transferred/commercialized: 6

## R&D Achievements

### Products developed

The INCLEN team has developed the following products:

- Tool for Neurodevelopment Screening (NDST): The tool used for screening of children aged 2–9 years for 10 neuro-development disorders.
- Diagnostic tools for specific neuro-development disorders.
- Developed some software programmes for research data collection and management.

### Processes developed

- INCLEN team conducted the first research priority setting for maternal, newborn, and child health in India in collaboration with Indian Council of Medical Research. The process identified the top national and regional research priorities for these three areas.
- Geospatial mapping of rural India (Haryana) in the traditional village context, adopting a mixed method.

### Instruments developed

- Developed a Bluetooth-enabled cardiotocography probe linked to mobile/tablet android programme for reading and categorization of intra-partum readings as per the NICE and FIGO criteria. The device has been CE certified.

## Technical Collaborations

### National

Indian Council of Medical Research, New Delhi; Government of Haryana; Public Health Foundation of India, New Delhi; Apollo Hospital Educational and Research Foundation, Hyderabad, Telangana; MP Shah Medical College & Government of Gujarat; Jamia Hamdard University, New Delhi; Sri Ramchandra University, Chennai, Tamil Nadu

### International

Foundation for Advancement of International Medical Education and Research (FAIMER), USA; International Epidemiology Association, USA; INDEPTH Network, Ghana; Simon Fraser University, Canada

## Societal Relevance

- The products and processes developed by INCLEN have been used by the Government of India and state governments for benefit of the public health policy and programme. The products have influenced the programme for refinement in the processes.
- The tools for screening, assessment, and diagnosis of the cases, such as neurodevelopment disorders have been adopted under the government programme.
- The cardiotocography device thus developed is expected to take the service to peripheral levels. 🔍



Research Laboratory

## THE INSTITUTE OF HEALTH SYSTEMS

### Brief Description

The Institute of Health Systems (IHS) is a civil society institution, registered under the Societies Registration Act with the mission to groom skills, gather evidence, and generate knowledge, for people's health. The Institute strives to build local capacity and the global knowledge base for public health and socio-economic development. IHS activities fall into research, education, training, and various other services. The Institute conducts health systems research on applied and operational issues to improve equity and efficiency of the health care sector. IHS offers training programmes to improve managerial skills and health system research capability in India.

### R&D Set-up

The research facilities and infrastructure of the organization are used by industry, institutions, and individuals. It includes the institute office space, library, and water quality testing laboratory.

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 68.46

FY 2015-16 = 60.2

FY 2016-17 = 70.31

### R&D Achievements

Health system research

- Introduction to methods of epidemiology
- Managing PHC in remote areas
- Causes of death, certification,

reporting and processing and research information system

- Health state valuation studies

### Technical Collaborations

#### International

World Health Organization

### Societal Relevance

The following R&D outcomes are of national/societal significance.

- Organizing a awareness programme on implementing policy recommendations. 🔍

### Research Areas

- Health Systems Research
- Health Surveys
- Health Studies
- Health Consultancy
- Training

### Research Outcomes

- Papers published:
  - » National: 1

### Registered Office

The Institute of Health Systems  
HACA Bhavan, Hyderabad 500 004  
Andhra Pradesh  
T: 040-23210136  
E: ihs@ihs.org.in  
W: www.ihs.org.in

### Recognition Status

File No.: 14/551/2011-TU-V  
Initial Recognition : 2011  
Valid Until : March 31, 2019

### R&D Manpower

PGs & Graduates: 10



▲ Mothers' meetings under the Early Childhood Development Project

## THE KASTURBA HEALTH SOCIETY

### Brief Description

Committed to the pursuit of exemplary standards of professional excellence in medicine, research, and clinical care, The Kasturba Health Society integrates value-based medical education with accessible and affordable healthcare, especially to the underprivileged rural communities. It was registered as a trust society NGO (non-governmental organization).

### R&D Set-up

The research facilities and infrastructure of the institution are being used by postgraduate students from different institutions for acquiring experience and carrying out their research projects on bioinformatics. These include Department of Biochemistry & Jamanalal Bajaj Tropical Disease Research Centre; Dr Sushila Nayar School of Public Health (incorporating Department of Community Medicine); Department of Medicine; Department of Obstetrics & Gynecology; Department of Psychiatry; Cancer registry through the Department of Pathology and Bioinformatics Centre .

The following research facilities are available:

- The central research laboratory is equipped with real-time PCR, thermal cyclers, digital imaging system, FPLC, 2-D electrophoresis, scintillation counter, spectrophotometer, ELISA readers, lyophilizer, cryopreservation, bio safety hoods, inverted & fluorescent microscopes, shaker

incubators, deep freezers, walk-in cold room, stage specific filarial cDNA library, and filarial parasite repository.

- Central Animal House of 1,800 sq ft under the CPCSEA, Government of India, has a facility for the breeding and maintenance of Swiss rats (*Mastomys coucha*), Jirds (*Meriones unguiculatus*), BALB/c. An insectarium is also being maintained for the breeding and rearing of *Aedes aegypti* mosquito colony.
- In vitro and in vivo drug testing facility against filarial parasite and TB bacilli.
- Filarial vaccine-testing facility in experimental animals.

The equipment available are as follows:

- RT PCR machine (applied biosystems); FPLC systems (pharmacia); Thermocycler (PCR) equipment (Biometra); freeze drier (Virtis); 2-D Electrophoresis system; hybridization oven; submarine multiphoresis electrophoresis apparatus; UV trans-illuminator; Kodak Gel doc system; water purification system (ultra pure)

### Sources of income for R&D

- Grant-in-aid
- International funding

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 9,590.91

FY 2015-16 = 11,810.46

FY 2016-17 = 12,190.80

### Registered Office

The Kasturba Health Society,  
PO Sevagram 442 102,  
Wardha, Maharashtra  
T: 0712 284341 to 55  
E: khssgm@rediffmail.com  
W: www.mgims.ac.in

### Recognition Status

File No.:14/112/1988-TU-V  
Initial Recognition:1988  
Valid Until: March 31, 2020

### R&D Manpower

Doctorates: 6  
PGs & Graduates: 135

### Research Areas

- Immunodiagnostics and Vaccine studies in filariasis and tuberculosis
- Cancer Informatics
- Genetic study of the DNA of infertile males
- Community-based research
- Malaria
- Vector-borne diseases
- Screening of diabetic Retinopathy
- Neonatal perinatal database
- Study the magnitude of abortion

### Research Outcomes

- Papers published:
  - » National: 262
  - » International: 168

### Technical Collaborations

#### National

Anna University, Chennai; Institute of Medical Sciences, Banaras Hindu University, Varanasi; Institute of Chemical Technology, Mumbai; The Advanced Centre for Treatment, Research and Education in Cancer, Mumbai

#### International

University of Illinois College of Medicine, Rockford (USA)

#### Societal Relevance

- Services for rural health insurance scheme
- Organizing awareness programmes for community medicine initiatives. 🔍





^ Free diabetes and hypertension screening camp in Barabanki, Uttar Pradesh

### Registered Office

The Leprosy Mission Trust India  
CNI Bhawan, 16, Pandit Pant Marg,  
New Delhi 110 001  
T: 011-4353 3300  
E: joydeepa.darlong@  
leprosymission.in  
W: www.tlmindia.org

### Location of R&D Units

- Stanley Browne Lab,
- TLM Community Hospital,  
Nand Nagari, Delhi 110 093

### Recognition Status

File No.: 14/379/2004-TU-V  
Initial Recognition: 2004  
Valid Until: March 31, 2019

### R&D Manpower

Doctorates: 5  
PGs & Graduates: 4

## THE LEPROSY MISSION TRUST INDIA

### Brief Description

The Leprosy Mission Trust India (TLMTI) works with individuals and communities disadvantaged by leprosy, irrespective of caste, creed, and religion, by addressing their physical, mental, social, and spiritual needs to uphold human dignity and eradicate leprosy. The organisation works with people affected by leprosy and other neglected tropical diseases (NTDs), people with disabilities, and marginalized communities through its diverse set of programmes—Healthcare, Sustainable Livelihood, Community Empowerment, Advocacy, and Research and Training. Leprosy, also known as Hansen's disease (HD), is an infection by the bacterium *Mycobacterium leprae*. It usually takes about 3 to 5 years for symptoms to appear after coming into contact with the leprosy-causing bacteria.

### R&D Set-up

The research facilities and infrastructure of the organization are used by the academia/institutions in collaborative work. It includes the following:

- pH meter (Control Dynamics), ELISA readers (Dy nex Technologies & Thermo Electron Corp.), ELISA Plate washer (Thermo Electron Corp.), UV-vis Spectrophotometer (Shimadzu), Sonicator (Sonics and Materials Inc.), Homogeniser (Polytron), Bead Beater (Biospec) Speed vac (freeze dryer) (Operon), Bacteriological Incubator; CO<sub>2</sub> incubator (Napco), Micropipettes (fixed and adjustable volume) (Labsystems, Gilson, Biohit),

Multi-channel Micropipettes (Labsystems, Biohit)

### Sources of income for R&D

- Donors
- Grant-in-aid through National (ICMR, DBT, ICSSR) and international funding agencies (LRI, effect n hope (TLM Canada), England and Wales Foundation).

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 122.59

FY 2015-16 = 201.83

FY 2016-17 = 232.40

### R&D Achievements

Major research projects undertaken by the organization are:

- Presence of similar molecular type of *M.leprae* in leprosy endemic areas of India.
- Presence of viable *M.leprae* in the soil and water samples in the inhabitant areas of active leprosy cases.
- Identification of Interleukin 17F and Apolipoprotein E as potential markers for reactions and nerve damage.
- Identification and Molecular Determination of Drug Resistance.

### Technical Collaborations

#### National

All India Institute of Medical Sciences, Delhi; JALMA Agra; IHBT Palampur and industrial-based services through Genotypic Technologies, Hyderabad

### Research Areas

- Molecular Epidemiology & Early Diagnosis
- Immunopathogenesis of Leprosy Reactions
- Transmission & Drug Resistance Patterns
- Social Science Research
- Operational Research

### Research Outcomes

- Papers published:
  - » National: 39
  - » International: 94

### Societal Relevance

The following R&D outcomes are of national/societal significance.

- The Stanley Brown Laboratory has been conducting interesting research in immunology and microbiology, pertaining to transmission, predictors for early diagnosis of Type 1 reactions, and drug resistance surveillance.
- Stanley Browne Laboratory, at Shahdara Hospital, New Delhi, has established new sections, comprising Tissue culture and Proteomics Technology with the help of funding from Indian Council of Medical Research (ICMR) and TLMTI in last three years.
- First case of Rifampicin resistance in leprosy was reported from TLMTI. As a result, the ICMR and Central Leprosy Division has initiated the drug resistance programme at the national level.
- Stanley Browne Lab, TLMTI organized two symposiums to provide a platform for experts in the field to share experiences, inform the participants of the most recent developments in leprosy research, identify the gaps in knowledge and emphasize the urgent need like drug resistance, early diagnosis to find solutions to the issues of leprosy. 🔍



^ Dissemination Meeting



^ Focus Group Discussion with Mother of Malnourished Children

### Registered Office

The Maharashtra Association of Anthropological Sciences (MAAS)  
201, Akanksha Residency -  
B Wing, Near Shivaji Statue,  
Aundhgaon, Pune 411 067,  
Maharashtra  
T: 020-25884150, 9011077587  
E: sajujoseph@maas.org.in  
W: www.maas.org.in

### Recognition Status

File No.: 14/557/2011-TU-V  
Initial Recognition: 2011  
Valid Until: March 31, 2017

### R&D Manpower

Doctorates: 2  
PGs & Graduates: 6

## THE MAHARASHTRA ASSOCIATION OF ANTHROPOLOGICAL SCIENCES (MAAS)

### Brief Description

The Maharashtra Association of Anthropological Sciences (MAAS) is an academic, non-governmental (voluntary) organization based at Pune, Maharashtra, in western India. MAAS is involved in training in research methodology, health and development through course work, and organizing seminars, symposia, and workshops. It undertakes basic and intervention research in the areas of public health and development through a holistic perspective. MAAS strives to use knowledge for understanding and promoting solutions to human problems in tribal, rural, and urban communities.

### R&D Set-up

The research facilities and infrastructure available are used by researchers working with the organization. It includes the following:

- MAAS has a training centre in Sindhudurg district of Maharashtra
- Quantitative and qualitative data analysis softwares, such as SPSS (16.0) and MaxQDA are also available with the organisation.

### Sources of income for R&D

- Government sources
- International funding

### R&D expenditure (₹in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 63.43

FY 2015-16 = 66.44

FY 2016-17 = 36.75

### R&D Achievements

MAAS has built its capacity in implementing community-based research and endeavoured to excel in training grass-root level community-based organizations (CBOs) and non-governmental organizations (NGOs) working on health and development issues. MAAS has been able to prove its credentials and achieved credibility regarding its holistic efforts and commitment for the cause of the people.

- Tribal Development Department, Government of Maharashtra, offered the AUK programme to MAAS along with Comprehensive Rural Health Project (CRHP), Jamkhed. The programme was to focus on developing a model to reduce malnutrition among tribal children in tribe dominant seven districts and nine tehsils all over Maharashtra covering all major tribal groups. This project trained field level tribal volunteers, some of them marginally literate, to document the health and development activities at the village level. AUK tried to develop a sustainable model which could be replicable in the government system of tribal development by addressing the issue of under nutrition in a comprehensive manner.
- Spot feeding of pregnant women with one time full meal immediately after the pregnancy is registered with the ANM has been shown to improve health of the mothers and increase in the

## Research Areas

- Cancer cell biology,
- Immunology and infection (leishmaniasis, malaria, tuberculosis, and HIV),
- Biomaterial engineering
- Stem cell and regenerative medicine

## Research Outcomes

- Papers published:
  - » International:11

weight of newborn babies. This has now been taken over by the Government of Maharashtra as APJ Abdul Kalam Amrut Aaahar Yojana.

- Warm cotton wrappings with cap (Zhabel, Topade, and Dupte) were supplied free of cost to protect newborn babies from respiratory infections. The government has taken over this and provides the same to kids with institutional delivery.

## Technical Collaborations


### National

- Collaboration with Swiss Tropical and Public Health Institute, Basel, Switzerland, for World Health Organisation (WHO)-funded project on Community Assessment for Improving Influenza Vaccination Coverage in Pune, India.
- MAAS also recognized recently as Research Centre of Savitribai Phule Pune University (SPPU) for the disciplines of Anthropology and Health Sciences.
- CHRD was a partner of the London School of Hygiene and Tropical Medicine (LSHTM) in the five-year UK Department for International Development (DFID)-supported TARGETS (Team for Applied Research Generating Effective Tools and Strategies for Communicable Disease Control) programme (2005-2011) funded by the DFID-UK.

- Professor R K Mutatkar was the Chairman of the first working group of AYUSH in Public Health at the Steering Committee on AYUSH for the XI Five Year Plan.
- Senior researcher from MAAS has served a three-year term as a member of the WHO-Geneva's Strategic and Technical Advisory Group for TB and as temporary advisor for the WHO-Geneva's PPM sub-group meetings for two years.

## Societal Relevance

The following R&D outcomes are of national/societal significance:

- Vitamins and micro nutrients and seeds of plant vegetables for the kitchen garden were supplied free to families with under-nourished children and pregnant women. A total of 41,662 households received seeds during the project tenure.
- A total of 555 tribal volunteers (male: 274; female: 281) were trained to undertake various health and development-related activities
- Supplementary food was fortified with Ayurvedic tonics like Satavari, Piply, Jyeshthamadh, and Ashwagandha to improve lactation. Similarly pre-cooked ready-to-eat powder (Sattu) was prepared for children upto 2 years of age. The production of supplementary food was conducted by women's self-help groups. 



Research Lab

## THE RESEARCH SOCIETY OF BOMBAY COLLEGE OF PHARMACY

### Brief Description

The Research Society of Bombay College of Pharmacy (RSBCP) is a scientific society of pharmacy and related professionals established in the year 1981 with one of the mandates of promoting and strengthening the pharmacy profession through research collaborations and management & execution of such research collaborations in association with the Indian Pharmaceutical Association-Maharashtra State Branch's Bombay College of Pharmacy (BCP) and its faculty members and students. The main benefit for industry from these academic research collaborations is the access to the research results and innovative methodologies at reduced cost. It is a mutual approach that the companies offer industrially relevant research problems of their interest and the faculty and students of the BCP contribute the methodology and expertise.

### R&D Set-up

The research facilities and infrastructure available in the organization are listed as follows:

- For solid dosage forms facilities such as rapid mixer granulator, fluidized bed coater, GMP model compression machine and dissolution test apparatuses.
- For novel systems facilities such as probe sonicators, high speed homogenizer, spray dryer, freeze dryer, type 4 dissolution test apparatus, vertical diffusion cells, high pressure homogenizer, DSC, particle size analyzers and HPLC systems.
- For process development for intermediates and bulk drugs and drug discovery- facilities include CEM Discover Microwave synthesizer, Low temperature synthesizer, Buchi Flash Chromatography with fraction collector, Roteva Rotary evaporator and Molecular modeling software.
- For pharmacological screening and evaluation-Bombay College of Pharmacy has CPCSEA approved animal house facility. Other facilities includes- Intracerebroventricular (i.c.v) drug delivery and CSF aspiration in rodents using Stereotaxic apparatus and Nanomite pump, Real time Polymerase Chain reaction based Equipments, Radio Immunoassay Laboratory offering rat serum and estradiol measurements, Zebra fish and Drosophila Experimental facility. Physiological data acquisition system like Laser Doppler Flow meter, 8 and 4-channel Power Lab data acquisition system with Spirometry, ECG, NIBP, IBP, NCV, isolated muscle preparation, etc.
- For analytical and bio-analytical method development, stability indicating assays, pharmacokinetic studies, elemental analysis, herbal drug analysis, instruments such as- LC-MS-MS (QTrap), ICP-MS, HPTLC with mass interface, HPLC Binary and quaternary systems with UV, Fluorescence and PDA detectors, UHPLC with PDA

### Registered Office

The Research Society of Bombay College of Pharmacy  
c/o Bombay College of Pharmacy,  
Kalina, Santacruz (East),  
Mumbai, Maharashtra  
T: 022-26671071/  
26670815/26670871  
E: rsbcp1981@gmail.com,  
office@bcp.edu.in,  
vaishali.shirsat@bcp.edu.in  
W: www.bcp.edu.in

### Recognition Status

File No.: 14/100/1988-TU-V  
Initial Recognition: 1988  
Valid Until: March 31, 2017

### R&D Manpower

Doctorates: 13  
PGs & Graduates: 7

## Research Areas

- Formulation of novel drug delivery systems, Liposomal and niosomal formulations, development of mucosal vaccine delivery systems and gene delivery systems, Probiotic formulations
- Process development for intermediates and bulk drugs.
- Safety Pharmacology and Toxicology, Neuropharmacology and Behavioural Pharmacology, Drug metabolism, Pharmacokinetics

## Research Outcomes

- Papers published:
  - » National: 4
  - » International: 21
- IPRs held
  - » Patents filed: 9
  - » Patents awarded: 11
- Technologies transferred/commercialized: 3

detector are available. Installation of Hyphenated Mas instruments is in progress.

### Some of the Equipment-

- High Pressure Homogeniser; Dissolution Test Apparatus; LIPID EXTRUDER; Lyophilizer Freeze Drier; Autoclave Horizontal cylindrical; SHIMADZU HPLC system; Spectrophotometer Model Model FTIR; Motic Inverted Triocular Research Microscope; Verty Thermal Cycler (PCR); Probe Sonicator (Ultrasonic Processor); Stereotaxic Lab std F / Rats; Diffusion cell system; Zeta Potential Analyser Nano Zs etc.

### Sources of income for R&D

Government Sources

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 54.61

FY 2015-16 = 100.97

FY 2016-17 = 29.79

## R&D Achievements

### Products developed

- Iontophoretic methotrexate gel
- IR Telmisartan tablet
- Development of nanoliposomes as carriers for amphotericin B.
- SR tablets incorporating a highly water-soluble drug formulated using lipid excipients
- Development of an in- situ gel of neomycin sulphate for treatment of bovine mastitis
- Development of a spray-on type of in situ film forming system containing silver nanoparticles for wound healing in animals
- A new method for synthesis of a chiral selector, Sulphated Beta

Cyclodextrin, was developed and technology transfer of the same was done to LobaChemie Pvt. Ltd. for commercialization.

- A new HPLC method and a new LC-MS/MS method was developed for Nerliker Hospital
- Formulation development and HPLC Method Development for Phloroglucinol and Trimethylphloroglucinol Injection

### Processes developed

- Improved the limit of detection of a metabolite of Disulfiram, S-Methyl, N, N- diethylidicarbamate, by converting an HPLC method to an LC-MS/MS method for Nerliker hospital for Therapeutic Drug Monitoring of Disulfiram which is used for alcohol deaddiction.
- A new HPLC method was developed for determination of Chlorobutanol in Chlorpheniramine Maleate injection
- Development of a novel immunogenic assay to determine levels of IgG and IgA in Brucellosis in rats after administration of nanovaccine (Efficacy and toxicity studies for Institute of Chemical Technology (2014-15)
- One pot melt-wet granulation technique for formulation of a poorly soluble drug using lipid excipients as solubilizers (PCT filed)

### Commercialization potential of products/processes developed

- Iontophoretic Methotrexate gel system (in process)
- Sulphated Beta Cyclodextrin, a chiral selector is imported through Sigma Aldrich since there is no Indian manufacturer
- In situ gel of neomycin sulphate for treatment of bovine mastitis. 🔍



^ TRF laboratory

### Registered Office

The Talwar Research Foundation,  
E-8, Neb Valley, Neb Sarai,  
New Delhi 110 068  
T: 011-65022405, 08800322055  
E: gptalwar@gmail.com

### Location of R&D Units

- All India Institute of Medical Sciences (AIIMS), New Delhi
- National Institute of Immunology, New Delhi

### Recognition Status

File No.:14/258/1996-TU-V  
Initial Recognition:1996  
Valid Until: March 31, 2019

### R&D Manpower

Doctorates: 2  
PGs & Graduates: 20

## THE TALWAR RESEARCH FOUNDATION

### Brief Description

The Talwar Research Foundation (TRF), formally registered as a non-profit trust under the Societies Registration Act 1860, works on mission-oriented projects on problems of relevance to the country. The organization takes leads from basic work to products after due clinical trials and eventually to a company, which can make available the new product to the public.

### R&D Set-up

The research facilities and infrastructure of the institution include the following:

- TRF has an in-house laboratory with 5,300 sq ft built up area and an additional 1,000 sq ft built-up area houses the 10kW solar photovoltaic facility.
- The laboratory at TRF has sufficient equipment and facilities for Microbiology, Immunology, Proteomics, Cell Culture, and Molecular Biology along with access to expensive equipments and animal house facilities of the National Institute of Immunology and AIIMS, New Delhi.

The equipment facilities available at the TRF include the following:

- Refrigerators, Deep freezer (-20°C), Micro-centrifuge, Refrigerated centrifuge, CO<sub>2</sub> incubator, Incubator-shaker, Incubators, Autoclaves, Laminar-flow hood, Gel Electrophoresis units, Lyophilizer, Refrigerated water bath, PCR machine, Gradient PCR, Real-time PCR, Spectrophotometer,

ELISA reader, Weighing balance, pH meter, RO water system, Ultrapure water system, Fraction collectors, Ice-flaker, Speed-vac, Inverted Microscope, Upright Microscope, Inverted Fluorescence Microscope, Electrophoresis power supplies, Heating Module, UV-transilluminator, Gel Documentation System, Electroporator, Peristaltic pump, Ultrafiltration system, Cell Counter, Western Blot Transfer apparatus, Sonicator, Protein Purification System (FPLC)

### Sources of income for R&D

Grant-in-aid

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 33.65

FY 2015-16 = 34.48

FY 2016-17 = 37.55

### R&D Achievements

#### Products developed

- *Mycobacterium indicuspranii* (MIP) vaccine
- Genetically-engineered recombinant vaccine against hCG intended for preventing unwanted pregnancy in sexually active fertile women without derangement of ovulation and menstrual regularity. The vaccine hCGβ-LTB has received the approval of RCGM.
- Pro-vag-Health Probiotics, a product developed for improving reproductive health of women.

### Research Areas

- Development of vaccines
- Monoclonal antibodies
- Immunotherapy of drug-resistant cancers

### Research Outcomes

- Papers published:
  - » International: 18
- IPRs held
  - » Patents filed: 4
  - » Patent awarded: 3
- Technologies transferred/commercialized: 3

- Polyherbal formulation BASANT is a product developed for the reproductive health of women.

### Commercialization potential of products/processes developed

- MIP is available for public use by Cadila Pharma.
- Pro-vag-Health Probiotics is available from M/s Microbax Hyderabad
- BASANT is undergoing regulatory procedures by M/s Bipha Laboratories in order to make this available for public use.

### Technical Collaborations

#### National

- National Institute of Immunology, New Delhi; All India Institute of Medical Sciences, New Delhi; Sir Ganga Ram Hospital, New Delhi; Jamia Hamdard, New Delhi

#### International

- Institute of Biology and Experimental Medicine, Buenos Aires, Argentina

### Societal Relevance

The following R&D outcomes are of national/societal significance:

- The MIP vaccine is relevant to the eradication of leprosy. India has the world's largest number of patients suffering from leprosy. MIP vaccine has additional benefits in treatment of anogenital warts, tuberculosis, and myelomas.
- Microbicide Basant was developed for improving the reproductive health of women infected by a large number of drug-resistant genital pathogens, including HIV and HPV.
- Probiotics (Pro-vag-Health) was developed for treatment of Vaginosis which is prevalent in about 30% of women in urban localities and 50% of women in rural areas
- The anti-hCG Vaccine was used to control fertility as a unique birth control vaccine. 🔍





^ Obstetrics and Gynecology Unit

### Registered Office

Department of Clinical Research,  
The Voluntary Health Services,  
Rajiv Gandhi Salai, Adyar,  
Chennai 600 113, Tamil Nadu  
T: 044-22542971 | 73 2254  
1972/74/75

E: secyvhs.1958@gmail.com  
W: www.vhschennai.org

### Recognition Status

File No.: 14/667/2015-TU-V  
Initial Recognition: 2015  
Valid Until: March 31, 2017

### R&D Manpower

Doctorates: 3  
PGs & Graduates: 17

### Research Areas

- Translational medicine
- General Surgery
- Obstetrics & Gynaecology
- Neurology/ Psychiatry
- Neurosurgery

## THE VOLUNTARY HEALTH SERVICES

### Brief Description

The vision of Voluntary Health Services (VHS) was to meet the health care needs of the poor and middle class based on their clinical needs and not based on their ability to pay for services. The underlying ethos of VHS is the prevention and cure of serious illness, fostering of the family as a unit for medical care, and facilitating active community participation in the provision of a continuum of health care, with special reference to disadvantaged groups, such as women, children, and the elderly. VHS manages an extensive community health programme through 14 mini health centres located in the southern periphery of the city.

### R&D Set-up

The research facilities and infrastructure available in the organization is used by academia. It includes a multi-speciality 465-bedded tertiary teaching hospital offering modern medical care to the poorer and lower sections of society and all general specialties and a few super specialties including a blood bank, haemophilia centre, and de-addiction programme are available along with dialysis and laboratory investigation facilities. The departments in the institute are Anesthesiology; Blood bank; Cardiology; CHARTERED; Community Health; Dentistry; Dermatology; Diabetology; Endocrinology.

### Some of the equipments are as follows:

- Neuro surgery Operation Table;
- Low speed centrifuge R8M;
- Binocular microscope; Flowtron

excel intermittent; pneumatic Compression for DVT Prophylaxis; Graseby 210 Syring Pump; CME Express Volume Infusion; Nellcor bedside SP02 Monitor Open Caro Warmer-OCWIOO; Nellcor bedside SP02 Pulse

### Sources of income for R&D

- Donations
- Grant-in-aid
- International funding

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 494.82

FY 2015-16 = 405.57


FY 2016-17 = 216.55

### R&D Achievements

#### Research projects

- Comparative study of oral versus parenteral iron sucrose and its effect on anaemia complicating pregnancy
- Microbial profile and antibiotic sensitivity pattern in bile culture from cholecystectomy patients
- Maternal body mass index (BMI) and pregnancy outcome

### Societal Relevance

- Study new treatment modalities and evaluate efficacies and accuracies of existing and new diagnostics and therapeutics in the goal to improve their understanding of disease pathogenesis and patient management. 



^ Nursing Station

## U N MEHTA INSTITUTE OF CARDIOLOGY & RESEARCH CENTRE

### Brief Description

The U N Mehta Institute of Cardiology & Research Centre (UNMICRC) is a grant-in-aid autonomous institute promoted by the Government of Gujarat as a public trust. Their mission is to offer world class quality care in cardiology at no cost or concessional cost and to provide free super speciality higher education in cardiology, cardiovascular thoracic surgery, and cardiac anesthesia. The institute is a teaching, research, academic, and unique charitable institution which runs various patient benevolent free cardiac treatment schemes. The Institute is registered under the Bombay Public Trusts Act, 1950.

### R&D Set-up

The research facilities and infrastructure of the institution include:


- Auditorium
- Conference Hall
- Online Education
- E-library
- Computers
- Hospital Management & Information System (HMIS)

### R&D expenditure (₹ in lakhs)

FY 2014-15 = 2,512.09  
 FY 2015-16 = 3,269.63  
 FY 2016-17 = 3,058.73

### R&D Achievements

Major research projects undertaken by the organization are:

- A Normokalemic, non-depolarising, long acting Blood Cardioplegia
- Off pump CABG and stroke: incidence and mechanisms- a single center experience
- Coarctation and its surgical repair: mid to long term follow up in children and adults
- OPCABG for Moderate CIMR in elderly- A Superior Option
- Techniques, Timing & Prognosis of Post Infarct Ventricular Septal Rupture: A Relook at Old Dogmas
- Single dose lignocaine-based blood cardioplegia in single valve replacement patients
- Outcome of Bioprosthetic Aorticvalvular replacement: A single center experience
- Study of Video-assisted Thoracoscopic Surger. 

### Research Areas

- Cardiology and cardiovascular research
- Preventive cardiology
- Epidemiology

### Research Outcomes

- Papers published:
  - » National: 34
  - » International: 39

### Registered Office

U N Mehta Institute of Cardiology & Research Centre (Affiliated to B J Medical College, Ahmedabad) Civil Hospital Campus, Asarwa, Ahmedabad 380016 Gujarat  
 T: (079)22682395, 22684220  
 E: unmicrc@gmail.com  
 W: www.unmicrc.org

### Recognition Status

File No.: 14/201/1992-TU-V  
 Initial Recognition: 1992  
 Valid Until: March 31, 2019

### R&D Manpower

Doctorates: 2  
 PGs & Graduates: 4



^ Central Lab

### Registered Office

Ujjain Charitable Trust Hospital & Research Centre, Budhwariya, Ujjain 456 006, Madhya Pradesh  
T: 0734-2557992

### Recognition Status

File No.:14/519/2010-TU-V

Initial Recognition: 2010

Valid Until: March 31, 2019

### R&D Manpower

Doctorates: 9

PGs & Graduates: 8

### Research Areas

- Maternal and Child Health
- Infectious diseases
- Non-communicable diseases
- Injuries
- Antibiotic resistance
- Digital Technology & Medical Research

## UJJAIN CHARITABLE TRUST HOSPITAL & RESEARCH CENTRE

### Brief Description

Ujjain Charitable Trust Hospital & Research Centre, one of the leading hospitals in Madhya Pradesh, provides services to insured patients (who have health insurance) as well as those patients who are paying for their own treatment. In their endeavour to provide the best possible treatment, they also monitor consumer satisfaction with regard to clinical care, such as approach of the doctor, examination, education on taking medication, availability of services, waiting time, and cost provided in the outpatient department.

### R&D Set-up

The research facilities and infrastructure of the institution are being used by the academia and individuals. These include:

- Anatomy, Physiology, Biochemistry, Pathology, Microbiology, Forensic Medicine, Pharmacology departments

### Sources of income for R&D

- Grant-in-aid
- International funding

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 289.64

FY 2015-16 = 241.48

FY 2016-17 = 214.96

### R&D Achievements

#### Processes developed

- Development of System for the collection of Syndromic symptoms in real time during Simhastha 2016.

- Development of system for the collection of Syndromic symptoms in real time during Panchkroshi Yatra 2017.
- Mobile application developed for antibiotic guidelines.
- Mobile application IECHO developed for distance learning.

### Technical Collaborations

#### National

National Institute of Epidemiology, Chennai

#### International

KarolinskaInstitutet, Sweden

### Societal Relevance

- Development of System for the collection of Syndromic symptoms in real time during Simhastha 2016
- Development of System for the collection of Syndromic symptoms in real time during PanchkroshiYatra 2017
- Mobile application developed for antibiotic guidelines
- Mobile application IECHO developed for distance learning
- Hand Hygiene Awareness Programme in Community
- Regular public health and health awareness programme in Ujjain district. [Q](#)

### Research Outcomes

- Papers published:
  - » National: 58
  - » International: 16



^ Prenatal diagnosis Laboratory

## VALSAD RAKTDAN KENDRA

### Brief Description

An NGO working since 1984 in the field of voluntary blood banking and haematological research in south Gujarat, Valsad Raktdan Kendra (VRK) is a pioneer in establishing Sickle Cell Anemia programme in Gujarat as well as in India. VRK has full-fledged research laboratory facilities for the diagnosis of Thalassemia and Sickle Cell Anemia, including molecular laboratory for Pre-Natal Diagnosis (PND) and New Born Screening for Sickle Cell Anemia from blood spots on filter paper from Heel prick. VRK has played a significant role in establishing India's first Sickle Cell Anemia Control Programme of Gujarat as a nodal agency, which was also awarded the Prime Minister's Award for Excellence and is considered as a model project at the all India level. It is registered as society NGO.

### R&D Set-up

The research facilities and infrastructure of the institution are being used by the academia. These include some of the following scientific equipments:

- Computerized refrigerated centrifuge, Bench Top Centrifuge, Microplate ELISA Reader with Autowasher, Laminar Air Flow, Electrophoresis Apparatus, High Pressure liquid Chromatography, Hb Variant; Semi-automatic biochemistry analyser, Automated Blood Cell Separator (Apheresis), PCR System with

Refrigerated Micro centrifuge, Gel Documentation System, PH Meter, Photoelectric Colorimeter, Fully Automatic Haematology Counter, SEROLOGICAL Water Bath, Multi Channel Manual Pipettes, Automatic Pipettes

### Sources of income for R&D

- Grant-in-aid
- Institutional funding

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 13.34

FY 2015-16 = 85.11

FY 2016-17 = 4.93

### R&D Achievements

#### Research outcomes

- Innovative elements developed in products or services
- Mass screening of all tribal population of Gujarat
- Newborn screening for Sickle Cell Disease initiated
- Prenatal diagnosis for Hemoglobinopathies established in Gujarat

### Societal Relevance

The following R&D outcomes are of national/societal significance:

- Prenatal diagnosis and new born screening services for various hemoglobinopathies initiated in Gujarat

### Registered Office

Valsad Raktdan Kendra,  
R. N. C. Eye Hospital, Kacheri Road,  
Valsad 396 001, Gujarat  
T: 02632-253650  
E: yitalia@yahoo.com,  
bloodbank.valsad@gmail.com

### Recognition Status

File No.:14/559/2011-TU-V  
Initial Recognition: 2011  
Valid Until: March 31, 2019

### R&D Manpower

Doctorates: 7  
PGs & Graduates: 5

### Research Areas

- Haemoglobinopathies, particularly Thalassemia & Sickle Cell Anemia
- Immuno serology
- Blood Banking

### Research Outcomes

- Technologies transferred/commercialized: 3

- Mass screening of 92 lakh tribal population of Gujarat with the diagnosis of 30,000
- Sickle Cell Disease patients.
- Establishment of Comprehensive Sickle Cell Clinic at Rumla CHC, Chikhli, Gujarat
- Establishment of Sickle Cell Control Society in Gujarat. 🔍



^ Doctor diagnose and suggest treatment from the Base Hospital

## venu CHARITABLE SOCIETY

### Brief Description

Venu Charitable Society endeavours to provide good sight and quality life for all. The Institute has developed a unique 3-tier service delivery network, in response to the felt need of the patients in order to ensure that quality eye care services reach the poor and needy in rural areas. Venu is a university recognized teaching & training centre for post graduate and undergraduate teaching programmes for doctors and optometrists. It is registered as society NGO.

### R&D Set-up

The research facilities and infrastructure of the institution are being used by the hospital staff only. These include hospital which is about 1,00,000 sq.ft covered area spread over four floors.

### Equipments available:

Yag Laser, Microscope, Slit lamp Green laser, Ophthalmosco, Phaco Machine, Filed (HFA)

### Sources of income for R&D

Grant-in-aid

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 4.67

FY 2015-16 = 4.33


FY 2016-17 = 4.11

### R&D Achievements

#### Processes developed

- Tele Ophthalmology System-2014
- Design and development of Computer-aided Diagnosis of eye diseases (Diabetic Retinopathy & Glaucoma) and watermarking of Medical Images for Tele-ophthalmology

### Societal Relevance

Tele-ophthalmology is a useful system to provide primary eye care in remote areas. 

### Research Areas

- Research related to Eye Care

### Research Outcomes

- Papers published
  - » Conference/proceeding presentation: 1

### Registered Office

Venu Charitable Society,  
1/31, Sheikh Sarai, Institutional  
Area, Phase-2, New Delhi 110 017  
T: 011-29251155, 29251156  
E: md@venueyeinstitute.org  
W: www.venueyeinstitute.org

### Recognition Status

File No.: 14/351/2003-TU-V  
Initial Recognition: 2003  
Valid Until: March 31, 2017



^ Yoga classes

### Registered Office

Vishwanand Kendra  
101.102,103, Pramod Vihar  
Walvekarnagar,  
Pune 411 009, Maharashtra  
T: 020-24222900/24227525  
E: rajkumarchordia@gmail.com  
W: <http://www.vishwanand.org/index.html>

### Recognition Status

File No.: 14/640/2013-TU V  
Initial Recognition: 2013  
Valid Until: March 31, 2017

### R&D Manpower

PGs & Graduates: 2

### Research Areas

Clinical disciplines: General Medicine, General Surgery, Family Medicine, Orthopaedics, Anaesthesia, Pediatrics, Obstetrics & Gynaecology

## VISHWANAND KENDRA

### Brief Description

Vishwanand Kendra is a platform for all health sciences, which are working for conservation of health and management of diseases. Patient-centric integrative approach is the main objective of the organization. The specialty approach of traditional medicine with modern medicine is promoted. The institute is working with exponent research. 'Karma Sadhana' is a clinical-oriented knowledge mission from the academic division of Vishwanand Kendra.

### R&D Set-up

- Unique system-wise specialty approach in Ayurveda with 13 Ayurveda expertise.
- Integration of Ayurveda, allopathy, yoga, naturopathy, and acupuncture to provide comprehensive healthcare facilities under one roof.
- Focus on wellness through lifestyle management, occupational disorders prevention, and traditional medicines. State-of-the-art facilities for all the clinical services and in-house pharmacy to provide excellent quality medicines at a reasonable price.
- Well-equipped research and development unit to provide scientific evidence of the traditional treatments and drugs.

### Sources of income for R&D

Donations

### R&D expenditure (₹in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 14.00

FY 2015-16 = 12.00

FY 2016-17 = 20.00

### R&D Achievements

#### Products developed

Developed four new herbal cosmeceutical products based traditional Ayurvedic wisdom and evidence in clinical practice

- Herbal swedan harad churna and herbal heating pad
- Winter bath scrub
- Herbal plant
- Herbal mehendi

### Technical Collaborations

- Active collaboration with Suburban Diagnostic Centre for Pathology and Radiology.
- Established clinician network from Poona Hospital and Research Centre.
- In-house product development and standardization with Pravin Masale Lab.
- Collaboration with Interactive Research School for Health Affairs, Bharati Vidyapeeth, Pune, for technical support in microbiological studies.
- Active collaboration with Shahade Hospital, Pune, for clinical support. 

### Research Outcomes

- Papers published:
  - » International: 20



Research Laboratory

## VISION RESEARCH FOUNDATION

### Brief Description

The Vision Research Foundation is engaged in broad spectrum research ranging from microbiology, genetics, cell biology to more complex areas such as nanotechnology and stem cell research. The foundation has excellent research advanced infrastructure and highly qualified and dedicated research teams. Till date, the institute has produced more than 30 doctorates and published more than 500 publications in ophthalmic research with 5 patents registered and 12 filed. It is registered as a society NGO.

### R&D Set-up

The research facilities and infrastructure of the institution are being used by the academia and industry. The list of equipments available are as follows:

- GEN MINI 10K Minifuge Centrifuge 1000 RPM with Adapter & PCR Tubes, 2VERITI thermal cycler with 96\*.2ML Wells Thermal Cycler 0.2 BDT V3.1, ENDOHM for 6MM Culture Cups Electrode from world precision instruments, Electrospinning Unit, Channel free radical analyzer; Colibri Microvolume Spectrometer, Electrode Set, VOLTOHM Meter, BIO-RAD Wideminisubgt, CASTER, 15X10TR Horizontal Electrophoresis

### Sources of income for R&D

- Donations
- Grant-in-aid

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 94.78

FY 2015-16 = 81.74

FY 2016-17 = 82.92

### R&D Achievements

#### Processes developed

- POAP—Bioinformatics drug discovery pipeline—Developed and distributed as open source software under GNU GPL license.
- LHON (Lebers Hereditary Optic Neuropathy) Gene Screening Test and Eye Panel Gene Testing.
- Nucleic acid amplification-based rapid diagnostic tests for detection of *Pneumocystis jirovecii*.
- Reverse transcriptase PCR for detection of viable mycobacterial tuberculosis genome directly from clinical specimens.
- Nucleic acid amplification-based diagnostic test for Epstein Barr Virus; Hepatitis C virus.
- Induced pluripotent stem cell lines have been generated from normal skin fibroblasts, orbital mesenchymal stem cells from both germline (confirmed to harbor mutations in RB1 gene), and non-germ line retinoblastoma patients.

### Technical Collaborations

#### National

Indian Institute of Technology, Kanpur; Indian Institute of Technology, Bombay; Sastra University, Thanjavur

#### Registered Office

Vision Research Foundation  
New No. 41 Old No. 18 College  
Road, Chennai 600 006,  
Tamil Nadu  
T: 044-42271565  
E: drrg@snmail.org

#### Recognition Status

File No.: 14/70/1988-TU-V  
Initial Recognition: 1988  
Valid Until: March 31, 2018

#### R&D Manpower

Doctorates: 18  
PGs & Graduates: 40



### Research Areas

- Ophthalmic research in basic science

### Research Outcomes

- Papers published:
  - » National: 16
  - » International: 123
- IPRs held
  - » Patents awarded: 5
  - » Patents filed: 14

### International

Deakin University, Australia; Heads AS, Norway; Indiana University, USA

### Societal Relevance

The following R&D outcomes are of national/societal significance:

- The translational rapid diagnostic tests optimized through various research projects are being utilized for rapid diagnosis in SN Referral Laboratory.
- Approximately 50 hospitals in and around Chennai send their clinical

specimens like CSF, blood, and other body fluids, including intra ocular fluids, for the detection of genomes of infectious agents, such as *Mycobacterium tuberculosis*, *Cytomegalovirus*, *Herpes simplex virus*, and *Toxoplasma gondii*

- Development of the LHON (Lebers Hereditary Optic Neuropathy) Gene
- Screening Test and Eye Panel Gene Testing has made detection of the disease easier. 🔍



^ Operation facilities

## VIVEKANAND MEDICAL FOUNDATION & RESEARCH CENTRE

### Brief Description

The Vivekanand Medical Foundation & Research Centre is a public charitable trust established in 1979 in Latur (situated in Marathwada region of Maharashtra) with the aim to render best possible medical services at least possible expense. It is a health care centre committed to render quality and appropriate health services to maximum number of needy patients paying heed to the patients' ability to pay, based on the value of social commitment rather than commercial business attitude.

### R&D Set-up

The entire hospital facilities, diagnostic equipments, and data of patients are utilized for research activity.

### Sources of income for R&D

- Donations
- Diagnostic Machine rent

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 62.70

FY 2015-16 = 62.70

FY 2016-17 = 52.02

### R&D Achievements

#### Research outcomes

- Evaluation of breast lesions by mammography with sonographical and pathological correlation. In their study, it was found that sonomammography is useful in detecting benign breast

lesions while mammography is useful tool to detect malignant lesions. In patients suspected of benign diseases, clinically the patient can be subjected to USG breast alone which will cut down the investigation cost for institute as well as for the patients.

- Neurological Manifestation of HIV Infection. HIV infection and its neurological sequelae are cause of major morbidity and mortality in patients of fulminant infection. Usually higher investigations like Electrophysiological studies, Biopsy, etc., are required for accurate diagnosis. In their study they concluded that routine biochemical markers like CD 4 count, clinical examination, imaging, and CFS analysis are the fair tools to diagnose neurological complications of HIV infection. In the resource limited setting this can be useful information for primary diagnosis and treatment.

### Societal Relevance

- Evaluation of breast lesions by mammography with sonographical and pathological correlation public awareness strategies enhanced to detect malignancies in the earlier stages. Ultrasonography and sonography must go hand in hand for proper and earlier diagnosis of breast lesions.
- Neurological Manifestation of HIV Infection—HIV infection and allied disease are poorly studied because of the untouchable

### Registered Office

Vivekanand Medical Foundation & Research Centre,  
Latur 413 512, Maharashtra  
T: 02382- 245901, 245902, 245903  
E: vhlatur@gmail.com

### Recognition Status

File No.: 14/591/2011-TU-V  
Initial Recognition: 2011  
Valid Until: March 31, 2020

### R&D Manpower

Doctorates: 12  
PGs & Graduates: 4

### Research Areas

- Study of altered presentation in disease processes
- Altered epidemiology in disease processes
- Alternatives therapies for various ailments
- Modifications in investigative procedures
- Diagnostic problems, altered responses in our population, and our social environments
- Utilization of modern amenities in today's circumstances

### Research Outcomes

- Papers published:
  - » International: 7
- Technologies transferred/commercialized: 4

nature of the disease. Therefore, the Vivekanand Medical Foundation is studying the same and highlighting important clinical entities associated with the same. Importance of tests, such as CSF

analysis (easily done) and PCR (now available with little difficulty) has also been elaborated. The conclusions are being propagated on various platforms. 🔍



▲ Photograph showing trisomy 21 of a Down syndrome patient.

### Registered Office

Vivekananda Institute of Medical Sciences, Ramakrishna Mission Seva Pratishthan, 99, Sarat Bose Road, Kolkata 26, West Bengal  
T: 033-22216435, 23577907  
E: prin\_secy@wbhealth.gov.in

### Recognition Status

File No.: 14/67/1988-TU-V  
Initial Recognition: 1988  
Valid Until: March 31, 2017

### R&D Manpower

Doctorates: 1  
PGs & Graduates: 5

### Research Areas

- Models and care & control of non-communicable diseases viz. diabetes, hypertension, & mental diseases
- Epidemiology purity of rural water sources and resilience patterns of communities
- Gaps in delivery of quality health care for maternal and child health

## VIVEKANANDA INSTITUTE OF MEDICAL SCIENCES OF RAMAKRISHNA MISSION SEVA PRATISTHAN

### Brief Description

Vivekananda Institute of Medical Sciences of Ramakrishna Mission Seva Pratishthan was recognized by the University of Calcutta for postgraduate training and research in medicine in 1963. Presently it is affiliated under the West Bengal University of Health Sciences for its postgraduate degree, diploma, and various paramedical courses.

### R&D Set-up

The research facilities and infrastructure of the institution include the following equipments:

- Microscope single & binocular, Fluorescence microscope, Automatic cell counter, Incubation chamber, Hot air oven, Photoelectric calorimeter, Tissue culture chamber, Transilluminator, Cryostat microtome, Automatic tissue processor

### Sources of income for R&D

Grant-in-aid

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 9.51

FY 2015-16 = 16.34

FY 2016-17 = 5.44

### R&D Achievements

#### Research projects

- Study of anaemia and deficiency states affecting tribal population of

north east with a view to provide counselling and prevention using biotechnological methods of diagnosis and value added dietary supplementation

- Effect of environmental pollution on genetic disorder, especially Down Syndrome
- Role of GJBZ and GJB6 Mutation in nonsyndromic hearing loss in eastern India
- Protective action of Black tea against oral cancer, in relation to genetic polymorphisms amongst betel quid chewers in eastern and north-eastern India
- Incidence of Coronary Heart Disease in eastern and north-eastern region of India and the Factor V Polymorphism

### Societal Relevance

- Awareness programme organized for early detection of diseases, especially genetic diseases and the effects of environmental pollution. 🔍

### Research Outcomes

- Papers published:
  - » National: 11
  - » International: 6



^ Awareness programme on cervical and breast cancer

### Registered Office

World Healthal Trust  
57-A Basement, Sant Nagar,  
East of Kailash, New Delhi 110 065  
T: 0120-2326647  
E: info@worldhealthaltrust.org  
W: www.worldhealthaltrust.org

### Location and R&D Units

- World Healthal Trust -Greater Noida

### Recognition Status

File No.: 14/581/2011-TU-V  
Initial Recognition: 2011  
Valid Until: March 31, 2017

### R&D Manpower

Doctorates: 1  
PGs & Graduates: 2

## WORLD HEALTHAL TRUST

### Brief Description

The World Healthal Trust (WHT), registered as an NGO, has been working for improvement of the health status of women in the rural and urban poor habitations of Delhi NCR. It has conducted several advocacies-cum-screening health camps on women's cancer in the region. WHT also conducts several advocacy and training workshops for school and college students, uneducated youth, and unemployed graduates. It is registered as trust.

### R&D Set-up

The research facilities and infrastructure of the institution are being used by the industry and individuals. These include:

- A total of 1,800 sq. ft of land; buildings comprising R&D Laboratory, Staff Cabins, Seminar Room and Generator Room, etc.
- The equipments available are as follows: Ceiling LAF, Vacuum Desicator, Micro-centrifuge, Water bath Shaker, Bio safety. Cabinet BOD Incubator pH Meter, Microscope, Centrifuges, Vortex Shaker, Deep Freezer, etc.

### Sources of income for R&D

- Government organizations
- Donations from corporate houses

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2013-14 = 26.78  
FY 2014-15 = 6.67  
FY 2015-16 = 4.91

### R&D Achievements

#### Products developed

- Method for Multiple shoot Regeneration of Arabidopsis
- Advocacy Material Developed for Adolescent Reproductive healthcare

#### Processes developed

- Advocacy Material Developed for STDs and AIDS
- IEC developed for prevention of different cancers

#### Prototypes developed

- Pamphlets, leaflets, posters, brochures, booklets on cervical breast, oral, and prostate cancers developed in both English and Hindi

### Technical Collaborations

#### National

- Chimera Gentec Pvt. Ltd, Greater Noida;
- Bellerophon Biotec Pvt. Ltd, Delhi

### Societal Relevance

The following R&D outcomes are of national/societal significance:

- Early detection of common cancers through community screening using simple and primary methods
- Creating awareness on symptoms of common cancer, their risk factors, prevention, and management

### Research Areas

- Cancer Prevention
- Community Awareness
- Primary Screening of Cervical
- Breast, Oral, and Prostate Cancers
- IEC Activities in Schools for HIV-AIDS and STDs Prevention

### Research Outcomes

- Papers published:
  - » National: 5
  - » International: 2

- Clinical Breast examination VIA method for detecting cervical cancer, oral visual examination, and direct rectal examination for detecting prostate disease/cancer
- Cancer awareness-cum-screening programmes for villagers, school & college students, residents of various programme, etc., and RWA-managed colonies. 🔍



^ Research Laboratory

### Registered Office

YRG Centre for AIDS Research and Education (YRG CARE), Unit of YR Gaitonde Medical Education & Research Foundation, Voluntary Health Services, Rajiv Gandhi Salai, Taramani, Chennai 600 113 Tamil Nadu  
T: 39106600  
E: sss@yrgcare.org  
W: www.yrgcare.org

### Recognition Status

File No.: 14/662/2014-TU-V  
Initial Recognition: 2014  
Valid Until: March 31, 2018

### R&D Manpower

Doctorates: 8  
PGs & Graduates: 11

## Y R GAITONDE MEDICAL EDUCATION & RESEARCH FOUNDATION

### Brief Description

Established with the aim of promoting HIV awareness and fostering education about HIV, sexuality, and related issues, Y R Gaitonde Medical, Educational and Research Foundation, registered as a trust, has expanded with the addition of an outpatient clinic and an inpatient ward. Besides, the areas of work include behavioural change and focus on high-risk marginalized communities, such as commercial sex workers, intravenous drug users, and the LGBT community. So over the course of years, the Foundation's research activities have expanded to include all of these areas, along with epidemiology and prevention. It is registered as a trust.

### R&D Set-up

The research facilities and infrastructure of the institution are being used by the academia. Various labs include: Microbiology, Mycobacteriology, Virology, Molecular-biology, Immunology, Biochemistry, Clinical Pathology, Serology, Pharmacology, Clinical Trial Unit, and Bio-specimen Repository.

### The equipments are as follows:

- Next Generation Gene Sequencer (Illumina Mi-Seq), Automated Gene Sequencer (ABI 3500), Automated Real Time PCR (Abbott), Real Time PCR (ABI 7500 Fast block), Automated Blood Culture System (BD-FX 40), Mycobacterial Detection System (BD-MGIT 320), Flow Cytometer (Coulter NAVIOS), Biochemistry Analyser (Coulter AU480),
- Hematology Analyser (Sysmex 1800i), HPLC (Waters), ELISPOT Reader (Immunospot), ELISA Reader and ELISA Washer, Leica Microscope - Light and UV, LN systems (n=5) and Deep Freezers -75°C (n=23),

### Sources of income for R&D

Donations

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 1,882.51

FY 2015-16 = 1,837.43

FY 2016-17 = 2,395.41

### R&D Achievements

Major research projects undertaken by the organization are:

- Drug resistance in different HIV-1 subtypes.
- A cross-sectional study to screen neutralizing monoclonal antibodies (protocol G).
- Changes in Mitochondrial DNA as a marker of Nucleoside Toxicity among HIV-Infected individuals in southern India.
- Immunological correlates of lack of disease progression in HIV-1 subtype C Infected Long Term Non-Progressors (LTNP) from India.
- HIV Drug Resistance Monitoring in Chennai.
- Validating the Cost-Effective Pooling HBV DNA PCR for detecting Occult HBV among HIV-1 patients.

### Research Areas

- HIV Basic Research
- Low-cost/Low-tech diagnostics
- Molecular characteristics of HIV and HCV and HIV/HCV/TB prevention and treatment trials

### Research Outcomes

- Papers published:
  - » International: 32

- HIV-1 drug resistance monitoring in Chennai, India.
- HIV-1 pol gene diversity among patients on anti-retroviral therapy.

### Technical Collaborations

#### National

CSIR Institute of Genomics and Integrative Biology (CSIR-IGIB), Delhi; Jawaharlal Nehru Centre for Advanced Scientific Research, Bengaluru; HIV Vaccine Translational Research Laboratory, Haryana; Post Graduate and Research Department of Microbiology and Biotechnology; Presidency College, Chennai

#### International

Johns Hopkins University, Baltimore, USA; Brown University, Providence, USA; Stanford University, Stanford, USA; University of California, San Diego, USA; University of Colorado School of Medicine, Colorado; HPTN Network, Division of AIDS, NIH, USA

### Societal Relevance

- Developed cost-effective assays/ tests reduce the cost-burden on the patients with HIV infection
- Awareness programme among high risk individuals to prevent HIV/HCV and Sexually Transmitted Infections (STIs). 🔍





Research Activities

### Registered Office

Zandu Foundation for Health Care  
Village Ambach, Takua Pardi,  
District Valsad, Gujarat 396 145  
T: 0260-2318217  
E: zfhc.farm@gmail.com  
W: <http://www.zanduayurveda.com/contactus/index.php>

### Recognition Status

File No.: 14/147/1990-TU-V  
Initial Recognition: 1990  
Valid Until: March 31, 2018

### R&D Manpower

Doctorates: 2  
PGs & Graduates: 1

### Research Areas

- Medicinal plants and minerals used in health care
- Medicinal plants cultivation
- Development of post-harvest technology
- Nursery development for planting material

## ZANDU FOUNDATION FOR HEALTH CARE

### Brief Description

Zandu Foundation for Health Care (ZFHC), Ambach, Gujarat, was established in 1990 as a research organization with an objective to do the work in the field of medicinal plants. It was registered under the Societies Registration Act, 1860, and the Bombay Public Trust Act, 1950. The foundation's vision is to conduct research and field trials in cultivation of medicinal and aromatic plants through development of agronomy protocols and to build an excellent scientific team and infrastructure of experimental farm and laboratory for herbal drug plants.

### R&D Set-up

Farm facilities such as tractor with trolley; ploughing equipment, such as disc harrow, deep trencher, hand weeder, and other agriculture tools are used for R&D field work. Green houses with temperature and moisture control; nurseries and field germplasm bank.

### Equipments available

Autoclave (horizontal); top pan balance heating mental; rotary shaker incubators; BOD incubators; plant growth chambers; dehumidifier; laminar flow; UV spectrophotometer; Epson Projector with screen; tractor with trolley; cold storage; digital balance; solar dryer system

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15= 71.63

FY 2015-16= 77.44

FY 2016-17= 76.52

### R&D Achievements

- Post-harvest technology developed
- Establishment of home herbal gardens
- Establishment of herbal garden in school and Ayurvedic dispensaries/hospitals of Gujarat
- Developed herbal garden; number of plants introduced: 200 species

### Societal Relevance

The following R&D outcomes are of national/societal significance.

- Developed agro technology of around 14 medicinal plants found in South Gujarat region and have passed it to marginal farmers for cultivation in their land.
- Encourage women to cultivate medicinal plants in their courtyard and to collect commonly found wild plants in their area and to buy-back from them to increase their extra income.
- Conduct farmers training programme at our farm to educate them for cultivation of medicinal plants.
- Awareness and training programmes on cultivation for farmers.

### Research Outcomes

- Papers published:
  - National: 12
  - International: 4
- Technologies transferred/commercialized: 1

SECTION  
**4**

# SOCIAL SCIENCES



Ministry of Science and Technology  
Department of Scientific and Industrial Research  
Government of India



^ Tourism identification and documentation of the Phangrei hill by the Ardent Foundation

### Registered Office

Ardent Foundation,  
Ng. Ngareophung,  
Phungreitang West  
Ukhrul Dist. Headquarter,  
Ukhrul, Manipur 795 142  
T: 03845-384035  
E: ardentfoundation10@gmail.com  
W: www.ardentfoundation.com

### Recognition Status

File No.: 13/288/2015-TU-V  
Initial Recognition: 2015  
Valid Until: March 31, 2018

### R&D Manpower

Doctorates: 2  
PGs/Graduates: 12

### Research Areas

- Tribal health
- Ethno-medicinal plants
- Tribal development
- Tribal empowerment
- Organic product processing/ manufacturing/ packaging

## ARDENT FOUNDATION

### Brief Description

The Ardent Foundation is a growing research-oriented organization headquartered in the Ukhrul district, Manipur. One of the main aims of the Foundation is to uplift the socio-economic condition of the lower sections of society. The Ardent Foundation gives immense importance to research and development along with the documentation and publication of research findings. The organization, manned by young, energetic, and committed research scholars, has undertaken a number of research activities in recent years impacting the lives of the downtrodden tribals in North-East India with special focus on the tribal communities in Manipur. The research projects are often funded by different Central Ministries, Departments, and Councils, or are even taken up independently by the organization considering the importance or research area.

The Ardent Foundation is a society registered under the Society's Registration Act.

### R&D Set-up

The research facilities and infrastructure of the institution are being used by other institutions/ organizations whenever required. These include three buildings constructed in 15 acres of land.

### Sources of income for R&D

Government grants

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 13.59

FY 2015-16 = 26.54

FY 2016-17 = 58.33


### R&D Achievements

#### Research projects

The following are the major research projects conducted by the Ardent Foundation:

- Prevalence, awareness, and effectiveness of HIV programmes amongst the Scheduled Tribes of Manipur.
- A detailed study on the access, equity, and quality of basic primary education amongst the tribal population of Manipur, North-East India.
- A detailed study on the traditional tribal religion of the Tangkhul Naga in North-East India.
- Eco-media workshops and post-workshop fellow engagement for the direct and purposeful creation of an eco-media region amongst the tribal communities in North-East India.
- Tribal ethnobotanical exploration, identification, documentation, and usage of wild edible plants in North-East India.

### Societal Relevance

Created awareness on medical issues, such as cancer, diabetes, HIV/AIDS, TB, and so on, through awareness programmes conducted for the tribal communities in Manipur. 

### Research Outcomes

- Papers published: 4
- Conference proceedings/ presentation: 1



^ Book release

## CENTRE FOR ECONOMIC AND SOCIAL STUDIES

### Brief Description

The Centre for Economic and Social Studies (CESS) was established as an autonomous body by the state government. Appreciating its role in the promotion of research and training, the Indian Council of Social Science Research recognized it as a national institute in the year 1986. Conducting interdisciplinary research in analytical and applied areas of the social sciences, encompassing socio-economic and other aspects of development, constitutes the predominant activities of the centre. Its sphere of research activity has expanded beyond the state of Telangana, covering other areas of the country as well. The centre's research revolves around the economic and social problems of Andhra Pradesh as well as those of the other Indian states. The research carried out at CESS relates to areas, such as growth, equity, food security, human development, natural resource management, public finance, marginalized groups, and institutional issues. As per the changing needs of society, the centre has diversified its research activities into other areas, such as water and forest management, land degradation, infrastructure development, state business relations, retail markets, biotechnology, and intellectual property rights.

CESS is a registered society under the Societies Registration Act.

### R&D Set-up

The research facilities and infrastructure of the institution are

being used by the academia and individuals. These include the following:

- Five acres of land with built up space for faculty rooms, an administrative and finance wing, a computing and processing unit, conference hall, seminar hall, and an auditorium with two attached seminar halls.
- Library and a research unit—a division for child studies.

### Sources of income for R&D

- Donations
- Grant-in-aid
- International funding
- Training, and so on.

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 1,179.10

FY 2015-16 = 2,003.35

FY 2016-17 = 1,863.49

### R&D Achievements

The research outcomes of CESS are articles, books, conference volumes, and so on.

### Research projects

Listed below are some of the research projects undertaken by CESS:

- Soil Fertility Management: The Livelihood, Socio-cultural, Economic and Ecological Dimensions of Farmers' Practices
- Agrarian Crisis and the Emergence of Non-cultivating Peasant Households in Agrarian Structure:

### Registered Office

Centre for Economic and Social Studies  
Nizamiah Observatory  
Campus, Begumpet  
Hyderabad 500 016, Telangana  
T: 040-23418434/23416610-13  
E: director@cess.ac.in/post@cess.ac.in  
W: www.cess.ac.in

### Recognition Status

File No.: 13/151/1995-TU-V  
Initial Recognition: 1989  
Valid Until: March 31, 2019

### R&D Manpower

Doctorates: 21  
PGs/Graduates: 5

## Research Areas

- Macroeconomic policies
- Agriculture and irrigation
- Employment, poverty, and rural development
- Public finance
- Political and institutional issues
- Education
- Industry and services
- Resettlement and rehabilitation
- Natural resources and livelihoods
- Biodiversity and ecosystem services

## Research Outcomes

- Papers published: 18
- Books/chapters in edited books: 38
- Conference volumes / discussion papers: 2
- CESS monographs: 9

- A Study in Andhra Pradesh and Telangana State
- Nature and Extent of Tenancy Arrangements in the Godavari and Kaveri Delta Zones: A Comparative Study
- Rates and Ratios of Fishery Income Accounting of Andhra Pradesh.
- Structural Ratios of a Select Few Sectors of the Organized Manufacturing Sector in India
- Scheduled Caste Entrepreneurship in Small-scale Industries in the Organized Manufacturing Sector in Telangana
- Product Patents for Pharmaceutical Inventions: The Indian Experience
- Technological Cooperation among BRICS Countries: Problems and Prospects
- Changing Perspectives of Women's Work and Decline in Female Labour Force Participation Rate in Rural India: Study in Andhra Pradesh
- Young Lives—A Longitudinal Study on Childhood Poverty
- Human Development in the Telangana State
- Monitoring Results (MoRES) in Nutrition: ICDS Concurrent Monitoring in Telangana and Andhra Pradesh (First and Second Phase)
- Assessment of the Implementation of the Tribal Sub Plan (TSP) Act 2013 in Andhra Pradesh
- Socio-economic Conditions of SCs/STs and the Gaps in Development with a Special Focus on the Reduction of Poverty Level: A Study of Telangana and Andhra Pradesh
- Agriculture in Tribal Areas: A Study of the Seven States in India
- Two Background Papers for the Telangana Minority Commission: a) Educations Status of Muslims; b) Employment and Unemployment Status of Muslims
- Indo-US Joint Clean Energy Research and Development-Bioenergy Project : Socio-economic and Ecological Analysis of Bio-fuels Cultivation
- Mobility and Streets in Megacities—Contestations on Access, Equity and Exclusion: A Study of Hyderabad and Bengaluru
- Forging New Tools and Collective Frames for Urban Housing Rights Advocacy
- Impact Evaluation of Flagship Programmes in Andhra Pradesh
- Analysis of SHGs and Plotting IKP

## Technical Collaborations

### International

The World Bank; Department for International Development, UK ; Ford Foundation; Rockefeller Foundation; European Union; International Labour Organisation; International Food Policy Research Institute; University of Wisconsin, Madison; Asian Development Bank; Food and Agriculture Organisation of the United Nations

### Societal Relevance

The Haritha Haram Programme initiated by the Government of Telangana, was carried out by CESS.

The research carried out at CESS in various areas is widely disseminated. It is highly relevant to policymakers, academia and researchers, and also different stakeholders. The dissemination takes place through brainstorming sessions, workshops, seminars and presentations, and so on. 



^ Integrated scientific project management programme

## CENTRE FOR ORGANIZATION DEVELOPMENT

### Brief Description

The Centre for Organization Development (COD) is engaged in research, training, and consultation on the various aspects of organizational development. Research is given significant impetus at the COD. With an expert faculty, good library, budding research scholars, and a serene environment, the COD offers the ideal academic ambience for research. The centre has a wide portfolio of prestigious research projects undertaken in collaboration with various organizations, including the government. It was set up to be a specialized institution, to be self-financing, and to achieve high-quality professional work with financial viability.

The COD is a non-governmental institution registered under the Societies Registration Act.

### R&D Set-up

The research facilities and infrastructure of the institution are being used by the academia and individuals. These include the following:

- With a built up area of about 5,000 sq. m on five acres of land, the institution has a self-contained campus with all the facilities for a small research and training institution.
- Equipment (computers, printers, multimedia projectors, copiers, scanner, fax, and so on)
- Library

### Sources of income for R&D

Self-sponsored and project-based funding

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 124.79

FY 2015-16 = 135.60

FY 2016-17 = 183.37

### R&D Achievements

The centre has a wide portfolio of prestigious research projects, books, and papers that have been published/undertaken in collaboration with various organizations.

### Research projects

The following are some of the research projects done by the COD during the period 2014-17.

- Managing transition in banking
- Corporate sustainability practices
- Empowering the grass roots-level organizations by strengthening the Joint Forest Management Committees for natural resource governance in Maharashtra's forestry sector.

### Consultancy services rendered

The centre has been providing consulting support to a large number of public- and private-sector companies and governmental organizations.

### Societal Relevance

- Conducting several training programmes for NHPC Ltd under

### Registered Office

Centre for Organization Development, Madhapur, Hyderabad 500 081, Telangana  
T: 040 66622315, 64513794  
E: pandey@codhyd.org  
W: www.codhyd.org

### Recognition Status

File No.: 13/31/1988-TU-V  
Initial Recognition: 1988  
Valid Until: March 31, 2020

### R&D Manpower

Doctorates: 4  
PGs/Graduates: 1


### Research Areas

- Management and development of organizations
- Leadership and management of change
- Organizational behaviour, structure, and strategy
- Organizational diagnostic studies
- Critical thinking and concept mapping
- Climate surveys
- Employee satisfaction surveys
- Manpower studies
- Training evaluation and impact studies

### Research Outcomes

- Papers published: 1
- Books published: 1

the 'Make in India' mission for developing clean energy and providing better rehabilitation services.

- COD's management training, research, and consultancy services are helpful in building and developing organizations. 



^ Library facility of the CPR

## CENTRE FOR POLICY RESEARCH

### Brief Description

The Centre for Policy Research (CPR) is a leading Indian think tank that engages in multiple research projects and initiatives. Established in 1973, and located in New Delhi, it is one of the 27 national social sciences research institutes recognized by the Indian Council of Social Science Research—the apex advisory body of the Government of India for the promotion of research in the social sciences. The objectives of the CPR are to develop substantive policy options on matters relevant to the Indian polity, economy, and society; to provide advisory services to governments, public bodies, and other institutions; and to disseminate information on policy issues through various channels.

The CPR is a non-governmental organization registered under the Societies Registration Act, 1860.

### R&D Set-up

The research facilities and infrastructure of the institution are being used by the academia and individuals. These include the following:

- Land, building, furniture, office equipment
- Office machinery (computers, laptops, Internet equipment, and so on)
- Optical mark scanner
- Vehicles

### Sources of income for R&D

- Government sources
- International funding

- Others (interest, miscellaneous income, and local project grants)

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 1,946.24

FY 2015-16 = 2,515.36

FY 2016-17 = 2,123.03

### R&D Achievements

- The CPR develops products, such as journal articles, working papers, books, book chapters, policy briefs, and reports related to their respective disciplines.
- Organized theme-wise seminars and special discussion meetings (economic policy analysis: 25; environmental law and governance: 28; law, regulation, and the state: 48; urbanization/sanitation: 46; international relations and security: 22).

### Research projects

The following are some of the research projects done by the CPR during the year 2016-17:

- **Accountability initiative:**  
The Accountability Initiative (AI) promotes accountability for service delivery by developing innovative models for tracking government programmes, disseminating this information to policymakers and citizens, and researching how to strengthen accountability for improved service delivery in India.
- **India-urban rural boundaries and basic service (IND-URBBS):**  
The IND-URBBS programme

### Registered Office

Centre for Policy Research  
Dharma Marg, Chanakyapuri  
New Delhi 110 021, Delhi  
T: 011 - 26115273-76  
E: cprindia@cprindia.org  
W: www.cprindia.org

### Recognition Status

File No.: 13/11/1988-TU-V  
Initial Recognition: 1988  
Valid Until: March 31, 2020

### R&D Manpower

Doctorates: 13  
PGs/Graduates: 55



## Research Areas

- Economic policy
- Environmental law and governance
- International relations and security
- Law, regulation, and the state
- Urbanization

## Research Outcomes

- Papers published: 95
- Books published: 13
- Technical reports: 24

is constructed around understanding how outcomes in urban settlements, for example, occupational structure, delivery of basic services, and broader aspects of citizenship are affected by the interaction between citizens and the state in three types of sites: (i) 'census towns' vis-à-vis statutory towns; (ii) informal settlements in large cities vis-à-vis formal settlements of similar nature; and (iii) peripheral settlements inside the municipal boundaries of the city vis-à-vis settlements outside the boundary.

- **Role of small cities in shaping the youth employment outcomes in India:** This research project explores the role of small cities in positively shaping the employment outcomes of the migrant youth.
- **Strengthen and harmonize research and action on migration in the Indian context:** The goal of the initiative is to improve our understanding of the extent and nature of migration in India as well as to suggest evidence-based policy prescriptions for the protection of the rights of migrants.
- **India and her Neighbours:** The principal focus of the work in this project segment will be to expand the discourse on the regional cooperation in South Asia to help build stronger cross-border ties between the Indian states and countries across their respective borders.
- **India's Middle Class:** Through careful examination of a large body of secondary sources, the project aims to explore the

defining characteristics of the Indian middle class in order to arrive at a suitable definition of the same.

## Technical Collaborations

### National

Centre for Social Sciences and Humanities, Delhi; NITI Aayog, Delhi; Confederation of Indian Industries, Delhi; French Institute of Pondicherry, Puducherry

### International

India China Institute, New York; Global Health Strategies, New York; Shanghai Institute of International Studies, China; Institut de recherche pour le développement, France

## Societal Relevance

The CPR is one of India's leading policy think tanks deeply committed to rigorous scholarship, attracting the finest intellectuals from across the country and globally. The centre addresses some of the most pressing issues of contemporary India, the CPR conducts research across various areas, including ensuring environmentally sensible development, mitigating potential negative impact of climate change, environmental compliance, understanding land rights, making urban conditions more liveable, understanding India's role in a changing global scenario, and effective governance.

Through its values of academic freedom, a non-partisan and independent approach, high-quality evidence-based research, the CPR contributes to shaping the intellectual foundations of public policy discussions in India. 🔍



^ CRRID publications

## CENTRE FOR RESEARCH IN RURAL AND INDUSTRIAL DEVELOPMENT

### Brief Description

The Centre for Research in Rural and Industrial Development (CRRID) is an autonomous research institute. The CRRID was accorded a national status in 1984 by the Ministry of Human Resource Development (MHRD), Government of India, in recognition of its contribution to the cause of social science research in the broader national perspective. The CRRID's primary focus has been on carrying out socially relevant research on rural and industrial development in the wider social, economic, and political context. The CRRID plays an active role in promoting social science research in India, which matches the accepted standards of social investigation and meets the emerging challenges facing the country from a variety of perspectives. Interdisciplinary research is at the core of its activities, which, besides empirical grounding and theoretical base, has an emphatic policy orientation. In this backdrop, short- as well as long-term projects sponsored by the Government of India, state governments, international agencies, and others are undertaken at the CRRID. In recent times, based on the on advice of the funding agencies, policymakers, and the government, the CRRID has diversified its research programmes and has brought interventional studies into its fold. The research profile of the CRRID reflects the following aspects: individual concerns; faculty specialization; and the contemporary challenges of society in general and of the

north-western region in particular. The geographical coverage of the CRRID includes Haryana, Himachal Pradesh, Jammu & Kashmir, Punjab, Uttarakhand, western Uttar Pradesh, and Chandigarh. The CRRID has an open approach towards research collaboration and networking and currently has a number of collaborative ventures in terms of funding research projects, data collection and sharing, joint publications, organization of seminars and workshops, etc.

The CRRID was registered as a scientific and educational charitable society under the Indian Societies Registration Act, 1860, in the Union Territory (UT) of Chandigarh in July 1978.

### R&D Set-up

The research facilities and infrastructure are being used by the academia and individuals. These include:

- A fully air-conditioned conference hall, two seminar halls, 24 guest rooms
- IT infrastructure
- Library

### Sources of income for R&D

Government grants

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D

FY 2014-15 = 719.5

FY 2015-16 = 671.19

FY 2016-17 = 1,077.89

### Registered Office

Centre for Research in Rural and Industrial Development,  
2-A, Sector 19-A, Madhya Marg,  
Chandigarh 160 019, Punjab  
T: 0172-2725059  
E: dg@crrid.res.in  
W: www.crrid.res.in

### Recognition Status

File No.: 13/16/1988-TU-V  
Initial Recognition: 1988  
Valid Until: March 31, 2019

### R&D Manpower

Doctorates: 17  
PGs & Graduates: 11

## Research Areas

- Panchayati raj institutions and rural development
- Urban governance and development
- Population, health, and family welfare
- Communalism and conflict resolution
- Education
- Industrial development and economic growth
- Migration and diaspora
- Microfinance and special help groups
- Corporate social responsibility

## Research Outcomes

- Papers published
  - » National/International: 68
- Books published: 17
- Monographs: 8

## R&D Achievements

- Achievements are in the form of books, research reports, monographs and research papers, and also include organizing seminars/conferences/training programmes/workshops and other interactive sessions.
- The CRRID has been publishing *Man & Development*, its official quarterly journal, since May 1979.

Some of the research projects undertaken by the organization are as follows:

- Housing, basic services, and urban poverty alleviation under JNNURM in a hilly town: A case study of Shimla
- Rural development through decentralized governance and integrated hill area resource management
- Evaluation study to review the unreasonable increasing trend of power subsidies being provided to the agricultural sector
- Impact assessment of the buffalo breed improvement and management programme in Punjab
- Benchmarking the best practices of the managing performance of teachers and heads of schools to identify systems to ensure teachers' motivation, attendance and the optimal use of teaching time and dropout rate reduction/retention of students, why the government schools are not being preferred (Jind).
- Benchmarking best practices of managing performance of teachers and heads of schools to identify systems to ensure teachers motivation, attendance and optimal use of teaching time & dropout rate reduction/retention of students, why the govt schools are not being preferred (Mewar).

- Inter-district migration amongst the tribal population in Himachal Pradesh: A study of socio-cultural, economic, and ethnic transformation
- Water-use efficiency in Punjab: The issue of sustainability
- Evaluation Report of Sustainable Development Projects of SAIL for 2014-15
- Empowering poor tribal girls under CSR: A case study of nursing colleges of SAIL at Bhilai and Rourkela
- Emerging global and domestic challenges to the steel industry in India with special reference to SAIL
- Programme implementation plan (2015-16): Quarterly quality monitoring report of Moga, Bhatinda, Faridkot, Ferozepur, Mohali, Amritsar, Pathankot, and Fazilka Districts—eight research studies
- Functioning of AYUSH Health Care Centres in Punjab
- Health care services in Punjab: Findings of a patient satisfaction survey
- Healthcare delivery services in Punjab: Revelations from HMIS data (2010-15)
- Capacity building project (2014-15) under the BRGF of district Hoshiarpur

## Societal Relevance

Research studies and programmes, such as the national-level monitoring of rural developmental programmes; research projects on Swachh Bharat; capacity building of clean coal technology; In digital India, the use of PlanPlus software for preparing a district developmental plan; evaluative studies on the National Health Mission helps in reforming the national programme by the government for welfare of society. 🔍



^ Seminar organized in the Centre for Social Studies

### Registered Office

Centre for Social Studies,  
Veer Narmad South Gujarat  
University Campus,  
Udhna-Magdalla Road,  
Surat 395 007, Gujarat  
T: 0261 - 2977172/ 2977174,  
E: info@css.ac.in and  
W: www.css.ac.in

### Recognition Status

File No.: 13/40/1988-TU-V  
Initial Recognition: 1988  
Valid Until: March 31, 2019

### R&D Manpower

Doctorates: 7  
PGs/Graduates: 2

## CENTRE FOR SOCIAL STUDIES

### Brief Description

The Centre for Social Studies (CSS) is an autonomous social science research institute. The major achievements of the CSS include its policy-related and social change-oriented research, contribution to pedagogic initiatives, and published research and interventions in the intellectual discourse on various issues. The centre has been carrying out a number of projects pertaining to its key areas of research. During the last five decades, the CSS has carried out 288 research projects sponsored by regional, national, and international agencies. The research interests of the faculty encompass a wide area including scientific methods of enquiry, studies on tribal communities, dalits and minority groups, ethnographic enquiries, sects and religion, rural transformation, social conflicts, movements and riots, urbanization and development, urban and regional planning, literature and social consciousness, human resource development (education and health), coastal studies, environmental issues, and the social-impact assessment of projects.

The CSS is registered under the Societies Registration Act of 1860 and the Bombay Public Trust Act, 1950.

### R&D Set-up

The research facilities and infrastructure of the institution are being used by the academia and individuals. These include the following:

- Office building with 24 rooms, computer block, seminar hall, data room, and so on.
- Library building covering in 2,636 sq. ft

### Sources of income for R&D

- Government sources
- Donations

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 209.53

FY 2015-16 = 189.33

FY 2016-17 = 222.49

### R&D Achievements

#### Research projects

The following are some of the research projects done by the CSS:

- **Understanding Financial Behaviour of Urban Migrant Workers: The Case of Surat City:** The present study emerged out of a curiosity to comprehend financial behaviour of the migrant workers located particularly in the 'informal' sectors of the city of Surat which is a hub of industries, firms, enterprises, and trade in the western-Indian state of Gujarat. Data for the study has been collected through the canvassing of a structured schedule from different pockets within the city.
- **Monitoring and Evaluation (M&E) of Resettlement and Rehabilitation (R&R) of Sardar Sarovar Project Affected Families of Madhya Pradesh and Maharashtra settled in Gujarat:** The primary aim of the M&E studies is to closely review the progress of R&R in order to

## Research Areas

- Social science research
- Human resource development
- Rehabilitation
- Human rights
- Social movements
- Health
- Climate change
- Microfinance
- Labour market

## Research Outcomes

- Papers published: 19
- Book published: 3
- Conference proceedings/presentations: 109

facilitate a better implementation of the programme and to ensure the achievement of its desired objectives. A qualitative assessment of the R&R and identification of potential pitfalls in the implementation of the programme is an equally vital aspect of this exercise.

- **Assessing Flood-induced Loss and Damage (L&D) in the Textile Industry of Surat:** The study interviewed owners of 145 textile-weaving units located within the distance of 1 km from the river Tapi. Office bearers of various weaving associations were also interviewed to get an overview of the L&D situation. The collected data was recorded in MS-Excel and has been transferred to the SPSS for further analysis.
- **Experiences of City Life: Contemporary Surat and the Question of Belongingness:** The study has underlined the relevance of engaging with an urban experience and has tried to distinguish experience from knowledge.
- **Survey and Documentation of Non-resident Gujaratis' (NRG) Contribution towards**

### ***the Development of Surat District —Vatan Seva Project:***

This project aims at surveying and documenting NRG-supported activities in the Surat district. The survey team has found 123 villages in the Surat district (out of a total of 723) where such activities have been found.

## Technical Collaborations

### National

Child Right and You, Mumbai; Department of Higher Education, Government of Gujarat, Gandhinagar; Indian Institute of Public Administration, Delhi; Indian Council of Social Science Research, New Delhi; Indian School of Microfinance for Women, Ahmedabad; Knowledge Consortium of Gujarat, Ahmedabad; Narmada Planning Group, Government of Gujarat; Surat Municipal Corporation; Taru Leading Edge, Gandhinagar; Gandhi Research Foundation, Jalgaon

### Societal Relevance

The findings of the CSS research are useful to project sponsors, policy decision-makers, and so on for implementing their aims and objectives in a better way. 🔍



^ Workshop conducted in the CSDS

## CENTRE FOR THE STUDY OF DEVELOPING SOCIETIES

### Brief Description

The Centre for the Study of Developing Societies (CSDS) is a research institute for the social sciences and humanities. The CSDS is largely funded by the Indian Council of Social Science Research, Government of India. Over the years, the centre has been distinctive in generating and utilizing a productive tension between rigorous, scholarly work and social movements, between academic commitment and political practices, and in the shaping of public policy.

The CSDS is a society registered under the Societies Registration Act.

### R&D Set-up

The research facilities and infrastructure of the institution are being used by the academia and individuals.

- Office space, office equipment, and conference facilities.

### Sources of income for R&D

Grant from the Indian Council of Social Science Research, International Development Research Centre, Ford Foundation

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 1,325.53

FY 2015-16 = 1,161.85

FY 2016-17 = 1,156.16

### R&D Achievements

Apart from the articles published in several journals, the CSDS has contributed chapters in books (67) and in teachings and reports.

### Research projects

Some of the research projects done by the CSDS are listed as follows:

- Muslim Representation in the Rajya Sabha: Forms and Trajectories
- Mapping social media
- Assembly election study in Assam, West Bengal, Kerala, and Tamil Nadu
- Construction of development, deprivation, inequality, and governance by the main political parties and their leaders in prime-time TV news bulletins during the 2014 election campaign in seven mainstream TV channels in Hindi and English
- Case studies on the land-acquisition process for setting up an international Golf Course at Tiracol in Goa
- Poverty, Democracy, and Secularism: Makings of Indian Social Science

### Technical Collaborations

#### National

SAGE Publications, New Delhi; Vani Prakashan, New Delhi; Orient Blackswan Pvt. Ltd, Hyderabad

#### Registered Office

Centre for the Study of Developing Societies,  
29 Rajpur Road, Delhi 110 054  
T: 011 23942199  
E: director@csds.in/csdsmain@csds.in  
W: www.csds.in

#### Recognition Status

File No.: 13/121/1992-TU-V  
Initial Recognition: 1992  
Valid Until: March 31, 2020

#### R&D Manpower

Doctorates: 14  
PGs/Graduates: 2

### Research Areas

- Culture, information, and media
- Ethnographies of the present social and political thought
- Developmental paradigms and practices
- Democratic politics and its futures
- Indian languages and social sciences
- Diversity, identity, and violence

### Research Outcomes

- Papers published: 71

### International

Oxford University Press, United Kingdom; Routledge, United Kingdom; Taylor & Francis, United Kingdom. 🔍



^ Vedic Maths Workshop, 2017

### Registered Office

Chinmaya International Foundation, Adi Sankara Nilayam, Veliyanad, Ernakulam, Kerala 682 313  
T: 0484 2747104  
E: director@chinfo.org  
W: www.chinfo.org

### Recognition Status

File No.: 13/262/2011-TU-V  
Initial Recognition : 2011  
Valid Until: March 31, 2020

### R&D Manpower

Doctorates : 4  
PGs/Graduates: 2

## CHINMAYA INTERNATIONAL FOUNDATION

### Brief Description

Chinmaya International Foundation (CIF), the Academia of Sanskrit Research and Indology, is the research wing of the Chinmaya Mission worldwide. It is a centre of excellence for the study, research, and dissemination of knowledge in the areas of Indian philosophy, culture, art and science, business management, both modern and ancient. Established in 1989, the CIF is housed in Adi Sankara Nilayam—the hallowed maternal birth home of the great saint and philosopher Sri Adi Sankara. Various research activities, academic workshops and seminars, home study courses, publication of research works, and preservation of manuscripts, are taken up at the CIF.

The CIF is a quasi-governmental organization.

### R&D Set-up

The research facilities and infrastructure of the institution are being used by the academia and individuals. These include the following:

- Well-equipped library
- Audio-visual media
- Microfilming and digitization unit

### Sources of income for R&D

Grant-in-aid from the Rashtriya Sanskrit Sansthan

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 10.25

FY 2015-16 = 28.38

FY 2016-17 = 10.61

### R&D Achievements

#### Research projects

Some of the pilot projects done by the CIF are as follows:

- **Ayush Project: Catalogue and Digitize Medical Manuscripts Available in Kerala:** This project aimed at digitizing about 400 medical manuscripts and cataloguing and printing of about 500 manuscripts from different parts of Kerala and adding medical manuscripts to the digital library, publishing hitherto unpublished Ayurvedic manuscripts and to establish a new idea in the society through Ayurvedic medicines by interlinking old and new medical sciences. The activities of this project include collecting information on the maximum number of medical manuscripts available in Kerala which are in the possession of individuals, libraries, academic institutions, museums, temples, churches, and the like.
- **Endangered Archives Programme:** This programme seeks to contribute to the preservation of archival material that is in danger of destruction, neglect or physical deterioration world wide.

#### Commercialization potential of products/processes developed

- Books and CDs



### Research Areas

- Arts and humanities
- Indology and science in Sanskrit
- Manuscriptology
- Linguistics and psychology

### Research Outcomes

- Papers published: 3
- Books published: 11
- Conference proceedings: 3

### Technical Collaborations

AYUSH, Ministry of Health and Family Welfare; University of Hyderabad, Hyderabad; IIT Hyderabad, Hyderabad; School of Vedit Maths, Mumbai

### Societal Relevance

The following R&D outcomes are of national/societal significance:

- Most of the publications of the CIF both in print and soft media, are based on the perennial wisdom found in Indian philosophy, ancient Indian scientific literature found in Sanskrit; perspectives

on Indian psychology, medical science, and Vedic mathematics, etc., are permanently relevant to the needs of any society.

- The course offered by the CIF 'Home study and Vedanta Courses' help individuals inculcate in imperishable values enshrined in the Indic wisdom. The content of these courses are also helpful to fine tune the personae of an individual so as to lead a meaningful life by being useful to society. 🔍



^ Laboratory facility of the CERC

## CONSUMER EDUCATION AND RESEARCH CENTRE

### Brief Description

Consumer Education and Research Centre (CERC), set up in 1978, is a non-political, non-profit, and non-governmental organization dedicated to the education and empowerment of consumers as well as for the promotion and protection of consumer interests through effective uses of education, research, the media, and law. CERC has three major goals—to make consumers aware of their rights; to help them protect themselves, and to make the providers of goods and services accountable. CERC's in-house lab is the only one of its kind in Asia and has added a new dimension of energy-consumption testing to its laboratory for electrical products, cooling and heating appliances, motors and pump sets, fans and lightings. The laboratory tests products in the following categories, namely, food, chemicals, pharmaceuticals, food lab domestic electrical appliances, accessories, lighting products, and fans. It also tests personal care products, such as hair, skin, and dental care products.

CERC is a registered society under the Societies Registration Act (XXI) of 1860 and is also a registered public charitable trust.

### R&D Set-up

The research facilities and infrastructure of the institution are used by the academia and individuals. These are as follows:

The electrical laboratory facilities are

NABL accredited and BIS recognized, hence the electrical laboratory is highly useful for industries to get a 'third-party certification' for their products from the BIS and BEE (star labelling) and skill developments/upgradation of knowledge/training on product testing for their engineers.

Some of the equipment are as follows:

Dry-cell battery system; oscillographic recorder; anemometer; high-resistance multi-ohm metre; hygro thermometer; constant voltage constant frequency source; salt spray apparatus; HPLC (Shimadzu); flammability test system; heating test corner as per IS 302-1-2008; DC multi-output power supply; magnetic inductive flow metre; ultra-Isolation transformer

### Sources of income for R&D

- Foreign contribution
- Government funding
- Donations, and other grants

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 116.99

FY 2015-16 = 138.73

FY 2016-17 = 121.57

### R&D Achievements

- The organization has published a large number of books, booklets, posters, and videos on consumer protection.
- The CERC serves consumers for their product-related complaints.

### Registered Office

Consumer Education and Research Centre,  
Suraksha Sankool,  
S G Highway, Thaltej,  
Ahmedabad 380 054, Gujarat  
T: 079 27450528  
E: cerc@cercindia.org  
W: cercindia.org

### Recognition Status

File No.: 13/73/1988-TU-V  
Initial Recognition: 1988  
Valid Until: March 31, 2020

### R&D Manpower

Doctorates: 2  
PGs/Graduates: 11

## Research Areas

- Food
- Chemicals
- Domestic electrical appliances
- Pharmaceuticals

## Research Outcomes

- Papers published:
  - » National: 15
  - » International: 6
- Technologies transferred/commercialized: 13

- CERC regularly publishes and publicizes scientific data (test results) in simple language for consumers through their bimonthly magazine *Grahak Sathi* and through the number of print and electronic media as well.
- CERC conducted comparative testing of 14 models of hand blenders and 12 models of food processors for performance evaluation, ease of use, and operational safety. It covered the wattage range from 200 W to 600 W. To ensure the performance and safety of hand blenders, CERC has:
  - » Requested the Ministry of Commerce and Industry, Department of Industrial Policy and Promotion, Government of India, to cover hand blenders under the 'Quality Control Order' 2003'.
  - » The CERC, in a meeting called by the Ministry of Commerce and Industry, has proposed that mixers/grinders and hand blenders should be covered under mandatory certification. All stakeholders and representatives of the three ministries (Ministry of Power, Ministry of Consumer Affairs, Food and Public Distribution, and the Ministry of Commerce and Industry) were present.
  - » Considering the importance of safety and mass consumption, it was decided to cover these products under mandatory certification.
- Represented the BIS to cover the following:
  - » The provision of overload protection device under the scope of safety standards.
  - » The environmental criteria under the scope of IS 302-2-14 (1994) and IS 4250-1980.
  - » The marking of 'operating time' on the models.
  - » Develop norms for performance evaluations of hand blenders and food processors.
  - » The BIS is in the process of developing separate performance standards on food processors and hand blenders.

## Commercialization potential of products/processes developed

- Submersible pump sets (0.5 hpt to 20.0 hp) for third-party certification.
- Training services for the industry participants.

## Societal Relevance

About 700 students schools and colleges were given exposure to energy-efficient products and their performances under the clean-energy initiative. 🔍



▲ A research laboratory at the Deendayal Research Institute

### Registered Office

Deendayal Research Institute,  
7-E, Swami Ram Tirth Nagar,  
Jhandewalan Extn., Rani Jhansi  
Road, New Delhi 110 055, Delhi  
T: 011-23526735

E: dridelhi1@gmail.com/  
dridelhi@chitrakoot.org  
W: www.chitrakoot.org

### Location of R&D Units

- Gonda, Uttar Pradesh
- Beed, Maharashtra
- Nagpur, Maharashtra
- Chitrakoot, Madhya Pradesh

### Recognition Status

File No.: 13/135/1994-TU-V  
Initial Recognition: 1994  
Valid Until: March 31, 2018

### R&D Manpower

Doctorates: 7  
PGs/Graduates: 121

## DEENDAYAL RESEARCH INSTITUTE

### Brief Description

The activities of Deendayal Research Institute (DRI) are concentrated in the field of socio-scientific research and development, including environment, health, and character building. The DRI also conducts research and development activities in the field of physical sciences, including life-long health, treatment of chronic diseases, standardization and quality control of drug formulation, environmental conservation, breed development in cattle, conservation and propagation of high-yielding and exotic cow breeds, water management, and yield improvement in agricultural produce.

This is a voluntary organization, which is registered under the Societies Registration Act, 1860.

### R&D Set-up

The research facilities and infrastructure of the institution are being used by the academia and individuals. These include the following:

- Agriculture
  - » Krishi Vigyan Kendras: 4; The Gaushala: Govansh Vikas Avam Anusadhan Kendra, Chitrakoot
- Education
  - » Schools: 7; vocational training centres: 3; educational research centre: 1
- Health and hygiene
  - » Arogyadham: The Ayurveda and naturopathy campus at Chitrakoot with out-patient and in-patient departments with modern diagnostic

equipment; operating theatres, and a neonatal paediatric wing along with centres for yoga and meditation, naturopathy, ayurvedic research, and so on.

- » Herbal remedies kit (Dadi Ma Ka Batua) for treating common ailments
- » Ramnath Arogyadham (Gonda) Ayurvedic Hospital
- » Chitrakoot Rasshala, the in-house Ayurvedic pharmacy.
- Entrepreneurship development
  - » Udyamita Vidyapeeth, a production-cum-training centre to impart training to villagers in various skills so that they may earn their livelihood; Ramdarshan, a unique museum to inculcate social values and ethics; Gramodaya Darshan Park, a permanent exhibition for innovations and interventions; Ramnath Goenka Smarak, a public bathing *ghat* at Chitrakoot; Bal Jagat (Nagpur), provides basic facilities to the children in the city.

### Sources of income for R&D

- Government sources
- Donations
- International funding

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 304.40

FY 2015-16 = 344.21

FY 2016-17 = 422.87

## Research Areas

- Social sciences rural development
- Agriculture
- Lifelong health
- Ayurvedic drug formulation
- Health and hygiene
- Entrepreneurship development and value addition
- Animal husbandry
- Education
- Industrial and vocational training
- Environment
- Social reconstruction

## Research Outcomes

- Papers published
  - » National: 15
  - » International: 6
- Technologies transferred/commercialized: 13

## R&D Achievements

- Produced books on various research and development in agriculture; technical reports: 9; conference proceedings: 2; in-house journal: *Yuganukool Navrachna*.
- Production and supply of worms and vermicompost.
- Developed pharmacopoeial standards of 16 Ayurvedic preparations/compound formulations.
- High-performance thin-layer chromatography fingerprint profile of 20 single medicinal plants.
- Macro and microscopic atlas of 15 single medicinal plants.
- Developed protocol for the micro-propagation of four endangered medicinal plants.
- Developed the community seed bank.

## Commercialization potential of products/processes developed

- Centres of the DRI are producing elementary necessity products for the common masses, particularly for India's rural and backward areas.
- Vocational and technical centres of the DRI involved in producing and exploring the products of common utility such as the implementation of bamboo tube

wells at the Gonda district.

This is a revolutionary research work in the field of modern agricultural technology.

- 1.5-acre and 2.5-acre models developed by the DRI scientists have received widespread recognition.

## Technical Collaborations

### National

National Botanical Research Institute, Lucknow; Mahatma Gandhi Chitrakoot Gramodaya University, Chitrakoot; Mahatma Gandhi State Institute for Rural Development and Panchayati Raj, Jabalpur; Khadi Village and Industries Commission, Bhopal; Ministry of Ayush, New Delhi; Indian Council of Agricultural Research, New Delhi; Biodiversity; MP Council of Science and Technology, Bhopal

### Societal Relevance

The following R&D outcomes are of national/societal significance:

- **Self-reliance campaign:** A technology developed by the organization has relevance to the Swachh Bharat and Swasth Bharat campaigns.
- **Alternative rural industrialization and standardization** has relevance to the 'Skill India' and 'Make in India' campaign of the Government of India. 



▲ Training on computer-aided personal interviewing

### Registered Office

Deepak Foundation, Nijanad Ashram Premises, Adjoining L&T Knowledge City, On NH-8, Vadodara 390 019, Gujarat  
T: 0265 6562101/02 – 06  
E: info@deepakfoundation.org  
W: www.deepakfoundation.org

### Location of R&D Units

- Amreli, Chhota Udepur, and Vadodara, Gujarat
- Pune and Raigad, Maharashtra
- Indore, Madhya Pradesh
- Panchsheel Park, Delhi
- Hyderabad, Telengana

### Recognition Status

File No.: 13/292/2016-TU-V  
Initial Recognition: 2016  
Valid Until: March 31, 2019

### R&D Manpower

Doctorates: 4  
PGs/Graduates: 20

## DEEPAK FOUNDATION

### Brief Description

The Deepak Foundation was set up in 1982 with a vision of providing medical and healthcare facilities to the families of workers and the local community near the industrial area of Nandesari, Vadodara (Gujarat). It is a non-profit, non-governmental organization founded by Shri C K Mehta in Vadodara, formerly Baroda. The Deepak Foundation provides developmental aid in the rural and tribal areas of the Vadodara district. The foundation's mission is to create an enabling and sustainable environment amongst the rural and tribal communities by setting up a basis of livelihood and an intact healthcare system.

The foundation is registered under the Bombay Public Trust Act, 1950.

### R&D Set-up

The research facilities and infrastructure of the institution are being used by the academia and individuals. These include the following:

- Training halls, conference halls, computer labs, residential facilities, and a library
- Software (analytical and database designing)
- Electronic hardware (LCD projectors, GIS and plotters, printers, servers, cameras)

### Sources of income for R&D

- Grant
- Donation
- International funding

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 13.80

FY 2015-16 = 34.79

FY 2016-17 = 63.65

### R&D Achievements

#### Research projects

The following are some of the research projects carried out by the Deepak Foundation:

- **The Comprehensive Emergency Obstetric and New-born Care:** Saved 4,164 maternal lives since 2012 and 668 maternal lives between 2016-17 and a total of ₹30,509,810 out-of-pocket expenditure was saved during the year 2016-17.
- **Mobile Health Units:** Reduced the out-of-pocket expenditure of the population by around ₹392 per patient. Along with this, there is a reduction in travel for minor ailments and improved accessibility of health services to the rural areas.
- **Mobile Library Service:** Currently enrolled 750 out-of-school children as members of the mobile library service. A 30% increase in the membership within a period of 18 months was observed. Increased utilization of mobile library services and improvement in reading and comprehension skills of students by 25% was also noted. A survey conducted in these 25 villages revealed that none of the public schools had

## Research Areas

- Livelihood
- Maternal and child health
- Nutrition
- Skills building
- Children with special needs
- Women empowerment
- Education

## Research Outcomes

- Technologies transferred/commercialized: 1
- Conference proceedings/presentations: 1

library facilities. Hence the Mobile Library Service was extended to 10 government schools in the area based on the demand by the government officials.

- Mahila Kisan Sahshktikaran Pariyojna (MKSP) implemented by the Deepak Foundation in two tribal blocks of the Chhota Udaipur district, is aimed at building capacities of 6,000 marginalized, poor tribal women farmers in sustainable agriculture for increasing their incomes, ensuring food security, and reducing drudgery. In an endeavour to extend the benefits of the MKSP to the entire household and improve the nutritional security and reduce the drudgery of women beneficiaries, the foundation conceptualized the project 'Paripurna' for creating a product, an instant meal mix that will be prepared by the women farmers in the village-level processing units and will be sold by them to the households in their villages.
- The women will be given training in various processes that will lead to the cleaning, sorting, and grading the produce, solar drying the vegetables, operating the dal mill, preparing the raw material for production, and processing the raw material into the instant meal mix. The FPG members will also be trained in managing their business. This will tackle malnutrition, ensure improved incomes, take care of surpluses, and reduce drudgery of the women. In a bid to transfer cost-effective technology, the foundation has set up a mini dal mill in one of the blocks, and has trained FPG women to carry out the pulse milling. This technology will empower the women and

help in creating cost-effective nutritious food.

## Technical Collaborations

### National

- National Health Systems Resource Center, Ministry of Health and Family Welfare, Government of India; Department of Agriculture and Cooperation, Government of India; Health Sector Skill Council and National Skill Development Corporation, Government of India; Government of Gujarat Departments such as the General Administration Department – Planning; Department of Rural Development; Department of Health and Family Welfare; State Institute of Health and Family Welfare; Ministry of Women and Child Development; Directorate of Employment and Training, Ministry of Labour and Employment; Directorate of Industrial Safety and Health, Department of Employment and Labour; Gujarat CSR Authority; Tata Institute of Social Sciences, Mumbai; NABARD Consultancy Services Pvt Ltd (NABCONS), Mumbai

### International

- The World Bank - Health, Nutrition and Population Civil Society Consultative Group (WB-HNP CSCG), Washington DC, USA

## Societal Relevance

- Connected with the service *Doodh Sanjeevani Yojana*, launched by the Tribal Development Department, the Government of Gujarat seeks to address and rectify the issue of malnutrition of schoolgoing tribal students by providing 200 ml of fortified flavoured milk daily to the primary school children. 🔍



^ Sex workers being made aware of PrEP

### Registered Office

Durbar Mahila Samanwaya Committee, 12/5 Nilmoni Mitra Street, Kolkata, West Bengal 700 006  
T: 033 2543 7560  
E: durbar.sonagachi@gmail.com  
W: www.durbar.org

### Recognition Status

File No.: 13/265/2011-TU-V  
Initial Recognition: 2011  
Valid Until: March 31, 2018

### R&D Manpower

Doctorates: 2  
PGs/Graduates: 8

### Research Areas

- Health
- Collectivization
- Violence
- Legal
- Social
- Education
- Sports

## DURBAR MAHILA SAMANWAYA COMMITTEE

### Brief Description

The Durbar—a collectivization of 65,000 sex workers—functions as an exclusive forum of female, male, and transgender sex workers in West Bengal, India. The Durbar seeks to build a world where all marginalized communities live in an environment of respect, rights, and dignity. The organization hopes for a new social order where there is no discrimination based on class, caste, gender, or occupation and all individual communities live in peace and harmony as global citizens. The organization's shared mission is to enhance a process of social and political change with an objective to establish, promote, and strengthen the rights, dignity, and social status of the sex worker communities while working towards improving their quality of life. The Durbar is a non-governmental organization and a society registered under the Societies Registration Act.

### R&D Set-up

The research facilities and infrastructure of the institution are given below:

- Computers
- Laboratory instruments
- Semi-auto analyser
- Eliza Reader and Washer

### Sources of income for R&D

- Government funding
- International funding

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 88.59

FY 2015-16 = 110.23

FY 2016-17 = 130.62

### R&D Achievements


#### Research projects

The following are some of the research projects handled by the organization:

- Implementing DRISHTI: Reducing HIV risk amongst sex workers offering from depression.
- ART Adherence Behaviour and Practices amongst those who are HIV positive in Kolkata, India. This is a pilot project.
- Feasibility study on the potential introduction of HIV oral pre-exposure prophylaxis (PrEP) amongst sex workers in Sonagachi, India.
- Closing a critical HIV-prevention gap: Demonstrating safety and an effective delivery of daily oral PrEP as part of an HIV combination preventive intervention for sex workers in Kolkata and Mysore, Mandya, India.

### Technical Collaborations

#### International

The University of California, Los Angeles (UCLA); University of Manitoba, Manitoba. 

### Research Outcomes

- Papers published:
  - » International: 2





▲ Leadership development programmes

### Registered Office

Foundation for Democratic Reforms,  
# 6-3-1187, 806, 8th Floor,  
Srinivasa Towers, Beside ITC  
Kakatiya Hotel, Begumpet,  
Hyderabad 500 016, Telangana  
T: 040 2341 9949;  
E: communications@fdrindia.org;  
W: www.fdrindia.org

### Recognition Status

File No.: 13/217/2003-TU-V  
Initial Recognition: 2003  
Valid Until: March 31, 2020

### R&D Manpower

Doctorates: 4  
PGs/Graduates: 112

## FOUNDATION FOR DEMOCRATIC REFORMS

### Brief Description

The Foundation for Democratic Reforms (FDR) is one of India's leading think tanks. Essentially a scientific research and resource centre, the FDR concerns itself with studying, formulating, and promoting fundamental reforms. It specializes in areas of political, electoral, and governance and in the critical areas of state policy. The FDR is mainly engaged in research and analysis of the functioning of democratic and constitutional institutions in India towards formulating and promoting political and governance reforms. This includes the scientific study and analysis of electoral, administrative, judicial reforms and related it with the study of best practices and systems from across the world. The foundation also engages in the study, formulation, and promotion of state/public policy alternatives in critical areas, compatible with the FDR's reform goals. Additionally, it also engages in the collaborative research and advocacy efforts with like-minded research institutions, individuals, and civil society organizations towards realizing the first two objectives; promoting the capacity building of individuals, institutions, and organizations in these areas.

The FDR is a registered society, registered under the Andhra Pradesh (Telangana area) Public Societies Registration Act 1350 Fasli (Act I of 1350 F).

### R&D Set-up

The research facilities and infrastructure of the institution are being used by the academia and individuals. These include the following:

- The FDR houses the best infrastructure facilities for high-impact policy research. The library has over 4,000 books, journals, periodicals, and policy papers and plays a crucial role in the dissemination of information.

### Sources of income for R&D

- Donations
- Project-related grants

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 26.18

FY 2015-16 = 3.28

FY 2016-17 = 5.09

### R&D Achievements

#### Innovative elements developed in products or services

- Scientific study and analysis of electoral, administrative, judicial reforms, and the related areas.
- Proposing innovative models.
- Proof of concept of educational reforms proposed in collaboration with other institutions.
- Flow and exchange of knowledge and experiences in the field of systemic political reforms and liberal governance.

## Research Areas

- Agriculture and urbanization challenges
- Federalism
- Subsidies, populism, and freebies
- Rule of law
- Governance reforms
- Local government empowerment
- Education reforms
- Healthcare and sanitation
- Reservations
- Electoral reforms
- Judicial reforms
- Women's rights and gender equality

## Research Outcomes

- Papers Published:
  - » National: 2
- Advocacy papers: 22
- Booklet: 6
- Draft legislation: 2

- Documentation of research studies.
- Building capacity of training, partnering with and nurturing individuals, institutions, organizations.
- E-knowledge centre: open-repository system on governance issues.
- Student engagement and training in policy studies.
- Field studies leading to practical models in environment and sanitation.
- Addressing real-time issues providing practical insights.
- Initiating policy debates with practitioners, citizens, law makers, and opinion makers.

## Technical Collaborations

### National

Public Health Foundation of India, New Delhi; Janaagraha, Bengaluru; The Election Commission of India, New Delhi; KSD Mahila Kalasala (Tanuku), Andhra Pradesh; Railway Degree College, Secunderabad; Dr MCR HRD Institute, Hyderabad; Transparency International, New Delhi; Centre for Good Governance, Hyderabad; Ratan Tata Trust, Mumbai

### Societal Relevance

The following R&D outcomes are of national/societal significance:

- The VIKASA model—an affordable, off-grid, and robust bio-digester toilet system, for achieving the Swachh Bharat goals—is a modification of the existing ECOSAN model tank and the

Defence Research Development Organization septic tank model. The model has provided a cost-effective, sleek, and robust solution to the sanitation problems. This modification has been developed to enable the separation of faecal material and urine using modular prefabricated structures for the setting up of latrine units, and to convert waste matter into useful manure. The model tries to attain the highest levels of cost reduction, ecological compliance, and user comfort.

- The FDR has contributed to landmark political and electoral reforms; path-breaking legislations along with extensive efforts have been taken towards bringing transparency and accountability in governance issues. Some of its major contributions are as follows:
  - » Scientific study and analysis of electoral, administrative, judicial reforms, and the related areas.
  - » Substantial reduction in the short delivery of petroleum products.
  - » Improvement in voter registration after years of struggle and relentless pursuit.
  - » Strengthening the anti-defection provisions.
  - » Limiting the size of the cabinet.
  - » Right to Information Act.
  - » National Health Mission.
  - » Autonomy of cooperatives through the 97th Constitutional Amendment.
  - » A sound Lokpal Legislation. 🔍



- ^ Use of the Swasthya Slate by Accredited social health activists (ASHA) for evidence-based interventions, to promote medication adherence, and monitor diabetes management, progression, and complications

### Registered Office

Garhwal Community Development & Welfare Society,  
Christian Hospital Mussoorie  
Road, Chamba District, Tehri  
Garhwal, Uttarakhand 249 145  
T: 01376-255273  
E: gcdws@rediffmail.com,  
gcdwschc@gmail.com  
W: www.gcdwsindia.org

### Recognition Status

File No.: 13/280/2013-TU-V  
Initial Recognition: 2013  
Valid Until: March 31, 2019

### R&D Manpower

Doctorates: 1  
PGs/Graduates: 15

## GARHWAL COMMUNITY DEVELOPMENT AND WELFARE SOCIETY

### Brief Description

The Garhwal Community Development and Welfare Society (GCDWS) is a national, non-governmental organization (NGO) that seeks to improve the health status of rural population through research, training, and service delivery programmes. The state government of Uttarakhand has recognized the GCDWS as a 'mother NGO', or a nodal organization to mentor several other field NGOs in the state. The GCDWS has gathered extensive experience in health outreach with local communities and village-based healthcare providers.

This organization has been registered under the Societies Registration Act of 1860.

### R&D Set-up

The research facilities and infrastructure of the institution are as follows:

Two training halls, including one conference hall equipped with all the necessary resources/logistics.

### Sources of income for R&D

- Donations
- Research grants

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 79.38

FY 2015-16 = 109.89

FY 2016-17 = 111.69

### R&D Achievements

#### Research projects

Following are the major research projects undertaken by GCDWS.

- *'Novel Technologies Delivered by Non-physician Health Workers to Reduce Disability Associated with Type-2 Diabetes in Rural India: A Scalable Model'*, the aim of this study was to (i) assess whether a community-based intervention, using the Swasthya Slate and delivered by the non-physician health workers (NPHWs), can lead to an improved control of diabetes, and improved control of risk factors in those with pre-diabetes and diabetes, across different rural settings in India; (ii) to determine barriers (such as access to services, costs, and lifestyle) to appropriate the management of people with diabetes and pre-diabetes; (iii) to evaluate the acceptance of, and adherence to, the intervention by monitoring: (a) the health status of the patient, behavioural changes, quality of life, awareness, family support, and their satisfaction with the care provided; (b) physician satisfaction with the new processes of care; and (c) acceptance of intervention by NPHWs, healthcare providers, and the public health system.
- Integrated Road Traffic Injuries Surveillance (IRIS), India: The objective of this study was to design, develop, implement, and evaluate an internet-enabled,

### Research Areas

- Social science research
- Human resource development
- Rehabilitation
- Human rights
- Social movements
- Health
- Climate change
- Microfinance
- Labour market and so on

### Research Outcomes

- Technology know-how transfers: 2
- Integrated road traffic injuries Surveillance, electronic surveillance system

integrated road traffic injuries surveillance platform to track the burden of the RTI, risk factors, and its outcomes across the rural and urban settings of Uttarakhand.


### Technical Collaborations

#### National

Christian Medical College and Hospital, Ludhiana; Community Health Global Network, Uttarakhand; Christian Medical Association of India

### Societal Relevance

The following R&D outcomes are of national/societal significance:

- A study to streamline the integration of informal rural health providers into the formal health system in India.
- Baseline survey to find out the prevalence of tobacco consumption amongst the adult population of rural Uttarakhand.
- The Village Health , Sanitation and Nutrition committee (VHSNC) of Tehri Garhwal works to promote awareness regarding the Swachh Bharat India campaign and Shramdan by the villagers to clean the villages. 



^ Educational activities of the Gaudiya Mission

## GAUDIYA MISSION

### Brief Description

The Gaudiya Mission practices and preaches the universal religion of the soul as taught by the *Srimad-Bhagavatam*—a classic example of Vedic literature demonstrative of the essence of its devotional service to the concept of absolute truth. This religion is based on Krishna consciousness. The main aim of the mission is to practice and propagate the spirit and teachings of pure Vaishnava faith as described in the *Srimad Bhagavatam*, propounded and propagated by Sri Chaitanya Mahaprabhu and taught by Gaudiya Vaishnava Acharyas. The major research strength of the organization is to conduct comparative studies of other systems of faiths, tenets, doctrines, and school of philosophy and ethics with a view to bring about universal harmony and brotherhood on a plane of transcendence, both from Indian and Western tradition for the moral and social upliftment of humanity at large.

The Gaudiya Mission has been registered as a non-governmental society under the Societies Registration Act XXI of 1860.

### R&D Set-up

The research facilities and infrastructure include:

- Land and building
- Library
- A novel museum in the holy name of Sri Chaitanyadeva
- Equipment and facilities for conducting teaching, training, and research.

### Sources of income for R&D

Donations

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 321.97

FY 2015-16 = 287.97

FY 2016-17 = 289.98

### R&D Achievements

- The academic staff of the institute are engaged in preparing and publishing critical editions of Sanskrit and Bengali texts. The *Bhagavata Purana* translated into Bengali by Sanatan Vidyavagisha (alias Vipra Sanatana) of the 17th century is being critically edited on the basis of manuscripts. The first *skandha* (an aggregate of nineteen chapters) of this unique *Bhasa Bhagavata* has recently been published by the Gaudiya Mission. The publication has been made possible after a lot of extensive, innovative research.
- A critical edition of Vaishnava texts on the basis of manuscripts: The mission facilitates a critical editing of unpublished texts, engagement of research scholars, bringing out the contributions of our ancestors, and academic collaboration with similar organizations.
- The mission also concerns itself with the collection of old puthis from different corners of the country.

### Technical Collaborations

National Mission for Manuscripts, New Delhi; The Asiatic Society, Kolkata; Rabindra Bharati University, Kolkata

### Registered Office

Gaudiya Mission,  
16A, Kaliprasad Chakraborty  
Street, Baghbazar, Kolkata,  
West Bengal 700 003  
T: (033) 2554-4155  
E: gaudiya@gaudiyamission.org  
W: www.gaudiyamission.org

### Recognition Status

File No.: 13/286/2014-TU-V  
Initial Recognition: 2014  
Valid Until: March 31, 2020

### R&D Manpower

Doctorates: 1  
PGs/Graduates: 15

### Research Areas

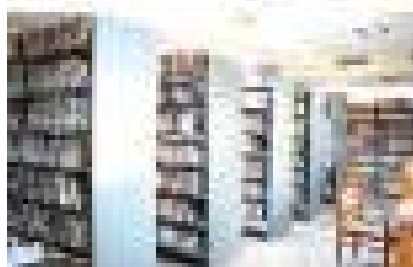
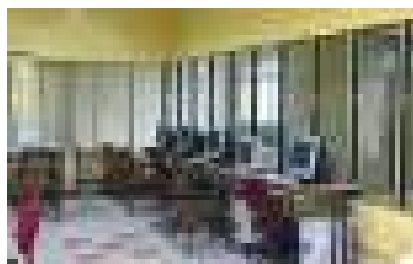
- Transcription, edition, preservation of rare, old manuscripts, and using the same for the upliftment of society.

### Research Outcomes

- Collection of old purthas from different corner of the country
- Indological studies, including manuscriptology/ codicology and paleography

### Societal Relevance

- Indological studies, including manuscriptology/codicology and palaeography.
- In the Indian knowledge system, the bulk of literature in Sanskrit (along with Pali, Prakrit, and the regional languages, such as Bengali, Hindi, Odia, Assamese, and so on) with an unbroken continuity of thousands of years is vast, varied, and rich. Almost all ancient and medieval manuscripts are written in a multitude of scripts, namely, Grantha, Sarada, Newari, Nandinagari, Oriya, Gaudi, Sarada, and so on, some of which are no longer used for writing.
- With a view of overcoming this deficiency in Indian classical scholarship in the emerging area, the idea of undertaking major projects under the innovative programme, 'Caring for Indian Heritage in Writing' has been conceived. Keeping the regional relevance in focus—and vis-à-vis the new manuscripts coming to light, especially through the functioning of the National Manuscripts Mission, New Delhi, and the Manuscript Resource/ Conservation Centres in the different states—this is being given a serious thought. 🔍



↖ Research facilities at the Giri Institute

## GIRI INSTITUTE OF DEVELOPMENT STUDIES

### Brief Description

Giri Institute of Development Studies (GIDS) is a premier centre for advanced research and training which focuses on the developmental concerns of India. The main activities of the institute consist of: (i) conducting research studies in the field of social sciences on various aspects of development; (ii) training academics and officials engaged in the task of research and formulation and implementation of developmental plans and programmes; (iii) providing consultation and professional assistance to the government and other public institutions in the formulation of plans and programmes of socio-economic development. Towards fulfilling its objectives of development of human resources in the field of social science research, the institute offers a doctoral degree in economics, sociology, and political science through its affiliation with Indian universities. The Indian Council of Social Science Resource (ICSSR) has bestowed eight fellowships for the doctoral degree programme. The GIDS is supported by the ICSSR and the Government of Uttar Pradesh as an autonomous institute of national importance. The GIDS is an autonomous society registered under the Societies Registration Act of 1860.

### R&D Set-up

#### Sources of income for R&D

Grants from government

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 420.79

FY 2015-16 = 437.08

FY 2016-17 = 500.11

### R&D Achievements

#### Research projects

The following are some of the institute's research projects and achievements:

- The evaluation of the Information and Communication Technology (ICT) Scheme in the State of Uttar Pradesh: This evaluation study assessed the relevance and impact of the ICT facilities in the government and government-aided secondary and senior secondary schools.
- The social and educational status of the OBC/Dalit Muslims in Uttar Pradesh.
- Out Migration from Uttarakhand: The study examined the recent trends in migration in the state of Uttarakhand in general and the hill districts in particular.
- Impact Assessment of Disaster and Trends in Sustaining Recovery in Uttarakhand: This study examines the nature and magnitude of the loss of livelihoods; the social, psychological, and cultural impact of disaster and its related issues and coping mechanisms.
- Job Search and Hiring Practices in Urban Labour Markets in India:

### Registered Office

Giri Institute of Development Studies, Sector-O,  
Aliganj Housing Scheme,  
Lucknow, Uttar Pradesh 226 024  
T: 0522-2321860, 2334059  
E: [directorgids@gmail.com](mailto:directorgids@gmail.com)  
W: [gids.org.in](http://gids.org.in)

### Recognition Status

File No.: 13/173/1997-TU-V  
Initial Recognition: 1997  
Valid Until: March 31, 2018

### R&D Manpower

Doctorates: 16  
PGs/Graduates: 19

## Research Areas

- Agriculture
- Rural development
- Labour, employment, livelihoods, and development
- Interregional and interstate disparities
- Poverty, vulnerability, and social security
- Social infrastructure
- Rural industries and the informal sector
- Urbanization and rural–urban migration
- Scheduled castes, minorities, and other socially excluded groups
- Gender and child studies

## Research Outcomes

- Papers published:
  - » National: 47
  - » International: 11
- Books published: 13
- Conference proceedings/internal seminars: 37

How Inclusive is the Indian Private Industry?

- Assessment of the household healthcare utilization and burden of healthcare expenditure in Uttar Pradesh.
- **Status of Social Science in India:** This study documented the main sources and distribution of funds to social science research and research infrastructure, including universities, research institutes, their research agenda, challenges facing social science research, and the impact of this research, especially on policies.
- **‘Evaluation of Indira Awas Yojana in Uttar Pradesh’:** The objectives of the study include the overall performance evaluation of the Indira Awas Yojana (IAY).
- ‘Training Need Assessment, Module Development and Documentation for the Gram Panchayat Development Plan (GPDP), the Department of Panchayati Raj, Government of U P: T.
- **Study of Conditional Cash Transfer Scheme for the Working Children in Uttar Pradesh:** The main purpose of the scheme was to prevent all forms of social and economic exploitation of children.
- **Baseline Survey of Knowledge Attitude, Behaviour, and Practices (KABP) of Electors in U P :** The purpose of this base line study was to understand the

existing levels of awareness, belief, perception, and the ongoing practices of voters regarding their readiness to participate in the forthcoming elections in Uttar Pradesh.

- **Survey Report on the Import–Export of all the Commodities in Uttarakhand, Directorate of Economics and Statistics Dehradun:** The objective of the study is to analyse the volume of commodity imports in the state based on the trip sheets supplied by the National Informatics Centre, Government of Uttarakhand.

## Technical Collaborations

### National

Indian Council of Social Science Research, New Delhi; Directorate of Agriculture, Krishi Bhawan, Lucknow; Directorate of Economics and Statistics, Dehradun; Department of Panchayati Raj, Government of Uttar Pradesh

### Societal Relevance

- The institute organized a training programme on the statistical methods and applications for assistant statistical officers of the Directorate of Economics and Statistics Division, the Planning Department, Government of Uttar Pradesh.
- Conducting skill development training programmes for the youth on primary data collection and field survey. 🔍





↖ Training programme on research methods

## GUJARAT INSTITUTE OF DEVELOPMENT RESEARCH

### Brief Description

The Gujarat Institute of Development Research (GIDR) undertakes analytical and policy-oriented research concerning various development-related issues. The GIDR actively collaborates with research institutes and developmental organizations both within and outside India. Studies on natural resources and sustainable development constitute one of the important and rapidly expanding portfolios of research at the GIDR. In the management of natural resources, these studies often explore the interrelationships between the community, government, and civil society. The research portfolio on the theme of industry and infrastructure at the GIDR is fairly diverse. This, essentially, has emerged in response to some of the contemporary issues pertaining to industrial growth both at the state and national levels. The GIDR also provides teaching and guidance to various research scholars and provides training in select areas of specialization. The institute also holds national-level seminars, workshops, and panel discussions on various subjects, including policies, programmes, institutions, and strategies.

This organization has been registered under the Societies Registration Act of 1860.

### R&D Set-up

The research facilities and infrastructure of the institution are being used by the academia

and individuals. These include the following:

- The institute has a state-of-the-art computer centre with no less than 53 client computers hooked through a local area network using Windows 2012 R2 domain server.

### R&D Achievements

#### Research projects

The following are some of the research projects handled by the GIDR:

- **Socio-economic Assessment of Potential LMO Adoption in Gujarat:** The study focused on drought tolerance in castor and pest resistance in groundnut and was conducted during July–August 2015.
- **Peasant Migration and Plantation Development in Kerala:** Changes in the local economy, society, and the Agrarian Landscape in the Erstwhile Malabar Region: This study examines the case of farmer migration from the erstwhile Travancore region to the Malabar region during the 1940s through the 1980s and the resultant impact on the socio-economic status of the migrants and the implications on the agrarian landscape of the region.
- **Human Development Manual for Gujarat:** This project involved preparation of modules dealing with the different aspects of human development to be used by the government of Gujarat to

#### Registered Office

Gujarat Institute of Development Research, Near Gota Flyover, Sarkhej Gandhinagar Highway, Ahmedabad, Gujarat 380 060  
T: 02717 242366/367/368  
E: gidr@gidr.ac.in  
W: www.gidr.ac.in

#### Recognition Status

File No.: 13/83/1988-TU-V  
Initial Recognition: 1988  
Valid Until: March 31, 2019

#### R&D Manpower

Doctorates: 11  
PGs/Graduates: 11

## Research Areas

- Natural resources management
- Agriculture
- Water and climate change
- Industry, infrastructure, trade, and public finance
- Employment, migration, and urbanization
- Poverty and human development

## Research Outcomes

- Papers published:
  - » National: 16
  - » International: 21
- Books published: 11
- Conference proceedings/ presentations: 45
- Technical reports: 43

train functionaries at the different levels of administration and elected representatives as also to provide tools and techniques to prepare human development plans at the panchayat level.

- **Model State Financial Inclusion Analysis—Kerala:** This study digs deep into the existing data to delineate the factors that have led to the state achieving near-exhaustive financial inclusion right down to the sub-district level.
- **District-level Estimation of the Developmental Indicators for the State, Gujarat:** This project aims to gather the available secondary data at the district level for the state of Gujarat, and construct a district-wise human development index for relative comparison.
- **Evaluation of Integrated Dairy Development Programme in 43 Tribal Talukas of Gujarat:** The study evaluates the impact of the dairy developmental programme on the tribal households in state of Gujarat under the Vanbandhu Kalyan Yojana.
- **State of Social Science Research in India: An Overview of International Collaborations and Research:** The specific objective of this study was to examine the current status of social science research (SSR) in India in terms of collaborative research programmes undertaken by the major SSR institutions.
- **India's Social Science Research Publications from an International Perspective:** This study focusses on India's performance in publishing SSR at the international level and is written for the larger volume on the status of SSR in India by the ICSSR.

- **Creating Viable Markets through Use of Geographical Indications:** What Can India Learn from Thailand? The study aimed at understanding the experience of Thailand and replicating the model in India, particularly in (i) promoting geographical indications (GI) through the One Tambon One Product (OTOP) policy; (ii) enforcement of the GI quality standards along the boundary line set by the GI producers; and (iii) functioning of the OTOP.

## Technical Collaborations


### National

Ministry of Rural Development, Government of India; Indian Council of Social Science Research, New Delhi; Tribal Welfare Department, Government of Gujarat; Gujarat State Infrastructure Development Board, Gujarat; International Crop Research Institute for Semi-Arid Tropics, Hyderabad

### International

Natural Resources Institute, Greenwich University, UK; South Asian Network for Development and Environmental Economics, Kathmandu; Social Sciences and Humanities Research Council of Canada; Micro Finance Information Exchange, Inc., Washington, DC.; Overseas Development Institute, London, UK;

## Societal Relevance

The institute carries out studies on rural development, irrigation, common review mission, the 'Swachh Bharat', and so on. 



^ Women Leadership training session under Nai Roshni

## HARYALI CENTRE FOR RURAL DEVELOPMENT

### Brief Description

The Haryali Centre for Rural Development (HARYALI) has been primarily engaged in conducting socio-economic research and in the evaluation and monitoring of developmental programmes in diverse fields. HARYALI has conducted more than 150 research studies and evaluation of programmes implemented by NGOs and the government in various social and economic fields. HARYALI has conducted research on projects such as panchayati raj institutions and their role in health and development; feasibility studies for new agro-technologies, dairying, sericulture, and self-employment; participation of Scheduled Castes and Tribes and minorities development; entrepreneurship amongst the rural women; women empowerment; health and family welfare planning; HIV/AIDS, female infanticide, KAP studies; functioning of PHCs and AWCs; disability, geriatric studies, and so on. HARYALI has worked with various reputed agencies across India, such as the Planning Commission, Ministry of Health & Family Welfare, Ministry of Social Justice and Empowerment, Ministry of Textiles, United Nations Development Programme, and so on.

HARYALI is a non-governmental organization that has been registered under the Societies Registration Act.

### Location of R&D Units

Pilibhit, Uttar Pradesh

### R&D Set-up

The research facilities and infrastructure of the institution are used by various professionals in academia. These include the following:

- The centre has a rented and a well-established office
- Two acres of agricultural land has been taken on lease for establishing a ploy house in the Pilibhit district.

### Sources of income for R&D

- Grants from the government
- Funds from NGOs/organizations

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 33.45

FY 2015-16 = 30.20

FY 2016-17 = 33.45

### R&D Achievements

- A book titled *Elderly Women Vulnerability and Support Structures* authored by M Z Khan, M Yusuf, and Archana Kaushik has been published.
- A technical report was prepared on the 'Identification and Profiling Skill Development Activities for Generating Potential Employment Opportunities for the Persons with Disabilities' by M Yusuf and Archana Seema Grewal sponsored by NITI Aayog, 2017.
- Prepared approximately 15 reports on research and evaluation studies during the last three years (not published).

### Registered Office

Haryali Centre for Rural Development, Plot No 14, 2nd Floor, Zakir Nagar (West), New Delhi 110 025, Delhi  
T: 011 - 26988387  
E: haryali@gmail.com  
W: www.haryali.org.in

### Recognition Status

File No.: 13/294/2016-TU-V  
Initial Recognition: 2016  
Valid Until: March 31, 2019

### R&D Manpower

Doctorates: 10  
PGs/Graduates: 23

### Research Areas

- Agriculture
- Elementary education/adult education
- Child rights
- Women empowerment
- Primary health
- Reproductive and child health
- Livelihood and micro-enterprises
- Textile, handlooms, and handicrafts

### Research Outcome

- Books published: 1

- Conducted various social and economic research and evaluation studies.

### Technical Collaborations

#### National

NITI Aayog, New Delhi; The ministries of the Government of India, such as the Ministry of Rural Development; Ministry of Drinking Water and Sanitation; Ministry of Panchayati Raj; Ministry of Health and Family Welfare; Ministry of Human Resource Development; Ministry of Social Justice & Empowerment; Ministry of Women and Child Development

#### International

Save the Children, London; United Nations Development Programme

### Societal Relevance

Conducting and monitoring two centrally sponsored schemes, namely, National Rural Drinking Water Programme and the Swachh Bharat Mission (*gramin*) to know the ground realities of implementation and the status of the schemes.

### Remarks

- Organized health camps in collaboration with Alshifa

Multispeciality Hospital, New Delhi and RWA Zakir Nagar West, New Delhi.

- Started awareness campaigns on health, hygiene, and cleaning in collaboration with the RWA Zakir Nagar West in New Delhi.
- Organized a conference on, 'Problems and Solution of Adulterated Food and Fake Medicines in India' in collaboration with the Department of Applied Sciences and Humanities, Jamia Millia Islamia, New Delhi, on July 31, 2016.
- Organized a conference on the role of monitoring and evaluation in the implementation of welfare schemes initiated for minorities with a special reference to the north-east district of Delhi, June 26, 2014, sponsored by the Ministry of Minority Affairs.
- Organized camps to generate awareness to prevent dengue, malaria, and chikungunya. Started programmes to generate awareness amongst the community about the cleanliness of the area. 🔍



^ A community health facilitator using a mobile app for a field survey

### Registered Office

Healing Fields Foundation,  
H No 8-2-310/B/18/A, A A, Villa,  
Navodaya Colony, Road No 14,  
Banjara Hills, Hyderabad 500 034,  
Telangana  
T: 040 23542841/42  
E: secretariat@healing-fields.org  
W: www.healing-fields.org

### Recognition Status

File No.: 13/261/2011-TU-V  
Initial Recognition: 2011  
Valid Until: March 31, 2019

### R&D Manpower

PGs/Graduates: 5

### Research Areas

- Health systems and healthcare needs of the communities

### Research Outcomes

- Conference proceedings/presentations: 1
- Technical reports: 2

## HEALING FIELDS FOUNDATION

### Brief Description

Healing Fields Foundation is a non-profit organization with a mission to make health care affordable and accessible to the poor, underprivileged, and marginalized people in India. Through their health management expertise and research methodology, the foundation supports organizations and people involved in the development and delivery of the entire healthcare ecosystem. Healing Fields Foundation is an Ashoka Fellow-led organization in recognition of the innovative work in health financing.

Healing Fields is a society-non-governmental organization.

### R&D Set-up

Since the research does not involve any clinical studies, they have not set up any specific physical infrastructure.

### Sources of income for R&D

- Project funding
- Donations

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 5.11

FY 2015-16 = 10.98

FY 2016-17 = 12.18

### R&D Achievements

#### Products developed

Setup a sanitary napkin manufacturing unit in Buxar, Bihar, that has a capacity of producing 300 units, with each pack having five napkins.

#### Processes developed

- Developed a dynamic mobile survey application.

### Consultancy services rendered


- Expert consultants of the foundation provide support to various non-governmental and governmental organizations in the design and implementation of healthcare strategies/products through different consulting programmes.

### Major research projects

- NGO partner assessment
- Healthcare needs assessment amongst the vulnerable, marginalized, and poor populace in Indonesia
- Survey on health insurance of the people living in tribal areas.

### Societal Relevance

The following R&D outcomes are of national/societal significance:

- A sanitary napkin manufacturing unit in Buxar has been setup, which has improved the accessibility for women living in remote rural locations. Doing so has also improved the sanitation facilities in the village.
- A mobile-based dynamic survey application has been developed which captures field survey data. The app has multi-lingual capabilities and helps semi-literate women in villages to easily conduct surveys. This has opened up several opportunities of earning for these women and a lot of useful data on health, health services, demographics, living conditions, and health facilities can be collected from the last mile. 



↗ Research activity of Healix-Sekhsaria Institute for Public Health

### Registered Office

Healis-Sekhsaria Institute for Public Health,  
501, 5th Floor, Technocity,  
Plot X-4/5A, MIDC, TTC Industrial Area, Mahape,  
Navi Mumbai 400 701, Maharashtra  
T: 022 27780995/40025146  
E: director@healis.org  
W: www.healis.org

### Location of R&D Units

Delhi

### Recognition Status

File No.: 13/277/2013-TU-V  
Initial Recognition: 2013  
Valid Until: March 31, 2019

### R&D Manpower

Doctorates: 5  
PGs/Graduates: 12

## HEALIS-SEKHSARIA INSTITUTE FOR PUBLIC HEALTH

### Brief Description

Healis-Sekhsaria Institute for Public Health (Healis) is a leader of quality public health research in India and other developing countries through innovative science and evidence-based policy. The institute carries forward its outcome for the benefit of society. Healis works in collaboration with leading national and international health and research organizations. Healis-Sekhsaria Institute for Public Health has a wealth of experience in epidemiologic research and has published numerous seminal research results in international and national scientific journals

Healis is registered as a Section 25 not-for-profit organization under the Companies Act, 1956 (now Section 8 of the Indian Companies Act, 2013).

### R&D Set-up

The research facilities and infrastructure available in the organization are as follows:

- Healis has a well-equipped office, a rich library, training area, documentation centre, conference room, and so on for research and training purposes.
- Healis possesses updated and recent hardware and software to conduct quality research and produce accurate scientific evidence from the data.
- Healis has a library of journals, books, several films, and videos on tobacco education and reports

on epidemiology, public health, advocacy, and tobacco.

### Sources of income for R&D

- Donations
- Grant-in-aid
- International funding
- Others (bank interest, interest on fixed deposit, income tax refund, and so on)

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 627.60

FY 2015-16 = 339.41

FY 2016-17 = 258.41

### R&D Achievements

#### Major research projects

- *The major research projects undertaken by the organization are as follows: International Tobacco Packaging and Health Warning Study: The objective of this study is (i) to analyse the pictorial depictions of health warnings on the packaging and (ii) to assess the impact of packaging of cigarettes (brand descriptors, brand imagery, and the potential impact of 'plain' packaging).*
- *The Impact of Health Warning labels on Smokeless Tobacco Products in India and Bangladesh: The objective of this study is (i) to evaluate perceptions of health warnings on smokeless tobacco packages, including*

## Research Areas

- Observational studies
- Review of scientific evidence
- Interventions for behaviour change
- Epidemiological studies
- Cross-sectional/cohort studies
- Policy research
- Evaluation research
- Capacity building
- Contributing to scientific publications and documents
- Advocacy and media campaigns
- Sensitization workshops and conferences

## Research Outcomes

- Papers published:
  - » National: 13
  - » International: 43
- Technical reports: 7
- Books/chapters published: 4
- Other group publications: 14

various other types of warnings (text-only, symbolic, graphic, and testimonial), amongst the youth and adults. Healis takes the responsibility of conducting similar studies in Mumbai, India.

- The objective of this study was (i) to assess the efficacy of the comprehensive tobacco control intervention in terms of two outcomes: increased cessation of tobacco use amongst workers (primary outcome) (ii) increased adoption and enforcement of worksite tobacco control policies (secondary outcome).
- *Tobacco Control Policy Evaluation India Project*: The broad objective of this project was: (i) to examine the prevalence and patterns of smoking behaviour in India (ii) to examine the impact of specific tobacco control policies implemented in India during the next five years (iii) to compare smoking behaviour and the impact of policies between India and other ITC countries.
- *The Impact of Health Warning Labels on Smokeless Tobacco Products in India and Bangladesh*: To evaluate perceptions of novel health warnings on smokeless tobacco packages, including various types of warnings (text-only, symbolic, graphic, and testimonial), amongst youth and adults.

## Technical Collaborations

### National

Action Council against Tobacco-India, Mumbai; Advanced Center for Treatment, Research and Education in Cancer, Navi Mumbai; Birla Institute of Science and Technology, Pilani; Cancer Foundation of India, Kolkata; Indian Council of Medical Research, New Delhi

### International

American Cancer Society, Atlanta, USA; Arnold School of Public Health, University of South Carolina, USA; Center for Global Health Research, University of Toronto, Canada; Campaign for Tobacco Free Kids, USA; Harvard School of Public Health Boston, DFCI, USA; International Agency for Research on Cancer, Lyon, France; Bloomberg School of Public Health, Johns Hopkins University, USA

## Societal Relevance

Oversees the overall policy formulation, planning, implementation, monitoring, and evaluation of the different activities envisaged under the National Tobacco Control Programme. The objective of this is to bring about greater awareness about the harmful effects of tobacco use and about the Tobacco Control Laws and to facilitate effective implementation of the same (Cigarette and Other Tobacco Product Act 2003). Healis helps in deciding the pictorial warning on the tobacco product and in the assessment of the Electronic Nicotine Delivery Systems in India. 🔍



^ Release of the report *Better Cities, Better Growth: India's Urban Opportunity*

### Registered Office

Indian Council for Research on International Economic Relations (ICRIER),  
Core 6A, 4th Floor,  
India Habitat Centre, Lodhi Road,  
New Delhi 110 003, Delhi  
T: 011-43112400  
E: rkathuria@icrier.res.in  
W: www.icrier.org

### Recognition Status

File No.: 13/13/1988-TU-V  
Initial Recognition: 1988  
Valid Until: March 31, 2020

### R&D Manpower

Doctorates: 23  
PGs/Graduates: 47

## INDIAN COUNCIL FOR RESEARCH ON INTERNATIONAL ECONOMIC RELATIONS

### Brief Description

The Indian Council for Research on International Economic Relations (ICRIER), one of India's leading think tanks, was established in August 1981 as a not-for-profit research organization to provide a strong economic basis for policy making. Besides policy-oriented research to improve the knowledge content for policy formulation, the ICRIER effectively disseminates its research output amongst academics, policymakers, and industry representatives in India and abroad. Today the ICRIER's research programme revolves around eight thrust areas: 1. macroeconomic management, financial liberalisation, and regulation; 2. global competitiveness of the Indian economy – agriculture, manufacturing, and services; 3. challenges and opportunities of urbanization; 4. climate change and sustainable development; 5. physical and social infrastructure including telecoms, transport, energy, and health, 6. skill development, entrepreneurship, and jobs, 7. Asian economic integration with a focus on South Asia, 8. multilateral trade negotiations and FTAs. Each area has several challenging and complex constituents and the council's research is increasingly approached from a multidisciplinary perspective.

The ICRIER is registered as a Society under Societies Registration Act, 1860.

### R&D Set-up

- A new office building is under construction, along with seating for research and administration staff, and conference facilities
- IT infrastructure
- A digital library with huge resources

### Sources of income for R&D

Grants from government and national NGOs/organizations

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15= 1,154.25

FY 2015-16= 1,214.86

FY 2016-17= 1,179.53

### R&D Achievements

#### Major research projects

- *Strengthening the Research and Promoting Multi-level Dialogue for Trade Normalization between India and Pakistan:* The focus of the research studies has been on enhancing trade in goods and services and removing barriers to trade and sectoral trade, particularly trade in agriculture, automobiles, and pharmaceuticals.
- *Organic Farming in India: Status, Issues, and the Way Forward:* This study examines the current status and future potential for organic farming in India, analyses the regulatory practices in India, and examines how India can learn from the global best practices in promoting organic farming.



## Research Areas

- Agriculture manufacturing and services
- Urban transition and challenges
- Climate change and sustainable development
- Entrepreneurship and skill development
- Physical and social infrastructure

## Research Outcomes

- Papers published
  - » National
  - » International : 46
- Books published: 13
- Conference proceedings/ presentations: 185
- Technical reports: 17

- *Evaluation of the Impact of the Scheme for Mega Food Park:*  
This study evaluated the mega food park scheme of the Ministry of Food Processing Industries. This grant-based scheme aims to set up infrastructure for food processing to reduce wastage and benefit farmers. The study covered an analysis of the global best practices in setting up food parks.
- *Quantifying the Economic Value of an Open Internet for India:*  
This project seeks to develop the first framework for a clearer understanding of the economic value of an open Internet for India. The project will also assess the role of a multi-stakeholder model of Internet governance towards enabling a free, open, and secure Internet.

## Technical Collaborations

### National

Ministry of Finance; Ministry of Commerce and Industry; Ministry of Agriculture; Housing and Urban Development Corporation; IDBI Bank

### International

The World Bank; Asian Development Bank; World Health Organization; Government of UK; Food and Agriculture Organization, UK; Australian High Commission; Japan High Commission; Bill & Melinda Gates Foundation; Rockefeller Foundation

### Societal Relevance

- Besides policy-oriented research to improve the knowledge content for policy formulation, the ICRIER effectively disseminates its research output amongst academics, policymakers, and industry representatives in India and abroad. Many of its policy recommendations have been implemented by the government and several of the council's professors serve on select government committees.
- The ICRIER's research is a key input for the Indian government's trade negotiations and domestic reforms. 🔍



^ A rice de-husking machine

### Registered Office

Indian Institute of Education,  
128/2, J P Naik Path, Off Karve  
Road, Kothrud, Pune 411 038,  
Maharashtra  
T: 020-25496980, 020-25433316  
E: iiepune@vsnl.com  
W: www.iiepune.org

### Location of R&D Units

- Pune and Mumbai, Maharashtra

### Recognition Status

File No.: 13/44/1988-TU-V  
Initial Recognition: 1988  
Valid Until: March 31, 2017

### R&D Manpower

Doctorates: 2  
PGs/Graduates: 13

## INDIAN INSTITUTE OF EDUCATION

### Brief Description

The Indian Institute of Education (IIE), Pune, is both a nationally and internationally acclaimed research institute supported by the Indian Council of Social Science Research, the MHRD, New Delhi, and the Government of Maharashtra. It was established in Mumbai on January 1, 1948. Presently, the institution is working on the interdisciplinary aspects of the social sciences. Health studies, minority studies, tribal studies, and studies in inclusive education are the ecurrent themes of teaching, research, and pedagogy at the IIE. The two main principles of the institute are 'education for all' and 'health for all'. The IIE since its inception has been involved in undertaking research related to education and development. Through its myriad interdisciplinary forays into research, the institute aims to integrate the education system with the country's goal of sustainable socio-economic development. Since 2000, more than 40 projects have been completed and they have been undertaken at various international, national, and state levels. The IIE is registered under the Societies Registration Act, 1860, and the Bombay Public Trust Act, 1950.

### R&D Set-up

The research facilities and infrastructure of the institution are being used by the academia and individuals. These include the following:

- Fab lab for digital fabrication
- Rapid prototyping facility (plasma,

laser cutting machine, S D printers, engravers, and so on)

- Soil-testing lab
- Solar energy park
- Designing centre

### Sources of income for R&D

Government funding

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 25.36

FY 2015-16 = 66.57

FY 2016-17 = 57.17

### R&D Achievements

#### Products developed

- Sanitary Napkin Incinerator: A unit to dispose of sanitary waste. This was made to dispose of 5–20 pads at a time. The product is ready and has been transferred to manufacturers for commercialization purposes.
- Rice De-husking Machine: The machine makes brown rice at the local level and has been developed especially for self-help groups. More than 10 units have been sold and the technology has been transferred to private manufacturers for manufacturing.
- Bio-composter: A composting unit for composting wet garbage has been developed along with a complete set of protocols for implementation. The process has been transferred to the Municipal Corporation in the Pune district.

### Research Areas

- Appropriate rural technology
- Digital fabrication
- Precision agriculture
- Water and waste management
- Renewable energy applications

### Research Outcomes

- IPRs held
  - » Patents filed: 3
- Technologies transferred/commercialized (in process): 3
- Conference proceedings: 2

It is also under pilot testing in the housing society in Pune.

- An aquaponic unit with polyhouse has been developed.
- Egg incubator has been developed for small hatcheries.

### Commercialization potential of products/processes developed

The IIE is a partner for commercialization in the launching process of the three products.

### Technical Collaborations

#### National

Marathi Vidnyan Parishad, Mumbai; Mukangan Exploratory, Pune; District Admin Dantewada, Chattisgarh

#### International

Fab Foundation, Boston; Sher-e-Bangla Agriculture University, Dhaka

### Societal Relevance

The following R&D outcomes are of national/societal significance:

- Products developed by the IIE, such as Bio-composter and Sanitary Napkin Incinerator are used for waste management which come under the national mission, the Swachha Bharat.
- A rice de-husking machine developed by the IIE is supportive in rural employment and has relevance to the Swasth Bharat campaign of the Government of India.
- A DC laser machine developed by the IIE has relevance to the *Make in India* campaign of the Government of India.
- The education programme 'Diploma in basic rural technology', run by the IIE, has relevance to the Digital India campaign of the Government of India.
- A training programme for village-level entrepreneurs is regularly organized for technology transfer. 🔍



^ A psychometric lab

### Registered Office

Indian Institute of Foreign Trade (IIFT),  
B-21, IIFT Bhawan,  
Qutab Institutional Area,  
New Delhi 110 016  
T: 011 39147200  
E: diroffice@iift.ac.in  
W: www.iift.edu

### Location of R&D Units

- Kolkata, West Bengal

### Recognition Status

File No.: 13/191/1998-TU-V  
Initial Recognition: 1998  
Valid Until: March 31, 2019

### R&D Manpower

Doctorates: 39  
PGs/Graduates: 7

## INDIAN INSTITUTE OF FOREIGN TRADE

### Brief Description

The Indian Institute of Foreign Trade (IIFT) is an autonomous public business school established in 1963 by the Government of India (Ministry of Commerce and Industry) to help professionalize the country's foreign trade management and increase exports by developing human resources; generating, analysing, and disseminating data; and conducting research. The institute's research occupies a crucial place in the spectrum of the IIFT's activities because of the institutional emphasis on a strong and pervasive interface between research and training. The institute has so far brought out over 700 research studies and surveys. In addition, it has developed substantial consulting capacity in analysing international business situations and developing appropriate corporate strategies.

The IIFT has been registered under the Societies Registration Act XXI of 1860.

### R&D Set-up

The infrastructure and facilities provided by the institute provides access to all students enrolled in various degrees, diplomas, and hybrid and doctoral programmes. Also, participants from various industries attend courses such as sponsored, open, certificate, and online programmes offered by the IIFT with divisional support. A computer centre at the IIFT shares access internally to various online research and academic resources. The institute also has a sharing library network with a DELNET

and VPN network. The following comprise the corpus of the IIFT:

- A well-equipped computer centre
- An assessment and development centre
- SME centre
- Terminals of bloomsburg

### Sources of income for R&D

- Government grants
- International funding

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 80.86

FY 2015-16 = 71.31

FY 2016-17 = 16.31

### R&D Achievements

They have published books, articles, conference proceedings and presentations.

### Major research projects

The major research projects undertaken by the organization are as follows:

- Study on Trade Impact of WP29 on India: Analysis of Possible Effects of Adopting 1958 Agreement
- Study of Coir Exports Sustainability in Context of Coir Fiber Scarcity for Product Exporters
- Preparation of the Export Strategy of the Haryana State
- Study on Development of Export Promotion Strategy for Madhya Pradesh
- Preparation of Export Management & Compliance Manual

## Research Areas

- International business
- International trade
- Economics
- Finance
- Marketing
- Information technology
- General management
- Human resources
- Strategy
- Quantitative techniques
- Supply chain management

## Research Outcomes

- Papers published:
  - » National: 25
  - » International : 77
- Books published: 12
- Conference proceedings: 75
- Commercialization potential of developed services: 2

- Export Strategy for Punjab: Challenges, Opportunities and Action Plan
- Trade Liberalization and Employment Effects in Indian Manufacturing: An Empirical Assessment
- Study for Comparing Performance of the PSUs (STC, MMTC, and PEC) in Common Activities
- Study on Perspective Plan for Footwear Design and Development Institute (FDDI)
- Development of Export Strategy for Maharashtra
- Workshop on Managing India's Trade Deficit with Large Trading Partners: Lessons and Prospects

## Technical Collaborations

### International


University of Bradford, UK; Brock University, St. Catharines, Canada; SKEMA Business School Antipolis, France; Institute of Financial Management, Tanzania; IESEG – School of Management, Lille Catholic University, France; EM- Strasbourg Graduate School of Management, Université Robert Schuman, Strasbourg Cedex, France; Grenoble School of Management, Grenoble Cedex, France; HANKEN-Swedish School of Economics and Business Administration, Hanken University, Helsinki, Finland; ESC Rennes School of Business, France.

### Societal Relevance

The following R&D outcomes are of national/societal significance:

- The product developed by the IIFT, 'Go Green-Save Tree Save Earth', is an interface that promotes a paperless culture at workplaces

and creates awareness in the institute about the quantity of paper saved annually.

- KITTES (Knowledge for Innovation in Trade & Technology for Entrepreneurial Start-Ups) initiative has helped the institute to promote a culture of entrepreneurship.
- An in-house electronic interface 'Campus 360' shows its online quizzes and feedback systems have saved papers and promoted a system of paperless functioning in the institute. This effort can be seen as one of the steps towards the mission Digital India and Clean India.
- Women in Safe Hands (WISH) is an application launched by the IIFT students which aims to protect and provide security to women.
- 'Koshish', the IIFT's social awareness cell, laid a platform for students to contribute towards creating a shared value for society. Blood donation camps, AIDS awareness campaigns, child education campaign, and so on were a few initiatives undertaken Koshish.
- Management development programmes offered by the institute engages industries for its short-term and long-term certificate programmes. The training imparted by the IIFT positively impacts society.
- A social awareness programme (a three-credit course) has been included in the regular MBA programme, wherein students devote three weeks working with people in the local communities. 



▲ Bloomberg terminals in the Centre for Capital Markets and Risk Management, IIMB

### Registered Office

Indian Institute of Management Bangalore,  
Bannerghatta Road,  
Bilekahalli, Bangalore 560 076,  
Karnataka  
T: 080 26582450  
E: Bhavani.karthikeyan@iimb.ac.in  
W: www.iimb.ac.in

### Recognition Status

File No.: 13/114/1991-TU-V  
Initial Recognition: 1991  
Valid Until: March 31, 2018

### R&D Manpower

Doctorates: 92  
PGs/Graduates: 26

## INDIAN INSTITUTE OF MANAGEMENT BANGALORE

### Brief Description

The Indian Institute of Management, Bangalore (IIMB) is a public business school located in Bangalore, Karnataka, India. The IIMB believes in building leaders through holistic, transformative, and innovative education. It has around 100 full-time faculty members, more than 1,200 students across various long-duration programmes, and nearly 5,000 annual executive education participants. The IIMB has partnered with several business schools to enhance research collaborations through joint research projects, faculty exchanges, student mobility, and so on. Such partnerships are expected to boost the research productivity and create global opportunities and visibility for researchers. Faculty members at the IIMB generate knowledge through cutting-edge research in all functional areas of management that would benefit public- and private-sector companies, and the government and society in general.

The IIMB is a society registered under Mysore Societies Registration Act, 1960, and a Body Corporate under the Indian Institutes of Management Act, 2017.

### R&D Set-up

The research facilities and infrastructure of the institution are being used by the academia and individuals. These include the following:

- Land and building: Research being one of the main objectives

of the institute, faculty members undertake various projects in their respective areas of specialization as part of their assignment. While the institute is built on a 100-acre campus, it has a 55,000 square feet area of library, state-of-the-art computer centre, and high-speed Internet connectivity to augment the research needs. There is a dedicated R&D unit headed by a faculty member who plans and compiles the data on various research-related programmes conducted in the institute. They have a separate office with dedicated staff members.

### Sources of income for R&D

Donations

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 767.59

FY 2015-16 = 672.65

FY 2016-17 = 616.84

### R&D Achievements

#### Major research projects

The top five research projects completed by the IIMB are as follows:

- Partnering for Success: Advancing Sustainability, Research and Education in India
- A Comparison of Sustainability-reporting Practices of Fortune 100 Companies with Indian Firms
- Understanding Pharmaceutical Distribution in India

## Research Areas

- Public Policy
- Decision sciences and information systems
- Economics and social sciences
- Finance and accounting
- Management communication
- Marketing
- Entrepreneurial learning
- Organizational behaviour and human resources management
- Productions and operation management
- Strategy

## Research Outcomes

- Papers published:
  - » National/international: 174
- Books published: 27

- Patents and Generics Supply
- Chinese and Indian Biopharmaceutical Science

### Revenue earned by way of licensing products/processes/prototypes

- Massive Open Online Courses (MOOCs), revenue: ₹9.38 lakh
- Royalty Income (Harvard Business School), revenue: ₹26.08 lakh
- Data Centre and Analytics Lab D Cal, revenue: ₹72.99 lakh

### Commercialization potential of products/processes developed

- Massive Open Online Courses (MOOCs)
- Royalty Income (Harvard Business School)
- Data Centre and Analytics Lab D Cal

### Consultancy services rendered

Given below is the year-wise number of consultancy/sponsored research projects:

FY 2014-15 = 20

FY 2015-16 = 36

FY 2016-17 = 20

## Technical Collaborations

### National


- Ministry of Rural Development, New Delhi; Indian Institute of Science, Bangalore; Department of Posts, Postal Services Board; Tamil Nadu Urban Finance and Infrastructure Development Corporation Ltd, Chennai

### International

- University of Melbourne, Australia; McGill University, Quebec

## Societal Relevance

The following products and services developed by the IIMB are relevant to the national mission—'Digital India':

- MOOCs provide study webs of active-learning for young aspiring minds (SWAYAM), which have enabled access to quality management education through the Ministry of Human Resource Development's MOOCs platform. Fifteen MOOCs have been offered till date with 17 more in the pipeline and with a total enrolment of 34,000.
- MOOCs and MOOC production workshops have been undertaken. These were open for all, followed by a one-day MOOC production workshop to empower the faculty with tools required to produce a MOOC. The first workshop was successfully conducted.
- A national coordinator for the management of MOOCs on SWAYAM has been enabled. The primary function here will be to serve as a coordinator for educators.
- Various faculty developmental programmes were held that taught teachers on how to use MOOCs as a teaching tool in the classroom. 



^ IIMC's state-of-the-art financial research and trading lab, also known as 'the finance lab'

## INDIAN INSTITUTE OF MANAGEMENT CALCUTTA

### Brief Description

The Indian Institute of Management Calcutta (IIMC) is one of Asia's finest Business Schools which is continuously evolving to meet its goals in an ever-changing business environment. The IIMC is a mature institution with a global reputation, imparting high-quality management education. The institute has been working towards professionalizing Indian management through its postgraduate and doctoral-level programmes, executive training programmes, and research and consulting activities.

The IIMC is registered under the Societies Registration Act, 1860.

### R&D Set-up

The research facilities and infrastructure of the institution are:

- Five computer labs
- A computer centre with state-of-the-art work stations
- Library with a vast collection of resources

### R&D Achievements

#### Major research projects

The major research projects undertaken by the organization are as follows:

- Ageing Well: Using a pervasive information system for empowering the elderly people in our country.
- Social Inclusion through Digital Inclusion: A social media-based knowledge management framework to educate the

underprivileged children by the elderly community.

- Studies have been undertaken on the social dynamics of the Internet and social media.
- Post-disaster situation analyses and resource management using a delay-tolerant peer-to-peer wireless network.

### Technical Collaborations

#### National

Calcutta Electric Supply Corporation, Kolkata; Directorate of Micro and Small Scale Enterprises, Government of West Bengal; Information Technology Research Academy (Government of India); British Council UK-India Education and Research Initiative, New Delhi National Institute of Science Technology and Developmental Studies, New Delhi; MCX Ltd, Mumbai; Steel Authority of India Ltd, New Delhi

#### International

United Nations Population Fund, USA; University of Waterloo, Canada; Research Council of Norway, Norway

### Societal Relevance

- The IIMC has produced a body of scholarly work that has considerable societal significance. The institute continues to investigate the complex and multifaceted intersections between social, political, economic, and institutional dimensions and management problems.

#### Registered Office

Indian Institute of Management  
Diamond Harbour Road, P O Joka,  
Kolkata 700 104, West Bengal  
T: 033 24678300  
E: director@iimcal.ac.in  
W: www.iimcal.ac.in

#### Recognition Status

File No.: 13/104/1990-TU-V  
Initial Recognition: 1990  
Valid Until: March 31, 2018



### Research Areas

- Organizational behaviour
- Economics
- Finance and control
- Human resources management
- Management information systems
- Operations management
- Marketing
- Public policy and management

- They have played a major role in shaping how management and management studies are perceived and practiced in the country. These efforts get reflected in the rich body of academic

work produced by the institute. Many of these writings have been published in internationally renowned journals and in widely acclaimed books. 🔍



^ Counselling service of IIP

## INDIAN INSTITUTE OF PSYCHOMETRY

### Brief Description

Indian Institute of Psychometry (IIP) is involved in harnessing, nurturing, and cultivating human resource. The IIP aims at developing tools and procedures for the selection, placement, and promotion of personnel through appropriate research and follow-up-studies. The IIP carries on research on the different aspects of psychological and socio-economic factors. The tests it developed at the institute for selection purposes are also based on extensive research.

The IIP is registered under Section 25 of the Companies Act, 1956.

### R&D Set-up

The research infrastructure and facilities are being used by the industry, individuals, and academia. The following comprise the corpus of this division:

- Land and building (land measuring 6.08 acres is situated at Durgapur; office flats are in Kolkata, wherein the total areas is 12,167. 482 sq.ft; the annexe building is in Kolkata, wherein the total area is 2,605 sq ft)
- Electric machineries, such as generator, stabilizer, air conditioner, invertors, and so on are available.
- Computers, optical mark scanner, fax machine
- Other assets, such as office furniture, nd so on

### Sources of income for R&D

- Donations

- Project grants
- Testing/training

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 84.41

FY 2015-16 = 125.97

FY 2016-17 = 196.24

### R&D Achievements

The institute has already developed and standardized several psychological tests, these are as follows:

- Aptitude test battery for differential prediction
- Non-verbal intelligence test
- Scientific knowledge and aptitude test
- English knowledge and comprehension test
- Supervisory attitude scale
- Mechanical aptitude test
- Basic mental ability test battery
- The institute aims at fitting the right person for the right job based on the methods and procedures it is continuously developing. The procedure adopted by the institute involves the following steps:
  - » Job analysis
  - » Identification of basic abilities required for specific jobs
  - » Development of suitable tests and test administration
  - » Follow-up studies of the performance record of the selected candidates
  - » Analysis of the tests in terms of

### Registered Office

Indian Institute of Psychometry,  
Evergreen Plaza (2nd to 5th floor),  
117, BT Road, Kolkata 700 108,  
West Bengal  
T: 033 25772696/9830742798  
E: indianinstituteofpsychometry@  
gmail.com  
W: www.iipindia.co.in

### Recognition Status

File No.: 13/70/1988-TU-V  
Initial Recognition: 1988  
Valid Until: March 31, 2020

### R&D Manpower

Doctorates: 2  
PGs/Graduates: 24

### Research Areas

- Mental health
- Test standardization
- Career counselling
- Personality profiling
- Distracter analysis
- Interest profile

### Research Outcomes

- Paper published:
  - » International: 1
- Conference proceedings/presentation: 3
- Technical report: 1

the performance record of the selected candidates

- Revision and development of test batteries
- Since 1988, the IIP has been publishing its biannual journal—*Journal of Psychometry*. This journal publishes articles/papers written by executives, researchers, and academicians from different parts of India and abroad covering fields, such as industrial management, organizational behaviour, personnel selection, appraisal, and educational psychology.

### Research projects

- To analyse the data collected for the career counselling of students of a city-based school.
- To identify the characteristic features of personality traits and occupational choice amongst adolescent students.


- Personality profiles of adolescent boys and girls of Bengali-medium schools in Kolkata.
- Climate change and mental health.
- Utilization of Sanskrit prosody.
- Studies on what causes more distraction in multiple-choice questions in a verbal reasoning test.

### Technical Collaborations

#### National

- Sripath Singh College, Murshidabad, West Bengal; Women's College, Kolkata

### Societal Relevance

- Counselling and guidance relevant in the field of career counselling, psychometric assessment, special education, speech therapy, educational/training workshops, school psychology, and mental health. 



^ Conservation of books

### Registered Office

Indira Gandhi National  
Centre for the Arts  
CV Mess, Janpath  
New Delhi 110 001, Delhi  
T: 011-23388445  
E: msignca@yahoo.com  
W: <http://ignca.gov.in>

### Recognition Status

File No.: 13/45/1989-TU-V  
Initial Recognition: 1989  
Valid Until: March 31, 2018

### R&D Manpower

Doctorates: 2  
PGs & Graduates: 4

### Research Areas

- Conservation of books, manuscripts, paintings, and artefacts
- Arts and aesthetics

### Research Outcomes

- Papers published
  - » National/International: 3

## INDIRA GANDHI NATIONAL CENTRE FOR THE ARTS

### Brief Description

The Indira Gandhi National Centre for the Arts (IGNCA), established in the memory of Smt. Indira Gandhi, is visualized as a centre that encompasses the study and experience of all the arts—each form with its own integrity and yet within a dimension of mutual interdependence, interrelated with nature, the social structure, and cosmology. The IGNCA has six functional units: Kala Nidhi, the multi-form library; Kala Kosa, devoted mainly to the study and publication of the fundamental texts in the Indian languages; Janapada Sampada, engaged in lifestyle studies; Kaladarsana, the executive unit which transforms researches and studies emanating from the IGNCA into visible forms through exhibitions; Cultural Informatics, which applies technology and tools for cultural preservation and propagation; and Sutradhara, the administrative section that acts as a spine supporting and coordinating all the activities. Through diverse programmes of research, publication, training, creative activities, and performance, the IGNCA seeks to place the arts within the context of natural and human environment. Some of the aims and objectives of the IGNCA are: (1) to serve as a major resource centre for the arts, especially written, oral, and visual source materials; (2) to undertake research and publication programmes of reference works, glossaries, dictionaries, and

encyclopaedia concerning the arts and the humanities; (3) to establish a tribal and folk arts division with a core collection for conducting systematic scientific studies and for live presentations; (4) to evolve models of research programmes and the administration of art that are more pertinent to the Indian ethos; and (5) to conduct related research in the arts, humanities, culture, etc.

The IGNCA is an autonomous body.

### R&D Set-up

The research facilities and infrastructure of the institution are being used by the other scholars and disciplines, whenever required. These include:

- Potentiostat

### Sources of income for R&D

- Government sources

### Technical Collaborations

#### National

National Research Laboratory for Conservation of Cultural Property, Lucknow; National Metallurgical Laboratory, Jamshedpur; Central Pollution Control Board, Delhi

### Societal Relevance

The rust inhibitor project undertaken by the IGNCA helped the treatment method for the conservation of iron artefacts. This was seen as a great achievement in the field of conservation and was hailed as instrumental in preserving the cultural heritage. 🔍



▲ Dr D Subbarao, Former Governor, RBI, releasing the proceedings of the 18th International Conference on Distributed Computing and Networking (ICDCN-2017)

## INSTITUTE FOR DEVELOPMENT AND RESEARCH IN BANKING TECHNOLOGY

### Brief Description

The Institute for Development and Research in Banking Technology (IDRBT) is a unique institution exclusively focused on banking technology. The vision of the IDRBT is 'to be the premier and preferred research and development institution on financial sector technology and its management, working at the intersection of banking and technology for the Indian banking.' Accordingly, the primary goal of the institute is research. The focus is on conducting applied research and experimental development in the area of banking technology. A research-based institute, the IDRBT has a special focus on applied research. Since the research and developmental activities are tested practically, that is, with each application, the institute aims to acquire new knowledge towards a particular objective that will serve the Indian banking industry well. While addressing the immediate concerns of the banking sector, research at the institute also focuses on anticipating the future needs and requirements of the banking sector and in developing technologies to address them.

The IDRBT is registered under the Societies Registration Act.

### R&D Set-up

The research infrastructures, apart from the institute's own requirements, are used by the banking and financial industry for various studies, proof-of-concepts,

and pilot projects. These are also used for training programmes and hands-on sessions for bankers and students. The research infrastructure of the institute is primarily meant to meet the requirements of the Indian banking and financial sector, thus enabling it to be ready for the future. Accordingly, the institute's infrastructure is being fully leveraged by the Indian banking and financial sector. The following comprises the corpus of the institute:

Access point; cameras; desktops; display units; external hard drives; Firewalls; HDMI splitter; HDMI video splitter; iPhone; laptops; multiplexer; network rack; printers; projectors/ screen; server; SIM card seizure; speakers; wall mount; and work stations.

### Sources of income for R&D

- Income from training programmes
- Consultancy projects
- Academic programmes fees
- Interest from corpus fund

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 465.09

FY 2015-16 = 278.04

FY 2016-17 = 339.68

### R&D Achievements

The IDRBT has taken the initiative of exploring the

### Registered Office

The Institute for Development and Research in Banking Technology  
Castle Hills, Road No 1,  
Masab Tank, Hyderabad,  
Telangana 500 057  
T: 040 2329 4009 /4999  
E: director@idrbt.ac.in  
W: www.idrbt.ac.in

### Recognition Status

File No.: 13/287/2014-TU-V  
Initial Recognition: 2014  
Valid Until : March 31, 2020

### R&D Manpower

Doctorates: 13  
PGs/Graduates: 70

## Research Areas

- Financial networks and applications
- Electronic payments and settlement systems
- Security technologies for the financial sector
- Financial information systems and analytics

## Research Outcomes

- Papers published:
  - » National/International: 49
- IPRs held:
  - » Patents filed: 2
  - » Patent awarded: 1
- Products commercialized: 5
- Books published: 17
- Conference proceedings: 127
- Framework/guidelines: 4

applicability of the BCT to the Indian banking and financial sector by involving all the stakeholders.

### Commercialization potential of products/processes developed

The following five products have been commercialized:

- Indian Financial Network
- Structured Financial Messaging System
- Certifying Authority Services
- National Financial Switch
- Indian Banking Community Cloud

### Consultancy services rendered

- The IDRBT offers consultancy in banking technology and the related areas to banks and financial institutions.

### Major research Projects

The major research projects undertaken by the organization are as follows:

- Marriage of Internet of things and Machine Learning Techniques towards Intelligent Green Data centers
- Data Security in Cloud

## Technical Collaborations

### National

University of Hyderabad, Hyderabad; National Institute of Technology, Trichy; National Institute of Technology, Warangal; National Payments Corporation of India, New Delhi; Centre for Development of Advanced Computing, Pune

### International

University at Buffalo, New York, USA; Information Systems Audit and Control Association (ISACA), USA; Cloud Security Alliance

## Societal Relevance

- The Indian Financial Network, Structured Financial Messaging System, Certifying Authority Services, National Financial Switch, and the Indian Banking Community Cloud form the technological backbone for the banking and financial sector in India. These services have enabled techno-banking in the country and have aided in connecting the last mile to the nation's mainstream. Apart from enhancing the reach of banking in a big way, these services have also made it convenient for the masses to access banking related activities. 🔍



^ IFMR Chennai, Gold Award Winner

## INSTITUTE FOR FINANCIAL MANAGEMENT AND RESEARCH

### Brief Description

The Institute for Financial Management and Research (IFMR) is a leading business school that focusses on moulding ambitious young men and women into competent and socially responsible organizational leaders in a global setting. Located in a manufacturing hub comprising some of the world's leading companies, the campus provides students and faculty with world-class infrastructure and outstanding opportunities for collaboration with the industry. The IFMR conducts leading research in finance, management, applied economics and the related areas to enhance knowledge and address key developmental issues of the society.

The IFMR is a society-NGO registered under the Society Registration Act XXI of 1980.

### R&D Set-up

The research facilities and infrastructure of the institution are being used by the academia and individuals. These include the following:

- Land and building
- Softwares, hardwares, databases, and journals

### Sources of income for R&D

- Grant-in-aid
- International funding
- Project-related funding

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 7,412.51

FY 2015-16 = 5,479.56

FY 2016-17 = 5,202.39

### R&D Achievements

#### Consultancy services rendered

During 2014-16, the institute has undertaken the following consultancy projects:

- Market-led rural development approaches; due diligence for identification of women exemplars; impact evaluation of women's empowerment and entrepreneurship programme; impact evaluation of the CII Foundation - Woman Exemplar Programme; Affordable Housing Project at Sri City; financial inclusion from the National Stock Exchange; the role of voluntary savings in Self help groups (SHG)/ SHG members; SHG as agents of social change; The New Information Ecosystem being Developed around Mobile Money: A Behavioural Analysis of Mobile Money Users in India

### Technical Collaborations

#### National

Indian Institute of Technology Madras, Chennai, Tamil Nadu; National Institute for Smart Governance, New Delhi; Confederation of Indian Industry (CII), New Delhi; Association of Management Development Institutions of South Asia, Hyderabad

#### International

Association to Advance Collegiate Schools of Business, Tampa, Florida, United States

### Registered Office

Institute for Financial Management and Research,  
No 24, Kothari Road, Post Box No. 3330, Nungambakkam, Chennai 600 034, Tamil Nadu  
T: 044-28202646  
E: enq@ifmr.ac.in  
W: www.ifmr.ac.in

### Recognition Status

File No.: 13/24/1988-TU-V  
Initial Recognition: 1988  
Valid Until: March 31, 2020

### R&D Manpower

Doctorates: 38  
PGs/Graduates: 215

## Research Areas

- Financial networks and applications
- Electronic payments and settlement systems
- Security technologies for the financial sector
- Financial information systems and analytics

## Research Outcomes

- Papers published:
  - » National: 7
  - » International: 45
- Books published : 6
- Conference proceedings / presentations: 14

## Societal Relevance

The following research studies and programmes done by the IFMR has connectivity with national missions, such as the Swachh Bharat, Clean Energy, Digital India, Make in India, Swastha Bharat, Skill India, and so on.

- Conducted several seminars and conclaves, such as Annual Research Seminars; CII (SR) Young HR Managers' Competition; HR and Marketing Conclaves; Digital Marketing Conclave.
- Launched and inaugurated the Centre for Social Entrepreneurship to promote curriculum; undertake research and consulting; and develop case studies and capacity-building efforts on social entrepreneurship.
- Social Security Platform: The social security framework based on a unified household database was conceptualized in collaboration with the Direct Benefit Transfer (DBT) mission, and Cabinet Secretariat.
- Electronic payments and receipts framework: The IFMR supported the Department of Electronics and Information Technology (DeitY) in developing the EPR framework and guidelines.
- Scheme Information System (SIS): The IFMR developed the framework for SIS to streamline the process of creation and assessment of large government schemes with particular emphasis on DBT schemes.
- Framework for IT Enablement of Scholarship Delivery: The IFMR supported an Expenditure Management Commission (EMC) in developing a prescriptive framework for IT enablement of scholarship delivery in India.
- Payments Bank Set-up for Department of Posts (DoP): The IFMR provides advisory support to the DoP in addressing strategic, technological, and operational aspects associated with setting up of their payments bank.
- Policy Paper: The IFMR's policy paper 'Incentivizing Cashless Payments by Giving Tax Rebate' was circulated and presented to the relevant ministries and departments. The IFMR's recommendations were included in the Government of India's discussion paper on incentives for cashless payments.
- Digital Grand Kerala Shopping Festival (GKSF): Successfully conceptualized and executed digital lottery incentives to promote cashless payments in the 9th edition of the GKSF.
- Samwad: Tested an automated conversation platform via Sawand IVR to interact and educate the underbanked population on financial services/ products. Phase II of Samwad, involving the development of a smartphone-based solution with more advanced features to promote financial literacy, has been approved.
- Successfully conducted the workshop "Payments Bank Workshop—The Way Forward", to understand the issues that Payments Banks may face in becoming an efficient channel for DBT and financial inclusion. 🔍





▲ The symposium on “Making Cities Safe and Inclusive: Perspectives from South Asia” jointly organised by IHD & IRDC on 21st November 2015

### Registered Office

Institute for Human Development  
Plot No 84, Functional Industrial  
Estate, Patparganj, Delhi 110 092  
T: 011-22159148/49  
E: mail@ihdindia.org  
W: www.ihdindia.org

### Location of R&D Units

- New Delhi, Delhi
- Ranchi, Jharkhand
- Patna, Bihar

### Recognition Status

File No.: 13/190/1998-TU-V  
Initial Recognition: 1998  
Valid Until: March 31, 2018

### R&D Manpower

Doctorates : 38  
PGs/Graduates: 7

## INSTITUTE FOR HUMAN DEVELOPMENT (IHD)

### Brief Description

The Institute for Human Development (IHD) was established in 1998 under the aegis of the Indian Society of Labour Economics as a non-profit, autonomous institution for conducting studies in the areas of labour and employment, poverty, health and nutrition, education, and other aspects of human development. The institute has been engaged in researching the various themes of human development with the aim of contributing to academic analysis as well as informing policy and practice. The institute has been actively involved in the evaluation of developmental policies and programmes of the central and state governments. It has also undertaken the preparation and coordination of several state development reports as well as human development reports. The research studies and other academic activities undertaken by the institute have been commissioned by a number of reputed agencies, including various ministries of the central government. The institute has been actively involved in the evaluation of developmental policies and programmes of the central and state governments. It has also undertaken the preparation and coordination of several state development reports as well as human development reports. Finally, the institute is gradually expanding into newer areas of research. It has recently started a ‘Population, Health and Nutrition Programme’ under its auspices to undertake focussed research on these issues.

The IHD is a registered society under the Societies Registration Act XXI of 1860.

### R&D Set-up

The research facilities and infrastructure of the institution are being used by the academia and individuals. These include the following:

- Library books and softwares
- Computers /desktop /laptop; laser printer; photocopier machine; Scanner; Projector ; 52-inch Sony LCD

### Sources of income for R&D

Project-related funding

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 534.00

FY 2015-16 = 630.00

FY 2016-17 = 596.00

### R&D Achievements

The IHD has been involved in the preparation of several state development reports and human development reports.

- The IHD publishes two international peer-reviewed journals, namely, the *Indian Journal of Labour Economics* and *Indian Journal of Human Development*.
- The institute regularly hosts training programmes for students from India and abroad, with a focus on empirical research. It also organizes workshops for researchers and policymakers.

## Research Areas

- Growth, labour markets, and employment
- Education and capabilities
- Health and nutrition
- Gender and development
- Security and vulnerability
- Governance and institutions

## Research Outcomes

- Papers published:
  - » National: 45
  - » International: 15
- Books/monographs: 12
- Conference proceedings/presentations: 100

## Research projects

The major research projects undertaken by the organization are as follows:

- A mid-term evaluation of strengthening community-centred and gender-responsive provisioning and use of sanitation services amongst the slum dwellers in Delhi.
- A field verification in connection with a selection of panchayats for award under the Rajiv Gandhi Panchayat Sashaktikaran Abhiyan.
- Assessing social protection provisions in the Indian states using the social protection floor approach.
- A study on the impact of migration on education.
- Designing impact evaluations for the Nodal Anganwadi Centre initiatives under a sector-wide approach to strengthen health, Bihar, India.
- Evaluation of a National Rural and Employment Guarantee Act Wells in Jharkhand
- Equity Impacts of a Targeted Health Insurance Programme: New Evidence from India's Rashtriya Swasthya Bima Yojana
- Impact of Migration on Poverty: The Case of Construction Workers of India, Nepal and Bangladesh
- Baseline Assessment of Learners' Achievements and its Determinants in the district of Khunti.

## Technical Collaborations

### National

Planning Commission, Government of India; A.N. Sinha Institute of Social Studies, Patna; Arunachal University, Itanagar; Jadavpur University, Kolkata; Mumbai; National Centre for Advocacy Studies, Pune; Institute for Social and Economic Change, Bangalore; Centre for Economic and Social Studies, Hyderabad

### International

International Centre for Inclusive Growth, Brazil; Chinese Academy of Social Sciences, Beijing; International Institute of Labour Studies, Geneva; Institute of Social Studies, The Hague, The Netherlands; Centre for Policy Dialogue, Dhaka; Korea Labour Institute, Seoul; Strategic Asia, Indonesia; Monash University, Australia; Victoria University, Australia

## Societal Relevance

The institute is engaged in several studies on monitoring and evaluation projects using experimental and quasi-experimental techniques. It has conducted various primary survey-based field research, including national-level surveys to evaluate policy impacts funded by the government. The institute is working as a National Level Monitor with various ministries, including the Ministry of Rural Development, Ministry of Panchayati Raj, Ministry of Drinking Water and Sanitation, and so on to evaluate the various programmes, such as the Swacch Bharat Mission Gramin, National Rural Drinking Water Programme, Namami Gange programme, Rajiv Gandhi Panchayat Sashaktikaran Puraskar, Gaurav Gram Sabha Puraskar, and so on. 🔍



^ Conference/auditorium proceeding

## INSTITUTE FOR STUDIES IN INDUSTRIAL DEVELOPMENT

### Brief Description

The Institute for Studies in Industrial Development (ISID) is a national-level policy research organization in the public domain and is affiliated to the Indian Council of Social Science Research. Developing on the initial strength of studying India's industrial regulations, the ISID has gained varied expertise in the analysis of the issues that have come up by the changing policy environment. The ISID and the Public Health Foundation of India have entered into a MoU for undertaking collaborative research in the areas of pharmaceuticals, medical devices and healthcare sectors, health innovation, R&D, and public health and capacity-building exercise. The research output of the programme will be disseminated through reports, research papers, mimeographs, and short films.

The ISID is a non-governmental organization registered under the Societies Registration Act.

### R&D Set-up

The research facilities and infrastructure of the institution are being used by the academia and individuals. These include the following:

This institute has its own campus on a 1.5-hectare plot upon which a library, conference rooms and lecture halls, an auditorium, hostel, houses, and faculty rooms are built.

### Sources of Income for R&D

Grants from the government and national NGOs/organizations.

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 1,351.80

FY 2015-16 = 1,287.89

FY 2016-17 = 1,379.08

### R&D Achievements

#### Research projects

The major research projects undertaken by the organization are as follows:

- Estimating Tax Incidence of Tobacco Products in India: An Empirical Analysis
- Study of Elasticity of Demand for Exports of Top Ten Commodity Groups of India: An Analysis of India's Merchandise Export Performance during 1999–2013
- Ports as Infrastructure, Ports as Cities: The Indian Port System from Colonialism to Globalisation
- India's Inward FDI Experience in the Post-liberalisation Period with Emphasis on the Manufacturing Sector
- Linkage between the Growth of the Manufacturing Sector as reflected by the Annual Survey of Industries and Export Growth Rates
- Understanding India's Industrial Development Puzzle through the Interactions between Industrial Policy and Trade Policy: A Case Study of the Electronics Industry
- Developing a Bio-medical R&D and Innovation Landscape for India: A Scoping Study.

### Registered Office

Institute for Studies in Industrial Development,  
Plot No 4, Institutional Area,  
Vasant Kunj, New Delhi 110 070  
T: 011-26891111  
E: info@isid.org.in  
W: isid.org.in

### Recognition Status

File No.: 13/95/1989-TU-V  
Initial Recognition: 1989  
Valid Until: March 31, 2018

### R&D Manpower

Doctorates: 18  
PGs/Graduates: 10

### Research Areas

- Industrialization, industrial policy, and the manufacturing sector
- Corporate sector, external trade, investment, and technology
- Public health and related issues
- Labour, employment, and the social sector

### Research Outcomes

- Papers published:
  - » National: 37
  - » International: 11
- Books published: 6
- Conference proceedings: 115

- Urbanisation of Uttarakhand
- Information Technology Industry of India' and 'Indian Pharmaceutical Industry
- Changing Perspectives of Women's Work and Decline in Female

Labour Force Participation Rate in Rural India: A Case of Odisha

### Societal Relevance

The ISID's policy-based research studies have societal relevance. 🔍



^ Training of field staff at CORD Sidhbhari, Kangra, HP

## INSTITUTE OF APPLIED STATISTICS AND DEVELOPMENT STUDIES

### Brief Description

The Institute of Applied Statistics and Development Studies (IASDS) is an NGO that works on key issues of sustainable development. The institute has leadership in specific areas, such as survey methodology, and conducts large-scale survey-based studies including baseline, monitoring and evaluation, and field experimentation and their analysis and quantitative methods including econometrics, perspective planning, projections, and modelling. It has already garnered recognition by conducting studies in primary education, nutrition, HIV/AIDS, and agriculture, including land use, animal husbandry, and rural development. The institute has provided substantial inputs in the database needed in preparing the U P State Plan of Action for Education for All.

The institute is registered under the Societies Registration Act, 1860.

### R&D Set-up

- Rented 1,200 sq. ft office space
- Desktops/printers/licensed software (SPSS and arc-view GIS)

### Sources of income for R&D

- Project grant from international funding agencies
- Sub-contract from the national agencies

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 15.52

FY 2015-16 = 23.28

FY 2016-17 = 25.12

### R&D Achievements

#### Research projects

The major research projects undertaken by the organization are as follows:

- Data validation of first semester Baal Suraksha Maah in Madhya Pradesh: The study was conducted in 12 selected districts of 4 divisions in Madhya Pradesh where the MI is supporting the Government of Madhya Pradesh to increase coverage of Vitamin A supplementation amongst children between 9–59 months of age. The outcomes of the study were submitted to the MI as a report.
- Promotion of water, sanitation and hygiene, and menstrual hygiene management in Middle and Intermediate Schools in Lucknow, Uttar Pradesh: The findings of the study were submitted in the form of a report which were used for designing intervention strategies to accomplish study objectives.
- WASH conditions of public health facilities in the four districts of Uttar Pradesh: The study recommended that 'hospital support services' and 'hygiene promotion' needed to be improved in almost all the health facilities.
- Knowledge, attitude, and practice about water, sewerage, and sanitation in Indore

### Registered Office

Institute of Applied Statistics and Development Studies (IASDS),  
1/172, Virat Khand, Gomti Nagar,  
Lucknow - 226010, Uttar Pradesh  
T: 0522 2304849  
E: iasds\_lko@hotmail.com;  
W: www.iasds.org

### Recognition Status

File No.: 13/293/2016-TU-V  
Initial Recognition: 2016  
Valid Until: March 31, 2019

### R&D Manpower

Doctorates: 3  
PGs/Graduates: 21

### Research Areas

- Health and nutrition  
Agriculture Rural and urban  
development gender  
related studies

### Research Outcomes

- Paper published
  - » National: 3
- Books published: 1
- Conference proceedings: 1

city, Madhya Pradesh, under the country assistance programme evaluation for India: Various components related to urban development as an outcome of the UWSEIP project were studied and it was found that in the control group area, only 22% of the households had piped water supply through tap connections at home, while in the project intervention area, all households 80% households reported piped water supply.

- Baseline assessment for Guwahati and Dibrugarh sub-projects under the Assam urban infrastructure investment programme: It was found that the water supply was the major issue in the study area

of Guwahati as only 1.3% (33 out of 1,601 households and all from non-slum areas) had piped water supply. In the study area, almost all the households had individual toilets but about 50% households reported a proper drainage system.

### Societal Relevance

The IASDS conducts large-scale surveys in the areas of socio-economic development, health and nutrition, forestry and agriculture, and so on for international and national agencies, including the Indian government. The studies are conducted for societal development and the findings are utilized for strategic planning and designing interventions/future studies. 🔍



^ Workshop on 'The Politics of Growth and Distribution in India' on March 22, 2017

### Registered Office

Institute of Economic Growth,  
University Enclave,  
University of Delhi (North  
Campus), Delhi 110 007  
T: 91-11-27667101/365/424/570  
E: system@iegindia.org  
W: www.iegindia.org

### Recognition Status

File No.: 13/247/2008-TU-V  
Initial Recognition: 2008  
Valid Until: March 31, 2020

### R&D Manpower

Doctorates: 28  
PGs/Graduates: 36

## INSTITUTE OF ECONOMIC GROWTH

### Brief Description

The Institute of Economic Growth (IEG) is an autonomous, multidisciplinary centre for advanced research and training. Widely recognized as a centre of excellence, it is one of India's leading academic institutions in the fields of economic and social development, wherein many past and current faculty members are internationally renowned award-winning scholars. The main thrust of the IEG's research is on the development of India's economy and society. Researches in agriculture and rural development encompass a section of the other widely researched areas. The IEG's work in the early 1980s focussed on non-renewable resources, such as coal, iron ore, petroleum, and oil. Irrigation and water management, solar, biogas, and renewable energy technologies also claimed the attention of the researchers. A large body of research has been pursued at the IEG and some of these are as follows: issues relating to the labour market, employment, unemployment, underemployment, and low-productivity employment in the informal sector, standard of living and poverty, social capital, population and income mobility, urban slums, basic amenities and housing, and many other aspects of urban development. The institute's faculty members also supervise doctoral students from India and abroad, provide regular policy inputs, and engage with the government, civil society, and international organizations. The IEG is a registered society under the Societies Registration Act XXI of 1860.

### R&D Set-up

The research facilities and infrastructure include:

- Well-stocked library
- Computer centre
- Officers hostel

### Sources of income for R&D

- Government source
- Projects funding (national and international)

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 1,878.05

FY 2015-16 = 1,660.68

FY 2016-17 = 1,832.71

### R&D Achievements

The major research projects undertaken by the organization are as follows:

- Role of ASHAs in Providing Newborn and Child Health Care Facilities: A Case Study of Uttarakhand: This study attempts to evaluate the knowledge of ASHAs with respect to newborn health according to the ASHA training modules 6 and 7 and to check the effectiveness of modules 6 and 7 training in reducing neonatal morbidity and death.
- Choice of Contraceptive Methods with a Special Focus on the Non-acceptance of Vasectomy: This study aims to examine the changing pattern of contraceptive practices in India. Apart from this, the study also intends to find

## Research Areas

- Agriculture and rural development
- Environment and natural resource economics
- Globalization and trade
- Health economics and policy
- Industry and development
- Labour and welfare
- Macroeconomic analysis and policy
- Population and human resource development
- Social change and social structure

## Research Outcomes

- Papers published: 131
- Books published: 16
- Chapters in edited books: 69
- Conference proceedings/presentations: 216
- Technical reports: 26

out the knowledge and attitude towards various contraceptive practices, especially vasectomy.

- **Prevalence and Risk Factors of Pregnancy Wastage among Women in India:** The present study proposes to examine the prevalence of pregnancy wastage (accounting for both miscarriage and spontaneous abortion rates) across the selected demographic, socio-economic, and contextual factors amongst married women in India. The proposed study intends to provide scientific estimates, at both the national and sub-national level, on the extent of pregnancy wastage amongst women in India.
- **Socio-Economic Differentials in Ageing and Dementia: A Reflection on the Challenges Ahead for India:** The present study aims to assess the changing demographic trends and analyse the constraints pertaining to the delivery of healthcare services in India. This study further reflects the importance of insurance and pension markets in ensuring economic independency to the elderly, while also highlighting the importance of research and data on dementia, which is often ignored to be a serious ailment.
- **Fiscal Scenario in Punjab:** The proposed study intends to identify different deficit indicators for

the state. The study attempts to examine the debt position and discuss the alternative approaches to debt-sustainability perspective of the state.

- **Perspective Plan for Odisha:** This study aims to prepare a perspective plan for Odisha for 2030 and beyond. The objectives of the plan would be projecting growth and income for 2036, while keeping in view the current income and poverty-alleviation scenario.
- **Annual Productivity Index in Manufacturing Sector across Industries and States:** The objective of the project has been: (1) to create an Annual Total Factor Productivity (TFP) index for all industries, in the manufacturing sector across all the major states in India (2) finding significant factors in determining the TFP across the industries for various states and (3) suggesting policy and other recommendations for the improvement of the TFP.

## Technical Collaborations

### National

Ministries of the Government of India such as the Ministry of Health and Family Welfare; Ministry of Agriculture and Farmers Welfare; Ministry of Commerce and Industry; NITI Aayog; Government of Odisha; Confederation of the Indian Industry, New Delhi. 





▲ Awareness programmes of the ILRT

### Registered Office

Institute of Livelihood Research and Training,  
Surabhi Arcade, 3rd Floor,  
Bank Street, Troop Bazar, Koti,  
Hyderabad, Telangana 500 001

T: 040 6658 5800

E: tabrez.nasar@ilrtindia.org,  
info@ilrtindia.org

W: www.ilrtindia.org

### Location of R&D Units

- Bhopal, Madhya Pradesh
- Shillong, Meghalaya
- Ranchi, Jharkhand
- New Delhi

### Recognition Status

File No.: 13/259/2011-TU-V

Initial Recognition: 2011

Valid Until: March 31, 2019

### R&D Manpower

Doctorates: 4

PGs/Graduates: 14

## INSTITUTE OF LIVELIHOOD RESEARCH AND TRAINING

### Brief Description

The Institute of Livelihood Research and Training (ILRT), earlier known as The Livelihood School, is a practice-based academic institution promoted by the Basix Social Enterprise Group—a livelihood promotion conglomerate. The mandate of the ILRT is to create a scientific knowledge base on livelihoods. With the knowledge provided by the ILRT, it is expected that a large number of livelihoods will benefit and expand. A combination of learning processes that include case research, action research, and policy research helps to develop various knowledge products. These products not only help practitioners improve their livelihood promotion outcomes, but also allow policymakers to make informed evidence-based policies. Action research projects are undertaken with the help of selected livelihood promoting organizations with requisite research capabilities.

The ILRT is a not-for-profit society registered under the Andhra Pradesh Societies Registration Act, 2001.

### R&D Set-up

The research facilities and infrastructure of the institution include:

Air conditioners, computers, cameras, laptops, printers, projectors, and voice recorders

### Sources of income for R&D

Funding from projects

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 26.54

FY 2015-16 = 18.52

FY 2016-17 = 2.17

### R&D Achievements

#### Products developed

- Livelihood mapping (tools for the identification of potential livelihoods in a district)
- Labour market and skill mapping research (tools for the potential identification of skilling activities to be taken)
- Fundamentals of livelihood promotion (theoretical and practical approaches to livelihood promotion)
- Governance in farmer producer companies
- Value chain development in farmer producer companies
- Business planning in farmer producer companies

#### Processes developed

- Livelihood scan
- Subsector identification
- Subsector study
- Labour profile mapping
- Opportunity mapping
- Skill identification
- Three theoretical sessions on history of LP
- Four sessions on approaches to livelihood promotion
- One on tool application for potential livelihood identification
- Module on norms for the board
- Module on norms related to compliances

### Research Areas

- Livelihood promotion
- Natural resource management
- Agri-value chains
- Tribal population
- Employment/skill development

### Research Outcomes

- Papers published:
  - » National: 4
  - » International: 1
- Livelihood-intervention studies: 23
- Training manuals and modules developed: 39
- Case studies prepared: 94

- Module on separation of staff/board
- Value chain concept
- Value chain identification
- Value chain integration
- Business plan concept
- Business identification
- Business plan integration in farmer producer companies

### Major research projects

The major research projects undertaken by the organization are:

- Labour market intelligence study for vocational education and training and skill-building programmes in Bihar and Rajasthan
- Study on the skill development of tribal youth
- Impact assessment of skill-development training programme, Gadchiroli, Maharashtra
- Status of enterprises and employment in the rural service sector in Jharkhand
- SHG federations as livelihood support organizations
- Mapping potential livelihood opportunities for self-help groups (SHGs) in Doda district, Jammu and Kashmir

## Technical Collaborations

### National

All State governments/State Planning Commission/State Forest Department; National Rural Livelihood Mission/ State Rural Livelihood Mission; National Bank for Agriculture and Rural Development; Rajasthan Mission on Skill and Livelihoods, Jaipur, Rajasthan; Uttarakhand Gramya Vikas Samiti, Uttarakhand; Livelihoods MANTHAN, Odisha; Chhattisgarh Minor Forest Produce Co-Operative Federation Ltd.; Meghalaya Basin Development Authority, Meghalaya; Azim Premji Foundation, Bengaluru; Lutheran World Service India Trust, Kolkata; Livelihood Improvement Finance Company of Meghalaya, Shillong, Meghalaya

### International

Ford Foundation, New York; Helvetas Swiss Intercooperation, Zurich; United Nations Development Programme; The Indo-German Watershed Development Programme; The World Bank; Grameen Foundation, USA; Plan International, United Kingdom; World Vision, USA; International Fiscal Studies, United Kingdom; Save the Children, United Kingdom. 🔍



^ Research programmes conducted by the IPE

## INSTITUTE OF PUBLIC ENTERPRISE

### Brief Description

The Institute of Public Enterprise (IPE), originally conceived as a research institution, is devoted to a systematic and sustained study of issues relevant to the formulation, implementation, review, monitoring, and assessment of policies and programmes concerning public enterprises. Subsequently, keeping in view the changing scenario, the focus is not only on public enterprises, but private entities as well. The dedicated centres of research, such as the Centre for Energy Economics; Centre for State-Owned Enterprises and Disinvestment; Centre for Corporate Governance; Centre for Corporate Social Responsibility; Centre for Corporate Risk Management; Centre for Public Enterprises and Disinvestment; Wage and Salary Studies Cell Centre for Innovation; Centre for Governance and Public Policy; Centre for Sustainable Development; Databank on Central and State Level Public Enterprises in India; and the Case Research Centre carry out research on contemporary topics and issues.

The IPE is an autonomous society registered under the Societies Registration Act.

### R&D Set-up

The research facilities and infrastructure of the institution are being used by the academia and individuals. These include the following:

- Library with rich collection
- Computer lab

### Sources of income for R&D

Project funding

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 408.79

FY 2015-16 = 281.21

FY 2016-17 = 156.23

### R&D Achievements

#### Research projects

The major research projects undertaken by the organization are:

- National Research Study on 'Corporate Social Responsibility (CSR)': This project aims at identifying the CSR intervention areas for social inclusiveness in select backward regions across the country by conducting need assessment studies.
- Research Study on the 'Socio-economic Status of Minorities in India': The main objectives of the study are to know the extent of access by minorities to education, health, infrastructure, and bank credit.
- Study of Sustainability Practices in Public Enterprises (Obama–Singh grant administered by IIM Bangalore): The objectives of the study are to analyse the practices of sustainability reporting in the Electronic Corporation of India Ltd.
- Effects of Public Expenditure on Growth in India: The main purpose of this study is to provide evidence and critically examine the possible links between productive public

### Registered Office

Institute of Public Enterprise,  
Osmania University Campus,  
Hyderabad 500 007, Telangana  
T: 040-27098060  
E: research@ipeindia.org  
W: www.ipeindia.org

### Recognition Status

File No.: 13/189/1998-TU-V  
Initial Recognition: 1998  
Valid Until: March 31, 2020

### R&D Manpower

Doctorates: 31  
PGs/Graduates: 16

## Research Areas

- Central public sector enterprises
- State-level public sector enterprises
- Corporate social responsibility
- Governance and public policy
- Infrastructure policy and regulation
- Sustainable development
- Corporate finance
- General management

## Research Outcomes

- Papers published
  - » National/International: 45
- Books published: 17
- Conference proceedings: 6

expenditure and the long-run economic growth and assessment of the resulting allocation in terms of social and economic welfare.

- Rural Urban Migration in Andhra Pradesh: A Study of the Socio-economic Impact on the Families of Migration Farmers: The study aims at analysing the reasons for temporary migrations to urban areas and to study the living conditions of people in cities.

## Consultancy services rendered

- Undertaking consultancy assignments is one of the specialized domains of the IPE. The institute has carried out public sector/service reform assignments concerning various sectors, major government departments, and municipal services, poverty-alleviation programmes, and privatization.

## Technical Collaborations

### National

Mahila Abhivrudhi Society, Hyderabad; Centre for Good Governance, Hyderabad; Manipal University, Manipal; Symbiosis International University, Pune; Maulana National Urdu University, Hyderabad; Jaipuria Institute of Management, New Delhi


### International

Srilanka Institute of Development Administration, Colombo; Korea Institute of Public Finance, Korea; EGADE Business School, Mexico;

The Namibia Institute of Public Administration and Management of the Republic of Namibia

## Societal Relevance

The following R&D outcomes are of national/societal significance:

- Service developed by the verification of open, defecation-free villages in the Krishna district and East Godavari district, Andhra Pradesh, have contributed towards developing open, defecation-free villages and improved sanitation facilities.
- Through its research and consultancy services, the IPE has provided valuable inputs to its clientele, which includes the Government of India, various state governments (the Government of Karnataka, Government of Assam, Government of Telangana, and the Government of Andhra Pradesh), central public sector organizations (NMDC, MECL, ONGC, NLC, and so on), state-owned public sector enterprises, such as Telangana State Beverages Corporation, A P Rajiv Swagruha Corporation, Karnataka Soaps and Detergents, and so on .
- Through its training programmes, the IPE was able to create awareness about the latest managerial practices and other issues of social and economic relevance to more than 3,000 executives of central and public sector organizations, banks, and civil servants. 



▲ Qualitative research study being undertaken

### Registered Office

Institute of Public Health, #250,  
2nd 'C' Main, 2nd 'C' Cross,  
Girinagar, 1st Phase, Bengaluru,  
Karnataka 560 085  
T: 830 - 26421929  
E: mail@iphindia.org  
W: www.iphindia.org

### Location of R&D Units

- Chamrajnaga and Tumakuru ,  
Karnataka

### Recognition Status

File No.: 13/296/2016-TU-V  
Initial Recognition: 2016  
Valid Until : March 31, 2019

### R&D Manpower

Doctorates: 5  
PGs & Graduates: 3

### Research Outcomes

- Papers published
  - » National/International: 21

## INSTITUTE OF PUBLIC HEALTH

### Brief Description

The Institute of Public Health (IPH) is a public health research and training institute based in Bengaluru, India. This non-profit organization aims to create an equitable, integrated, decentralized, and participatory health system; does health systems research, advocacy, consultancy, and so on. IPH's research is at the cutting edge of global public health using innovative approaches, such as health in all policies and methodologies, including participatory action, research, and theory-driven inquiries. Through research and action on the governance of health systems and services, the institute seeks to strengthen local and national health systems. Through focussed research and action on infectious diseases, the institute also seeks to contribute to improving disease control and elimination in India. From governance and analysis of policies to working with rural or urban communities, the research projects span the entire spectrum of the public health system. IPH organizes need-based capacity building programmes and courses implemented either within health services, or through e-learning and blended training approaches. IPH is a non-governmental society registered under the Societies Registration Act.

### R&D Set-up

The research facilities and infrastructure of IPH comprise:

- Two field stations for research activities.

### Technical Collaborations

#### National

Scientific and Industrial Research Organizations; Karnataka Evaluation Authority; Tata Institute of Social Sciences; United Nations Children's Fund; Institute of Transdisciplinary Health Sciences and Technology; SELCO Foundation

#### International

School of Public Health, South Africa; WHO - Alliance; Institute of Tropical Medicine, Antwerp

### Societal Relevance

All research and action is intended for the betterment of the health of the people. Improving public health services and making them more equitable is at the core of the institution. 🔍

### Research Areas

- Chronic conditions
- Governance
- Health equity and evaluation
- Health financing and universal health coverage
- Health services
- Infectious diseases and disease control
- Policy think tank



▲ Release of the book *Origin and Astronomy: The Calendar and Time*

### Registered Office

Institute of Scientific Research on Vedas (I-SERVE)  
Survey No. 42, Hitex Road,  
HITECH City, Hyderabad 500 084,  
Telangana  
T: 040 23116277  
E: vedakavi@serveveda.org /  
vedakavi@gmail.com  
W: www.servaveda.org

### Location of R&D Units

- Gurugram, Haryana
- Tirupati and Visakhapatnam, Andhra Pradesh

### Recognition Status

File No.: 13/242/2006-TU-V  
Initial Recognition: 2006  
Valid Until: March 31, 2017

### R&D Manpower

Doctorates: 5  
PGs & Graduates: 3

## INSTITUTE OF SCIENTIFIC RESEARCH ON VEDAS

### Brief Description

The Institute of Scientific Research on Vedas (I-SERVE) is a scientific research institute dedicated to bringing out the technical details of the Vedic sciences from ancient Indian literature. The institute aims at presenting a science that is nature-friendly, non-hazardous, and non-pollution-producing. As awareness about the scientific concepts of Vedic literature is gaining momentum the world over, the work undertaken by the institute will positively impact each section of society. The vision of the institute is to reinforce the scientific credibility of the Vedic texts. In addition to this, it also aims at bringing to the fore some of the prominent Vedic techniques which belong to the pre-Vedic period and, unfortunately, have been consistently neglected.

I-SERVE is registered as a charitable non-profit-making trust.

### R&D Manpower

The manpower for this institute is based on the research project and they will be employed for the project only. However, the research advisory board members will take active roles.

All the experts/scientists services will be availed on contract basis depending on the project from time to time. However, administrative staff, computer DTP personnel, drivers, are employed on part / full time basis.

### R&D Set-up

The research facilities and infrastructure of the institution

are being used by the academia and individuals. These include the following:

- Building premises of Avadhana Saraswati Peethan
- Semi-open air theatre
- Animal house
- Herbal garden
- 20,000 volumes of scientific literature
- Ayurveda dispensary

### Sources of income for R&D

- Donations
- Government grants

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D

FY 2014–15 = 25.27

FY 2015–16 = 28.70

### R&D Achievements

#### Products developed

- Drug development through herbs
- Preparation of several R&D reports
- Providing service-oriented training for farmers
- Set-up free Ayurvedic dispensary and conducted free medical camps

#### Research projects

- Anti-microbial properties of the selected Kashayams (Deoctions and immune modulatory effect with respect to microbial activity)
- Extraction, translation, and sequential dating of astronomical references in Sanskrit manuscripts from the *Rigveda* to *Aryabhatiya*

## Research Areas

- Ayurveda
- Ancient mathematics, applications in computer logic
- Astronomy and cosmology
- Sanskrit Panini Grammar computer logics
- Ancient Indian agriculture and organic farming
- Pasu Sastra
- Earthquakes and prediction planetary software and so on

## Research Outcomes

- Papers published:
  - » National: 1
  - » International: 6
- Books published: 2

- Cultural continuity since the Vedic and Epic eras and scientific reconstruction of the history of the Holocene period.
- Cultural continuity from the *Rigveda* to the present age of robotics.
- Chronology of Indian Cultural since the beginning of Holocene through scientific evidences from Samrat Yudhishtira to Samrat Ashok.

## Technical Collaborations

### National

Laila Impex, Vijayawada

### Societal Relevance

- To train the farmers to switch over to organic farming in order to save the soil health, improve the nutritional value, and introduce benign techniques of natural farming.
- Through Ayurveda, the traditional medicine of India, about 10,000 patients have been treated every year since the last 7 years. 🔍



^ Preksha Meditation Session

## JAIN VISHVA BHARATI

### Brief Description

Jain Vishva Bharati (JVB) was established in the year 1970 at Ladnun in the Nagaur district of Rajasthan. A centre of excellence in the field of Jain studies and the Prakrit language, this institute has also become an international centre of learning on *ahimsa* (non-violence), *jeevan vigyan* (the science of living), and *preksha dhyana* (meditation). The primary aim of JVB is to work for the upliftment of socio-spiritual values. The institute is also a centre of excellence as far as research on Jain studies is concerned. Acharya Shri Tulsi had envisioned research on Jain studies and Jain outlook as one of the primary objectives of JVB.

JVB is a society registered under the Societies Registration Act.

### R&D Set-up

The following are the available research facilities and infrastructure which are regularly used by individuals and academicians:

- Land and building
- Mattresses for meditation; overhead projector /slide projector; television set/VCR (DVD player); tape recorder; camera; BP measuring; Eight Channel Plyright; alpha ECG bio-feedback; ECG machine; photo colour meter; LCD projector; computer and printer, laptop; aluminium colour therapy; EEG; semi-auto analyser; multi-parameter monitor; respirator; loudspeaker; lab instrument

### Sources of income for R&D

- Donation
- Foreign contribution

### R&D expenditure (₹ in lakhs)

This SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 42.36

FY 2015-16 = 53.44

FY 2016-17 = 15.52

### R&D Achievements

#### Research projects

- Prevention and management of diabetes by pulse electromagnetic field therapy and Preksha meditation: The study was conducted with the aim to assess the combined impact of magnet exposure and Preksha meditation on managing the chronic Diabetes Mellitus (Type-II) in adult human subjects.
- Aagam Sahitya me Padanukram Yojna
- Mahapragya International School Tamkore (A center of development of child brain through science of living and Preksha Meditation in rural areas) 🔍

### Research Areas

- To edit and publish certain research-based matter and comparative studies.

### Research Outcomes

- Papers published
  - » National: 1
  - » International: 2
- Books published: 1

### Registered Office

Jain Vishva Bharati,  
Post Box No. 8, P O Ladnun,  
Nagaur, Rajasthan 341 306  
T: 01581-226080, 226119  
E: jainvishvabharati@yahoo.com  
W: www.jvbharati.org

### Location of R&D Units

- Portuguese Church Street, Kolkata

### Recognition Status

File No.: 13/15/1988-TU-V  
Initial Recognition: 1988  
Valid Until: March 31, 2018

### R&D Manpower

Doctorates : 8





▲ An experimental Kannada play by Professor R Bharadwaj based on the *Mahabharat*

### Registered Office

Karnataka Haridasa  
Scientific Research Center,  
49 Vijayanagar, 17th Cross MRCR,  
Vijayanagar, Bengaluru 560 040,  
Karnataka  
T: 080-23387572  
E: khsrc.bgl@gmail.com  
W: www.khsrc.org

### Location of R&D Units

- Raichur, Karnataka

### Recognition Status

File No.: 13/257/2010-TU-V  
Initial Recognition: 2010  
Valid Until: March 31, 2018

### R&D Manpower

Doctorates: 2  
PGs & Graduates: 3

## KARNATAKA HARIDASAS SCIENTIFIC RESEARCH CENTRE

### Brief Description

Karnataka Haridasa Scientific Research Centre (KHSRC) is the culmination of the efforts of a group of dedicated individuals drawn from the various walks of life for more than four decades. The KHSRC was founded under the leadership of Professor Ranganath Bharadwaj, one of the leading economist, econometrician, methodologist, educationists, and theatre person in the country. The centre has initiated many innovative programmes in varied fields, such as economics, econometrics, mathematics, philosophy, education, astronomy, astrophysics, the social sciences, and arts and culture. The activities of the centre are aligned with the structural school of thought, an alternative methodology developed by Professor Bharadwaj in response to the deepening methodological crisis in the sciences, including economics and education. This new approach enables one to view the self, science, and society in an integrated framework.

The KHSRC is a registered charitable trust under the Bombay Public Trust Act, 1950.

### R&D Set-up

KHSRC's research/infrastructure facilities include their own building with computers, printers, camera, and other audio-visual equipment.

### Sources of income for R&D

- Training fee
- donation
- Others (Rent)

### R&D expenditure (₹ in lakhs)

SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 1.39

FY 2015-16 = 2.04

FY 2016-17 = 0.75

### R&D Achievements

- Published a book titled *Jagannatha Dasaru's Harikathamruth Sara an English Transformation* authored by Professor Ranganath Bharadwaj in 2014.
- New ways of applying the structural method.

### Societal Relevance

The structural method, which has evolved from Indian folk literature, has a Puranic background. This has been helpful in understanding the various scientific aspects embedded in Haridas literature. Additionally, this has great relevance today as it can aid programmes, such as Made in India and Make in India. 🔍

### Research Areas

- Implementation of the structural method evolved by Professor Ranganath Bharadwaj
- Theatre and the fine arts

### Research Outcomes

- Books published: 1



^ Capacity-building programme conducted for NGOs

## KARVE INSTITUTE OF SOCIAL SERVICE

### Brief Description

Karve Institute of Social Service strives to provide service to society and imparts training to aspiring professionals and a variety of functionaries working with people. Karve Institute conducts research on social issues and situations, coordinates and promotes myriad social activities, offers consultancy and assistance related to and in pursuance of the objectives of the institute, etc.

Karve Institute is a registered society, registered trust, and a university/college affiliated to Savitribai Phule University of Pune, Pune. The institute has been registered under the Societies Registration Act, 1860, and the Bombay Public Trust Act, 1950.

### R&D Set-up

The research facilities and infrastructure of the institution are:

- The institute campus has six buildings
- Tech Mahindra Computer Lab
- Library

### Sources of income for R&D

Project grants

### R&D Achievements

- Research and surveys undertaken by the research cell have innovative elements in its area, methodology, techniques, strategies, processes, and interventions.
- Training programmes and networking events conducted by the research centre promoted

some of the following innovative initiatives, such as facilitating NGOs and professionals.

- Holistic village-developmental projects of the CSR are implemented.

### Research projects

- Evaluation of the Rajarshi Shahu Maharaj Scholarship Scheme for higher education within India for SC students
- Examining the role that elected women representatives of the Panchayati Raj institutions play in preventing gender-based violence
- Industrial environment assessment survey: Maharashtra, Gujarat, and Tamil Nadu
- Preliminary note on the socio-economic survey of the three slums in Pune and Hyderabad
- Need-assessment survey for community mapping and identification of interventions in areas of education, employability, and entrepreneurship in the neighbourhood of TATA Commutations, Dighi
- Impact assessment of corporate social responsibility of KOEL in Nagar, Nasik, Pune
- Premarital education programmes in colleges and understanding provisions and implementation of the prevention of sexual harassment of women at the workplace
- Integrating inclusive policies and practices in higher education: Efforts & challenges
- Examining the role that elected

### Registered Office

Karve Institute of Social Service,  
18 Hill Side, Karve Nagar, Behind  
Vana Devi Temple, Pune 411 052,  
Maharashtra  
T: 020-6500 7565/6500 7566  
E: maheashthakur24@gmail.com  
W: www.karve-institute.org

### Recognition Status

File No.: 13/285/2014-TU V  
Initial Recognition: 2014  
Valid Until: March 31, 2017

### R&D Manpower

Doctorates: 4  
PGs & Graduates: 3

## Research Areas

- Formal and adult education
- Health and health care
- Environment
- Water and sanitation
- Livelihood enhancement
- Women empowerment
- Agriculture and skill development
- Capacity building
- Corporate social responsibility
- Social development

women representatives of the Panchayati Raj institutions play in preventing gender-based violence

- Evaluation of the scholarship scheme for the education of SC students abroad
- CSR project-impact assessment of the four locations: Vashi–Mumbai; Savali–Baroda; Ratlam–MP; Araku–Vishakhapatnam

## Technical Collaborations

### National

Don Bosco Development Society, Mumbai; Mazagon Dock Ltd, Mumbai; Nlighten, Pune; Social Welfare Department, Pune; Soppecom, Pune; Save Our Souls (SOS), India The Central Social Welfare Board, Chembur, Mumbai; University Grad Commission, Delhi; Zensar Foundation, Pune

## Societal Relevance

The following R&D outcomes are of national/societal significance:

- CSR projects done by Karve Institute of Social Service, such as toilets constructed in the villages and e-learning set up distributed in the school, are linked with the following programmes: Swachh Bharat, Clean Energy, Digital India, Make in India, Swastha Bharat, Skill India etc.
- Research studies or surveys benefiting the community or improving the services have direct implications on the policies, planning, and implementation of developmental initiatives and welfare services offered to the society.
- Baseline and need assessment surveys contribute towards the new initiatives. The need assessment surveys conducted for corporate houses have resulted in CSR initiatives. 🔍



^ Kripa Foundation's holistic rehabilitation programme

### Registered Office

Kripa Foundation  
C/o. Mt. Carmel Church,  
81/A, Chapel Road, Bandra West,  
Mumbai Maharashtra 400 050  
T: 022 26405411, 26433027  
E: kripadarc@yahoo.co.in  
W: www.kripafoundation.org

### Location of R&D Units

- Guwahati , Assam
- Bardez and Vasco, Goa
- Vadodara, Gujarat
- Mangalore, Karnataka
- Mumbai and Thane, Maharashtra
- Imphal, Manipur
- Shillong, Meghalaya
- Kohima, Nagaland
- Bareilly, Uttar Pradesh
- Kolkata and Darjeeling, West Bengal`

### Recognition Status

File No.: 13/201/1999-TU-V  
Initial Recognition: 1999  
Valid Until : March 31, 2017

### R&D Manpower

Doctorates : 1  
PGs & Graduates : 21

## KRIPA FOUNDATION

### Brief Description

Kripa Foundation, a non-governmental Indian organization, is affiliated with the Union Ministry of Social Justice and Empowerment. It works with people who have chemical dependency and also with those who have HIV. Over a quarter century of service, Kripa Foundation has evolved a module of non-discriminating and supportive community living. It has also empowered people to introspect and aims to bring about a change in lifestyle. Kripa Foundation is in the process of maintaining an extensive database of clients since the last decade. By means of the Drug Addiction Management & Monitoring System & HIV/AIDS Management & Monitoring Systems, all epidemiological, socio-religious, economic, educational, substance abuse patterns, medical features and disability, therapeutic interventions, outcome evaluation, and follow up records, are maintained and periodically updated. The research work aims at understanding the disease parameters, personality profiles, impact on social norms, family units and industry, therapeutic aspects, intervention methodologies, and holistic considerations related to lifestyle change.

The foundation is a public charitable trust, with the registration number: E 11066 (MUM), dated February 10, 1987.

### R&D Setup

The research facilities and infrastructure of the foundation include:

There are clinical care centres (22 sites). The research infrastructure is being used by graduates and postgraduates students.

### Sources of income for R&D

- Donations
- Other corpus and interest

### R&D expenditure (₹ in lakhs)

FY 2013-14 = 99.91

FY 2014-15 = 97.26

FY 2015-16 = 75.20

### R&D Achievements

#### Products developed

- Therapeutic Model for Addiction, the Kripa Model of Recovery
- Holistic Technology, the Kripa Foundation Iyengar Yoga Module

#### Consultancy services rendered

Therapeutic consultancies are provided

### Technical Collaborations

The Ministry of Social Justice and Empowerment, the Government of India ; National Institute of Social Defence; Ministry of Science and Technology, the Government of India; National AIDS Control Organization; Emmanuel Hospital Association; Bharat Petroleum Corp. Ltd; Mahindra & Mahindra; TATA Group; Narcotics Control Bureau; Central Industrial Security Force; United Nations Drug Control Prevention; United Nations Office on Drug and Crime; World Health Organization; Catholic Relief Services; Public Health Foundation of India; Clinton Foundation; Xandev Foundation

### Research Areas

- Drug
- Alcohol
- HIV-AIDS
- Psycho-social complications and other related diseases
- Chemical dependency

### Research Outcomes

- Papers published
  - » National: 1
  - » International: 5
- IPRs held
  - » Patents filed: 1

### Societal Relevance

The following R&D outcomes are of national/societal significance:

- Focal evaluation of significant populations and database development
- Implementation of therapeutic protocols under ministry-level programmes
- Conducting awareness programmes such as substance use disorder
- Family therapy: These activities include family systems therapy, which is conducted weekly at the treatment centres where counsellors provide inputs and address a variety of issues that are related to identifying and managing co-dependency.
- General awareness programme: Efforts are made to reach out

to the general and affected community in location hot spots, educational institutions, business and trade agencies, law enforcement agencies through regular and periodical information sessions.

- Community mass events: Substance abuse has a devastating impact on society. Given this, certain important days are identified in a calendar year and awareness activities are linked to the identified community activity.
- Linkage events/advocacy events with government and non-governmental bodies: These include the availability of the Kripa Foundation teams to participate in events, meeting, conferences, and symposia by providing competent staff and materials (IEC) as required to take forward the interests and applications of these events. 🔍



^ Yoga session organized by KYM

## KRISHNAMACHARYA YOGA MANDIRAM

### Brief Description

Krishnamacharya Yoga Mandiram (KYM) is one of the premier centres for yoga and yoga therapy. KYM is recognized by the Morarji Desai National Institute of Yoga—the apex governing body of yoga centres in India—as one of India's leading yoga institutes. Since its inception in 1976, the KYM has accumulated several thousands of care seekers' record which provide valuable information on the role and significance of yoga interventions in the therapeutic context. The institute's research wing systematically organizes and analyses the data and makes the information available to all. Further, the research department is also actively involved in literary research primarily focussing on comparative studies of ancient classical yoga texts and the revival of previously unpublished manuscripts available in the government archives, university libraries, etc. The institute's research department is also committed to periodically conducting seminars and workshops on yoga therapy and yoga literature with a view to creating more awareness of and interest in yoga as a viable system of complementary therapy and as a living philosophical tradition.

The KYM is a non-profit public charitable trust.

### R&D Set-up

The research facilities and infrastructure of the foundation include:

- Tachitoscope
- Walkman

- TAT
- B P instrument
- Electronic weighing scale
- Beck depression scale
- Steadiness tester (without rest counter)
- Speilberges state-trait anxiety anger
- Expression inventory
- Stopwatch (fly back)
- P F Metre

### Sources of income for R&D

- Testing
- Project income
- Course fee
- Bank interest
- Project fee

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 8.99

FY 2015-16 = 7.85

FY 2016-17 = 10.46

### R&D Achievements

#### Research projects

- Impact of individualized yoga therapy on cognitive tasks and depression amongst Type II diabetic patients
- Personal maturity indicators: An assessment tool based on the select concepts from the *Bhagavad Gita*
- Translation of Vyasa's Sanskrit commentary to Yogasutras into Tamil Chapter 2

### Registered Office

Krishnamacharya Yoga Mandiram,  
New No.31 (Old #13) Fourth  
Cross Street, Rama Krishna Nagar,  
Mandaveli, Chennai,  
Tamil Nadu 600 028

### Recognition Status

File No.: 13/209/2001-TU-V

Initial Recognition: 2001

Valid Until: March 31, 2019

### R&D Manpower

Doctorates: 2

PGs & Graduates: 3

### Research Areas

- Yoga applied research
- Yoga literary philosophical research

### Research Outcomes

- Papers published
  - » National: 2
  - » International: 5
- Books published: 3
- Conference proceedings: 1

- Translation of Vyasa's Sanskrit commentary to Yogasutras into Chapters 3 and 4
- *Yogayajñavalkya Samhita: The Yoga Treatise of Yajñavalkya*

### Technical Collaborations

- MOP Vaishnav college, Chennai
- Meenakshi Sundararajan School of Management, Chennai
- Samskrit Promotion Foundation, New Delhi

### Societal Relevance

The institute has created awareness on a few specific, focussed yoga techniques with the aim of helping people improve their health. The

programmes have substantiated that there is no standard yoga practice for diseases; instead it is the 'personalized yoga practice' which optimizes benefits. The institute has created a strong wave of awareness, wherein people and medical professionals alike seek out the therapies at the institute. Over a three-year period, on an average, 4,000 new seekers have sought yoga therapy at the institute. Almost everyone, including adolescents and senior citizens, cancer patients and diabetics, asthmatics, patients of hypertension, and others, have benefitted greatly from the research initiatives of Krishnamacharya Yoga Mandiram. 🔍



▲ Incense sticks preparation training

## M S CHELLAMUTHU TRUST AND RESEARCH FOUNDATION

### Brief Description

M S Chellamuthu Trust and Research Foundation (MSCTRF), a non-government trust, is one of the leading organizations in Tamil Nadu. It works primarily to promote mental health through holistic mental health care services. The foundation aims at offering need-based skills training programmes that would enhance the level of functioning of the persons with disabilities and strengthening the support base so as to facilitate the mainstreaming. The foundation envisions a just society where persons with disabilities can lead a respectful life and live in peace.

The MSCTRF is non-governmental, secular, non-profit, organization registered as a trust under the Indian Trust Act.

### R&D Set-up

The research facilities and infrastructure of the foundation include:

- Physiotherapy equipments
- Speech therapy equipments
- Medical equipment
- Computer and UPS
- Tele-psychiatric vehicle
- Tailoring machine
- Solar panel generator vehicle (Xylo)
- Projector and audio–video system computers
- Printers and laptops; computers and accessories

- Printing machine
- Infrastructure Shristi, Trishul, Vriksha, and Aakaash
- Bodhi mental health training and research centre
- Community mental health project
- Vocational training centre for the mentally ill
- Home for the persons with adult M R
- Home for the mentally ill at Madurai, Erwadi, and Dindigul in Tamil Nadu
- Audio-visual, IT equipment

### Sources of income for R&D

- Grant-in-aid
- International funding

### R&D expenditure (₹ in lakhs)

This SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 18.85

FY 2015-16 = 18.36

FY 2016-17 = 10.91

### Technical Collaborations

#### National

Madurai Kamaraj University, Madurai, Tamil Nadu; Tamil Nadu Veterinary and Animal Sciences University, Chennai; Mother Teresa Women's University, Kodaikanal; Bharthiyar Open University, Coimbatore; Alagappa University, Karaikudi

#### International

Monash University, Melbourne, Australia

### Registered Office

M S Chellamuthu Trust and Research Foundation, 643, K K Nagar, Madurai, Tamil Nadu 625 020

### Recognition Status

File No.: 13/155/1995-TU-V

Initial Recognition: 1995

Valid Until: March 31, 2018

### R&D Manpower

Doctorates : 5

PGs & Graduates : 25



### Research Areas

- Mental health
- Rehabilitation
- Substance abuse
- Mental retardation
- Yoga
- Nutrition
- Livelihood
- Vocational training
- Community-based rehabilitation
- Life skills
- Advocacy and lobbying

### Research Outcomes

- Papers published
  - » National/International: 11

### Societal Relevance

- Livelihood and skill training programmes are relevant for the promotion of livelihood activities for persons with mental disabilities. For this purpose, linkages have been stabilized with states and central government programmes, such as the Mahatma Gandhi National Rural Employment Guarantee Act, Green House and Clean India, etc.
- Skill training has been done with the support from the District Rural Development Agency, Ministry of Social Justice and Empowerment, and Tamil Nadu Veterinary and Animal Sciences University.
- Services of community-based rehabilitation is the most relevant to replicate anywhere in Tamil Nadu.

### Remarks

- Community-based rehabilitation projects envisage the needs of persons with mental disabilities in the project areas by availing treatment, medicines, and other allied therapies, which

include speech therapy and physiotherapy. Furthermore, by creating awareness, the foundation is able to identify more persons with mental disabilities in the remote areas.

- College teachers counselling programme project has created a platform to establish a counselling centre in name of VIRUTCHAM in all colleges, affiliated to Madurai Kamaraj University.
- Peer counselling groups have been created in each college in Tamil Nadu, especially in Madurai district, and is organizing weekly programmes, thus promoting the mental health of the adolescent groups.
- Life skills training programmes are organized in all colleges in the Madurai district, thereby improving the student's psychosocial competencies.
- The foundation has developed a peer support group amongst the students' community to collectively address mental health needs in their respective areas. 🔍



^ Signing of the MoU between Central University of Tamil Nadu and the MSE

### Registered Office

Madras School of Economics,  
Gandhi Mandapam Road, Behind  
Anna Centenary Library, Kottur,  
Chennai, Tamil Nadu 600 025

### Recognition status

File No. : 13/137/1994-TU-V  
Initial Recognition: 1994  
Valid Until : March 31, 2017

### R&D Manpower

Doctorates: 13

## MADRAS SCHOOL OF ECONOMICS

### Brief Description

Madras School of Economics (MSE) is an institution of higher education in economics, located in Chennai, India. MSE was founded in 1995 as a private institution offering postgraduate courses for teaching and research in economics. MSE offers a two-year master's programme in general economics, financial economics, applied quantitative finance, actuarial economics and environmental economics affiliated to the Central University of Tamil Nadu, and a PhD programme affiliated to the University of Madras.

MSE is a society-NGO registered under the Tamil Nadu Act 27 of 1975 on September 23, 1993.

### R&D Set-up

- A well-furnished library with access to the online database, digital and print resources
- State-of-the-art computer centre computing resources

### Sources of income for R&D

Grant-in-aid from various agencies

### R&D expenditure (₹ in lakhs)

This SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 110.09

FY 2015-16 = 62.02

FY 2016-17 = 24.67

### R&D Achievements

#### Research projects

- 'Integrated Sustainability Assessment of Bio-energy Potential in Asia: An Application of

a Hybrid Approach on Trade-offs and Pathways'

- Assessing Barriers of Trade in Service Sector of India: A Network Analysis to Reform Service for Inclusive and Sustainable Medical Tourism
- Convergence between Corporate Governance and Corporate Social Responsibility: Implications for Sustainability of Indian Companies
- Determinants of Non Traditional Agricultural Exports: A Study of Horticulture and Floriculture Sector in India
- Electricity Governance in Tamil Nadu
- Environmental Cost-benefit Analysis Study, Dadri
- Growth Dynamics of Tamil Nadu Economy
- Insulating Public Utility Pricing from Policy Fluctuations for Sustainable Growth: Power and State Road Transport
- Leveraging Agriculture for Nutrition in South Asia
- Linking Coastal Zone Management to Ecosystem Services in India
- Policy Determinants of Household Economic Development
- Promoting Employment and Skill Development in the Manufacturing Sector in India: A Study of Electronics Industry In Chennai
- Resources, Greenhouse Gas Emissions, Technology and Work

### Research Areas

- Public finance
- Macroeconomic modeling
- Development economics
- Corporate finance
- Environment and trade
- Insurance and industrial economics

### Research Outcomes

- Papers published
  - » National/International: 120
- Books published: 10

in Production and Distribution Systems: Rice in India

- SARASWATI: Supporting Consolidation, Replication, and Upscaling of Sustainable Wastewater Treatment and the Reuse of Technologies for India
- State of the Environment – Tamil Nadu
- State Planning Commission: Twelfth Plan

- Sustainable Development Indicators for India
- Tamil Nadu State Fifth Finance Commission project on Urban Local Bodies

### Technical Collaborations

#### National

- Central University of Tamil Nadu
- University of Madras. [Q](#)



^ Research associate's cabin

## MUDRA FOUNDATION FOR COMMUNICATIONS RESEARCH AND EDUCATION

### Brief Description

The Mudra Foundation for Communications Research and Education (MFFCRE) was set up in Ahmedabad in 1991 to provide training in communication, including advertising and related areas, so as to equip them to communicate effectively. Its vision is to improve the quality of life through a better understanding and development of communication processes in all facets of life, by engaging in appropriate research, education, and advocacy. MFFCRE is a registered society, dated February 1991, under the Societies Registration Act, 1860, and as a registered trust under the Bombay Public Trust Act, 1950.

### R&D Set-up

The research facilities and infrastructure of the foundation include:

- KEIC online and offline access
- MICORE R&D Centre
- Statistical software: SPSS, NVIVO, AMOS, eViews
- Provision of high-configuration laptops for all faculty members and research associates, a media lab equipped with 14 desktops with BARC and IRS software installed and 24x7 internet connectivity

### Sources of income for R&D

International funding

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for RED.

FY 2014-15 = 197.27

FY 2015-16 = 229.48

FY 2016-17 = 228.46

### R&D Achievements

- The research work done is published in journals/periodicals and books accessible to faculty, students, researchers, industry, and society at large.
- The diverse areas and methods of research are employed by the faculty, research staff, and students across programmes (FPM, PGP), these are as follows:
  - » Critical, interpretive, and positivist paradigms
  - » Quantitative and qualitative methods
  - » Areas that cover core and allied areas of marketing, management, and communication
- Community Radio Station (MICAVAANI) runs and creates awareness and educational programmes for rural areas that surround Mudra.
- Being a school of communication and strategy, they have continuously engaged with government and NGOs so that they can use communication tools efficiently and effectively for social development.

### Registered Office

MICA, Shela, Ahmedabad,  
Gujarat 380 058

### Recognition status

File No.: 13/146/1994-TU-V

Initial Recognition: 1994

Valid Until : March 31, 2019

### R&D Manpower

Doctorates: 2

PGs & Graduates: 22

## Research Areas

- Communication and media
- Media and entertainment
- Developmental communication
- Digitization, advertising, and branding
- Consumer insight mining
- Creativity and innovation
- Entrepreneurship and entrepreneurial management
- Gender equality and women leadership

## Research Outcomes

- Papers published
  - » National: 21
  - » International: 40
- Books published: 2
  - » Conference proceedings: 7

## Technical Collaborations

School of Communications, Nanyang Technological University, Singapore; Institute of Applied Media Studies, Zurich; University of New Mexico, USA; University of Southern Denmark, Denmark; Queensland University of Technology, Australia; School of Communications Arts, Bangkok University, Thailand; Bonn-Rhein-Sieg University of Applied Sciences, Sankt Augustine, Germany

## Societal Relevance

- Communication strategy for WASH for municipal schools and adjacent slum communities: MFFCRE designed the communication strategy for WASH for an action research project with urban management centre, Ahmedabad, thus furthering the work of the Swachh Bharat Mission in 2016/17. This project has reached out to urban municipality schools and adjacent slum communities.
- Coffee Table Books (i) Water and Sanitation Management Organization (WASMO) documented the milestones of

the water amenities in Gujarat and the life-changing support offered to a majority of the villages in the state (ii) Sardar Sarovar Punarvasvat Agency (SSPA), Vadodara, documented the milestones of rehabilitation and resettlement of the the Sardar Sarovar project.

- Skill/capacity development programmes – 93 gazette, class 2 and 3 officers along with technical and supervisory officers from the Directorate of Information, were trained in media and creative communication, planning, and management.

## Remarks

- Being a school of communication and strategy, the foundation has continuously engaged with the government and various NGOs so that they can use communication tools efficiently and effectively for social development.
- The MFFCRE has a community radio station (MICAVAANI) which runs and educational programmes for the surrounding rural areas. 🔍



^ Nalanda Dance Research Centre Studio

## NALANDA DANCE RESEARCH CENTRE

### Brief Description

Nalanda Dance Research Centre is a premier institution that enjoys a unique position in the world of dance and education. This is the only dance institute in the country which is recognized as a research centre by the Ministry of Science and Technology, Government of India, for the past 25 years. Established in 1967 by the renowned dance exponent and scholar Dr Kanak Rele, the institution imparts traditional training in classical Indian dancing. By 1973, Nalanda blossomed into a unique, three-tiered institution with classes for pre-university children; Nalanda Nritya Kala Mahavidyalaya, a college of classical dancing affiliated to the University of Mumbai, provides formal academic education for post-doctoral research.

Nalanda Dance Research Centre is a non-government public trust that is registered as a society.

### R&D Setup

Research facilities/infrastructure and its usage by local industries/institutions/individuals

- Space: approximately 3,500 sq.ft
- Fully equipped recording-cum-editing studio with electronic equipment
- Research-cum-reference library

### Sources of income for R&D

- Grants
- Donations
- Fees

### R&D expenditure (₹ in lakhs)

This SIRO is maintaining separate accounts for R&D

FY 2014/15 = 22.23

FY 2015/16 = 28.25

FY 2016/17 = 28.21

### R&D Achievements

#### Research projects

- Nalanda's pioneering contribution in creating awareness regarding the ancient art of classical dance as a serious branch of study is unique in the country. Nalanda pioneered in the newly emergent discipline, dance pedagogy.
- Researching and preparing a two-year postgraduate professional degree course for the University of Mumbai titled Master of Movement Science Research is being carried on under the aegis of Nalanada's Institute of Movement Science. The course is unique and has been introduced in India for the first time as a postgraduate professional degree at a premier university; this will be ideal for aspiring young therapists and analysers.
- Rejuvenation of the dance style Mohini-Attam: This exquisitely lyrical dance style from Kerala was facing extinction. Dr Kanak Rele (Director, Nalanda Dance Research Centre) and the research centre have played a key role in its research analysis and rejuvenation. In 2013-14 Nalanda published the second revised edition of Kanak Rele's seminal book *Mohini Attam*:

#### Registered Office

Nalanda Dance Research Centre,  
Plot A-7/1, N S Road No.10,  
J V P D Scheme, Vile Parle (West),  
Mumbai, Maharashtra 400 049

#### Recognition Status

File No. : 13/49/1988-TU-V

Initial Recognition: 1988

Valid Until: March 31, 2018

#### R&D Manpower

Doctorates: 3

PGs & Graduates: 4

### Research Areas

- Classical Indian dance and allied subjects

### Research Outcomes

- Books published: 1
- Technologies transferred :  
The courses of study prepared by Nalanda for various universities in India and abroad as well as for official government councils and academies is transfer of know-how regarding classical dance and allied subject.

*The Lyrical Dance*. This book is now followed as a text book by many universities and institutions and gives immense benefit to the performing arts fraternity and art lovers.

- Preparing the dance syllabus for the NCERT: Dr Kanak Rele, Director, Nalanda Dance Research Centre, played a major role in this endeavour. Her contribution was based on the pedagogical research carried on at Nalanda over decades of study.

### Societal Relevance

Nalanda's research programmes and various courses, especially dance and fitness which highlight the efficacy of yoga and ancient martial arts, contribute towards the Swastha Bharat mission. Nalanda's programmes enhance the fame and tradition of 2000-year-old Indian classical dance.

Nalanda provides services at the university-level educational course as well as other teaching programmes. 🔍



^ India Human Development Survey

## NATIONAL COUNCIL OF APPLIED ECONOMIC RESEARCH

### Brief Description

Established in 1956, the National Council of Applied Economic Research (NCAER) is India's oldest and largest independent, non-profit, economic policy research institute. The NCAER focusses on generating and analysing empirical evidence to support and inform policy choices. It is also one of a handful of think-tanks globally that combine rigorous analysis and policy outreach with deep data collection capabilities, especially for household surveys. The Ford Foundation provided strong financial support in the early years, combined with support from the Ministry of Finance, Government of India, and Tata Sons.

The NCAER is a society registered under the Societies Registration Act XXI of 1860.

### R&D Set-up

The research facilities and infrastructure of the institution are being used by the academia, research scholars, and the industry on a regular basis for their work. The NCAER regularly disseminates its research findings through its publications, reports, press briefings, book launches, etc. It has an effective outreach programme through its website and presence on facebook, YouTube, and Twitter. The infrastructure includes:

- T Centre; library; and publication unit

### Sources of income for R&D

- Donations
- Grant-in-aid

- International funding
- International aid agencies and foundations
- Government ministries and agencies
- Private sector; interest and other sources

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 1,388.68

FY 2015-16 = 1,588.54

FY 2016-17 = 1,609.02

### R&D Achievements

#### Research Projects

- The NCAER deploys cutting-edge methods and uniquely focussed data in its work and has set up an NCAER National Data Innovation Centre of innovation and excellence in data collection that will build research capacity to strengthen the domestic data ecosystem.
- With its unique data offerings such as India Human Development Survey, the NCAER enables policymakers and researchers using the NCAER's panel data to explore and understand the world's largest economic and social transformation that is underway in India.
- The NCAER has undertaken unique studies during the recent years. A few examples include, Kerala State Plan; Land Pooling study on urban development;

#### Registered Office

National Council of Applied Economic Research,  
Parisila Bhawan, 11 IP Estate,  
New Delhi 110 002

#### Recognition Status

File No.: 13/81/1988-TU-V

Initial Recognition: 1988

Valid Until: March 31, 2017

#### R&D Manpower

Doctorates: 28

PGs & Graduates: 17



## Research Areas

- Growth, macroeconomics, trade, international finance, and economic policy
- The investment climate, industry, domestic finance, infrastructure, and labour
- Agriculture, natural resource management, and the environment
- Poverty, human development, equity, and gender and consumer behaviour

## Research Outcomes

- Papers published
  - » National: 15
  - » International: 16
- Books: 4
  - » Working papers: 8
  - » Technical reports: 68

State Investment Potential Index; Developing a State-level Index of DBT Readiness to implement direct benefit transfers (DBT); Study on India's skilling challenges; Matching reforms on the ground to improvements in the 'Ease of Doing Business' index; and, Impact assessment of the Digital India Land Records Management Programme.

## Technical Collaborations

### National

NITI Aayog, Delhi; National Institute for Public Finance and Policy, Delhi; Indira Gandhi Institute for Development Research, Maharashtra; Indian Council for Research in International Economic Relations, Delhi; Centre for Policy Research, Delhi; India Development Foundation, Delhi; Madras Institute for Development Studies, Tamil Nadu; Institute for Social and Economic Change, Karnataka

### International


Policy Research Institute, Ministry of Finance, Japan; National Bureau of Economic Research; Institute for Social Research, University of Michigan; The University of Maryland, US; Australian National University; Monash University; Victoria University; Melbourne and ACIAR, Australia; etc.

## Societal Relevance

Being an applied economic policy research institute, the NCAER continues to strive for generating, analysing, and providing new empirical evidence to understand the huge transformation that India is going through to drive good economic policymaking and positive change. This is evident in the studies that the NCAER has carried out in

the recent past or that are currently underway.

- Recently completed studies include decentralization and rural governance, Kerala State Plan, Land Pooling study on urban development, India Human Development Surveys, National Survey of Household Income and Expenditure, preparation of Agricultural Outlook reports, Green House Gas emission, Gas Price Pooling Policy, and State Investment Potential Index.
- Studies currently underway include developing a state-level index of direct benefit transfers (DBT) readiness to implement DBTs; study on India's skill challenges focussing on the three critical elements—employment, employability, and education; research on women's control over resources and economic transformation; etc.
- Further, many of the studies that the NCAER carries out every year continues to have a considerable policy impact and the NCAER's work based on the unique data sets, rural household panel data, the Rural Economic and Demographic Survey (REDS), the India Human Development Survey (IHDS I and II), and the National Survey of Household Income and Expenditure (NSHIE) earlier known as the Market Information Survey of Households (MISH) surveys continue to have far-reaching research and policy implications.

All the above studies conducted by the NCAER has relevance to Swachh Bharat, Clean Energy, Digital India, Make in India, Swastha Bharat, Skill India, and so on. 



^ International Programme on Banking and Finance, March 2–14, 2015

## NATIONAL INSTITUTE OF BANK MANAGEMENT

### Brief Description

The National Institute of Bank Management (NIBM) was established in 1969 by the Reserve Bank of India, in consultation with the Government of India, as an autonomous apex institution for research, training, education, and consultancy in bank management. As a research entity in the area of social science, NIBM has a special thrust on banking/finance and has been interacting with the RBI/banks/Government of India. NIBM is established, promoted, and guided by a board headed by the Governor, RBI.

NIBM is a non-governmental, autonomous trust.

### R&D Set-up

The research facilities and infrastructure of the institution are being used by the research students of the University of Pune and senior bankers. These include the following:

- A 62-acre campus covering office premises, residential accommodation, a lecture hall, library, hostel and cafeteria, sports facilities, and so on.
- A well-stocked library
- A computer centre

### Sources of income for R&D

Contribution for training programmes

### R&D expenditure (₹ in crores)

The SIRO is maintaining separate accounts for R&D.

- FY 2014-15 = 20.38
- FY 2015-16 = 22.83
- FY 2016-17 = 31.26

### R&D Achievements

#### Products/processes/ prototypes developed

- Validation of VaR Models for Andhra Pradesh
- Succession planning, leadership position, and talent hunts for DGM/AGM of the Central Bank of India
- Approval of RFP to engage consultant for design and implementation of comprehensive talent management, leadership development, and succession planning process for Corporation Bank
- Validation of ICAAP for the Bank of Maharashtra
- Personal Banking: customer study for the State Bank of Mysore
- Study on the cost of cash in India for Tufts University, Boston, USA
- Study of beta of the Indian Telecom Service Sector for the Telecom Regulatory Authority of India

#### Research projects

- Impact of implementation of Ind-AS on credit rating of borrowers in the following sectors: manufacturing, telecom, pharma, and IT
- Branch risk profile for risk assessment under risk-based internal audit
- Formats for conduct of risk assessment under risk-based internal audit

#### Registered Office

National Institute of Bank Management,  
NIBM Post Office, Kondhwe  
Khurd, Pune, Maharashtra 411 048

#### Recognition Status

File No: 13/50/1988-TU-V  
Initial Recognition: 1988  
Valid Until: March 31, 2018

#### R&D Manpower

Doctorates: 27  
PGs & Graduates: 6

## Research Areas

- Finance
- Human resource management
- Information technology
- Money, international banking and finance
- Rural finance and development

## Research Outcomes

- Papers published
  - » National: 9
  - » International: 14
- Books published: 5
- Conference proceedings/presentation: 26
- Publishing *Prajnan: Journal of Social and Management Sciences*
- Publishing *Vinimaya*: A quarterly journal

- Customer segmentation analysis in banks: k-means clustering approach
- Financial awareness amongst Gen Next
- Management of financial inclusion for value creation
- Achieving operational efficiencies: Management of the credit function
- Bank finance to the service sector (focus is on: education, hotels, hospitals, and cold storage)
- Credit management in banks in India
- Conducive impact of packing credit against short-term bank loans in financing export
- A business model for banks: A documentation and analysing of the existing approaches and concepts

- Competency profiling for the branch heads in PSU banks
- Study report on improving the efficiency of the retail payment system in India
- Development of cases in the marketing of banking services

## Technical Collaborations

- Research centre for Postgraduate research in commerce and management of the University of Pune

## Societal Relevance

The NIBM supports the banking industry in providing services to society. The institute is a capacity-building unit for the banking sector.

## Remarks

- NIBM supports the banking industry in providing services to society. NIBM is a capacity-building unit for the banking sector. 🔍



^ RCBC pilot programme on Advance Macroeconomic Modelling, March 15–16, 2017

## NATIONAL INSTITUTE OF PUBLIC FINANCE AND POLICY

### Brief Description

The National Institute of Public Finance and Policy (NIPFP) is a premier research institution in public economics and policies. The institute has made significant research contribution in the areas of revenue and taxation, fiscal management, public expenditure, macro-economic policies, fiscal federalism, and other public finance and policy issues both at the central and the state level. NIPFP undertakes training programmes on various aspects of public policy in general, and on themes in the area of public economics in particular. NIPFP extends its support to public policy formulation not only through research, but also through representation of NIPFP faculty in various committees and commissions of the central and state governments.

NIPFP is a society (autonomous body) registered under the Societies Registration Act, 1860.

### R&D Set-up

#### Research facilities / infrastructure and its usage by local industries/institutions/ individuals

- Leasehold land; building
- Data-processing equipment; office equipment
- Furniture/fixtures
- Horticulture equipment

#### Sources of income for R&D

- Grant-in-aids from central/state governments and

- Income from academic activities and interest and other income

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 1,694.50

FY 2015-16 = 1,868.71

FY 2016-17 = 1,977.01

### R&D Achievements

#### Research projects

- A Study of Intergovernmental Fiscal Transfers in India
- Understanding High Unspent Balances and Fund Flow Mechanism in Major Rural Development Programmes
- Bottlenecks and Opportunities in Public Financial Management and Fund Flows for the Health Sector in India
- Medium-term Fiscal Plan (MTFP) under the FRBM Act of Sikkim.
- Estimation of Health Care Expenditure by the Rural Local Bodies
- Classifying Public Expenditure for India's National Health Accounts
- Understanding Governance and Public Finance Bottlenecks in Achieving Development Goals in Madhya Pradesh
- Fiscal Policy Practices on Mining: Effective States for Inclusive Development
- Have Newly Created Indian States Promoted Inclusive Development? A Comparison of Jharkhand and Chhattisgarh

### Registered Office

National Institute of Public Finance and Policy,  
18/2 Satsang Vihar Marg,  
Special Institutional Area,  
New Delhi 110 067

T: 011 26569303

E: arunoday.kumar@nipfp.org.in

W: www.nipfp.org.in

### Recognition status

File No.: 13/80/1988-TU-V

Initial Recognition: 1988

Valid Until: March 31, 2017

### R&D Manpower

Doctorates: 24

PGs & Graduates: 46

## Research Areas

- Public finance and policy
- Taxation and revenue
- Public expenditure and fiscal management
- Macroeconomic aspects
- Intergovernmental fiscal relations
- State planning and development

## Research Outcomes

- Papers published
  - » National/International: 115
- Books/chapter in books/monographs and edited volumes: 99
- Conference proceedings: 97

- Issues before the Tamil Nadu Fifth State Finance Commission
- Foreign Borrowing by Indian Firms: Implications for Growth and Macroeconomic Stability
- Developing Various Models of Business Plan for Continuous Enrolment, Update and other Services to be offered by UIDAI
- The Review of Compliance of the Government of Odisha to the FRBM Act - 2013-14
- Preparing MDG Report for the State of Madhya Pradesh
- Study on Development of an Analytical Model for Widening of the Taxpayers' Base
- Financing Healthcare Expenditure in India

## Technical Collaborations

### National

- Ministry of Rural Development, Government of India; Ministry of Health and Family Welfare; Central Board of Direct Taxes; Government

of Sikkim; Government of Tamil Nadu; Government of Odisha; National Health Systems Resource Centre (NHSRC), Ministry of Health and Family Welfare; Expenditure Management Commission, Ministry of Finance, Government of India

### International

- *Unique Identification Authority of India (UIDAI)*; Governance Institute Network International, Islamabad; IDRC, Canada; World Health Organization, UNICEF, Bhopal; University of East Anglia, UK; International Growth Centre, London School of Economics and Political Science, UK

### Societal Relevance

- The NIPFP's data on its research activities, in the form of reports, working papers, books, newsletters, annual reports, and one-pagers (summary of reports) are disseminated to the public through the institutes' website. 🔍



^ Natya Shodh Sansthan Studio

## NATYA SHODH SANSTHAN

### Brief Description

Natya Shodh Sansthan is India's largest repository of archival material and documentation covering the entire history of Indian theatre. This documentation can be found in all its different languages, with special emphasis on folk and traditional forms and post-Independence Indian theatre, in the form of original manuscripts, books, periodicals, newspaper clippings, reviews, audio recordings on gramophone discs and photographs, slides and audio cassettes, video recordings, films, stage models, production scripts, masks, costumes, stage ornaments, publicity material (for example, folders, posters, handbills, and so on), and exclusive recorded interviews with theatre personalities.


Natya Shodh Sansthan is a non-governmental organization registered under the Societies Registration Act.

### R&D Set up

The research facilities and infrastructure of the institution are being used by the academia and individuals. These include a library, an audio and video section, and a photograph and research section. The sansthan's library and archives host a giant collection of contemporary documents centred around Indian theatre.

### R&D Achievements

Presently working on a compendium of Theatre in Bengal, which is slated to be published by the Natya

Shodh Sansthan, the institution has published several books on theatre and theatre-persons in Hindi, Bangla, and English. The sansthan is in possession of a formidable collection of interviews, discussions, and talks with theatre persons, playwrights, theatre directors, actors, light and set designers, music directors, and singers from various parts of the country. This apart, recordings of seminars organized by the sansthan with well-known theatre academics and practitioners of national and international repute as participants have added value to the archives. 

### Research Areas

- Theatre research and documentation

### Registered Office

Natya Shodh Sansthan,  
Flat 61, Shalimar Apttts.,  
42B, Shakespeare Sarani,  
Kolkata 700 017, West Bengal  
T: 033 2289 3624/23595159  
E: natyashodh@rediffmail.com/  
natyashodh@vsnl.net  
W: www.natyashodh.org

### Recognition Status

File No. : 13/266/2011-TU-V  
Initial Recognition: 2011  
Valid Until: March 31, 2017

### R&D Manpower

Doctorates: 3  
PGs & Graduates: 4



^ Prayas' bamboo-based handicrafts programme

### Registered Office

Prayas  
# 8, Vijay Colony,  
Near Railway Station,  
Chittorgarh, Rajasthan 312 001  
T: 01472 243788  
E: info@prayaschittor.org  
W: www.prayaschittor.org

### Location of R&D Units

- Pratapgarh, Udaipur, Jaipur, Rajasthan
- Ahmedabad, Surat, Gujarat

### Recognition Status

File No.: 13/270/2012-TU-V  
Initial Recognition: 2012  
Valid Until: March 31, 2018

### R&D Manpower

PGs & Graduates: 16

## PRAYAS

### Brief Description

Prayas (meaning endeavour) is a voluntary organization working for social, political, and economic development in the Chittorgarh district of southern Rajasthan. Established in 1979, Prayas, as its name suggests, is distinguished primarily by its evolving, socialistic orientation. It has taken up many kinds of issues and a variety of projects, which sometime have multiple purposes. In the course of time, more than two decades, Prayas has been characterized by creative efforts and experimental attitudes. Diverse adventures and events, have, therefore, marked these years.

Prayas is a registered charitable trust.

### R&D Set-up

#### Sources of income for R&D

- Government funding
- International funding
- Donations

### R&D expenditure (₹ in lakhs)

FY 2014-15 = 400.31

FY 2015-16 = 379.97

FY 2016-17 = 488.29

### Societal Relevance

Awareness programmes conducted by Prayas are highly useful in reducing out-of-pocket expenditure in medical care.

### Research Areas

- Pricing of medicines
- Out-of-pocket expenditure in health care
- Prevalence of hysterectomy
- Interstate distress migration



Research activities of the RDS

### Registered Office

Rural Development Society,  
Flat No. 404, Block - B,  
Prestige Ray Towers, Panjagutta,  
Hyderabad 500 082, Telengana  
T: 040 23400750, 42305800  
E: info@researchrds.org  
W: www.researchrds.org

### Recognition Status

File No.: 13/281/2013-TU-V  
Initial Recognition: 2013  
Valid Until: March 31, 2019

### R&D Manpower

Doctorates: 6  
PGs/Graduates: 8

### Research Areas

- Fluorosis diseases
- Anti-cancer and HIV drugs
- Rural electrification
- Biotechnology
- Electronic security system for women
- Agriculture

### Research Outcomes

- Papers published:
  - » National: 6
  - » International: 17
- IPRs held  
Patents (in process): 4

## RURAL DEVELOPMENT SOCIETY

### Brief Description

Rural Development Society (RDS) was established in 1993 to do service to the rural and urban people in the various sectors. The RDS has focussed on building expert core capabilities in synthetic chemistry, medicinal chemistry, process development, fluorosis, alternate energies, security systems for women, and miscellaneous programmes for the rural areas in a stipulated time frame. The institute adapts research activities in various fields of science and technology, which are in tune with the vision and mission of the Government of India. These programmes are slated to be executed in due course of time with the support and advice of national and international team of experts.

The RDS is an NGO society registered under the Societies Registration Act.

### R&D Set-up

The research facilities and infrastructure of the institution are being used by the academia and individuals. These include their analytical, chemical, and biotechnology laboratories.

### Sources of income for R&D

Donations

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 4.80

FY 2015-16 = 1,267.27

FY 2016-17 = 2,276.53

### R&D Achievements

A few of prominent programmes undertaken by the RDS are:

- Organizing health camps, seminars, conferences, workshops, etc. (in various fields of science and technology)
- Woman empowerment programmes, such as training on tailoring and embroidery; honeybee cultivation; help to the elderly and disabled people; training on agriculture to the farmers; organizing health camps on various life-threatening diseases, HIV, cancer, pneumonia, diabetes and blood pressure, etc.)
- Defluoridation of water: High levels of fluoride (3 ppm–15 ppm) are found in several countries all over the world and in many states in India. The RDS has been looking into some simple, inexpensive, and convenient methods for defluoridation, which can be easily adopted in the rural areas.
- Tailoring training programme: Vocational training programmes have proven to be a cost-effective way of giving underprivileged women the necessary skills to break into the labour market.
- Health camps: The RDS organized comprehensive health camps to impart health education and sensitize communities on various preventive and primitive healthcare issues.
- HIV/AIDS: Awareness Programme: Constructive, coordinated, and consistent programmes are being conducted that will help communities in combating HIV/AIDS in a better way.

### Societal Relevance

- Conducted fluoride awareness programmes. 🔍





^ IT facilities at SPIESR

## SARDAR PATEL INSTITUTE OF ECONOMIC AND SOCIAL RESEARCH

### Brief Description

Sardar Patel Institute of Economic and Social Research (SPIESR) is a leading social science research institute in India. With the valuable cooperation of the Gujarat government, businessmen, and the Gujarat industrialists, the institute started its academic activities in 1969 with Professor D T Lakdawala as its founder director. From the very beginning, the institute has attached importance to the organization of information in a coherent framework and on research-based information generation for specific research and policy requirements. Topics of research range from regional and national to international issues. The major emphasis reflected in the institute's studies has been on quantitative economic research. Theoretical analysis, economic modelling, and applied economic research based on field work and secondary data have also been undertaken. Gujarat's economy, given the location of the institute, has been an important focus of research both as a testing ground for received knowledge as well as to have a viewpoint on region-specific problems.

SPIESR is a non-governmental trust registered under u/s 35(i)(iii) of the Income Tax Act, 1961.

### R&D Set-up

The research facilities and infrastructure of the institution are being used by the academia and individuals. These include:

- Library

- IT facilities
- Seminar facilities

### Sources of income for R&D

- Donations
- Grant-in-aid
- International funding
- Project-related income

### R&D expenditure (₹ in lakhs)

FY 2014-15 = 266.17

FY 2015-16 = 272.88

FY 2016-17 = 245.54

### R&D Achievements

- The institute has been identified as the leading institute for Gujarat by the Government of Elementary Education and Literacy, Ministry of Human Resource Development, for monitoring the national programme for the Universalization of Elementary Education under the Sarva Shiksha Abhiyan.
- The studies cover wide-ranging areas of theoretical and applied economics. The most relevant subjects are selected for a detailed study and each one of them has direct policy implications. Apart from studies focused on the Gujarat economy, there are many research projects relating to national and international themes.

### Research projects

- Dynamics of labour use by cotton growers in Gujarat.
- The post liberalization rural transformation in Gujarat:

### Registered Office

Sardar Patel Institute of Economic and Social Research, Thaltej Road, Ahmedabad 380 054, Gujarat  
T: 079 26850598, 26857428  
E: info@spiesr.ac.in  
W: www.spiesr.ac.in

### Recognition Status

File No.: 13/84/1988-TU-V  
Initial Recognition: 1988  
Valid Until: March 31, 2017

### R&D Manpower

Doctorate : 3  
PGs/Graduates: 11

### Research Areas

- Quantitative economic research
- Theoretical analyses
- Economic modelling
- Applied economic research

### Research Outcomes


- Papers Published
  - » National: 9
- Books published: 1
- Technical reports/working papers: 10
- Conference proceedings: 15

Economic, social and environmental consequences

- Sabarkantha District Human Development Report
- RIDF impact-evaluation study for irrigation in Gujarat
- Status of Rashtriya Madhyamic Siksha Abhiyan in Gujarat

- Study of the midday meal scheme in Gujarat
- Study of the Sarva Shiksha Abhiyan in Gujarat

### Technical Collaborations

- Sarva Shiksha Abhiyan; Ministry of Rural Development, New Delhi. 



^ Activities conducted by SEWA

## SOCIETY FOR EDUCATION WELFARE AND ACTION – SEWA RURAL

### Brief Description

Society for Education Welfare and Action (SEWA Rural) is a voluntary, development-oriented institution that has been working for improving the health of the rural people in and around the area of Jhagadia in south Gujarat. Inspired by the ideals of Swami Vivekananda and Gandhiji, the activities were started by a group of educated young professionals with work experience in India and abroad. It has been the endeavour of SEWA Rural to reach out to improve the lives of the poor and underprivileged through a variety of health, education, and economic development-related programmes based on the needs of the community in these aspects.

SEWA is a non-governmental registered trust as well as a registered society.

### R&D Set-up

- The data storage and management centre along with the administrative area is located at the main campus in Jhagadia (2,105 sq. ft).
- The training and resource centre is located at a distance of 5 kilometres from the main campus where the training of research and field staff is conducted (9,245 sq. ft).
- Hospital-based research is conducted at SEWA Rural hospital in an area of sq. ft 4,581. All the three areas are well equipped with the electronic support and Internet connectivity, two-wheeler vehicles for field support, mobile

phone, and office furniture as per requirements.

### Sources of income for R&D

- Government sources
- Donations
- International funding

### R&D expenditure (₹ in lakhs)

FY 2014-15 = 58.3

FY 2015-16 = 53.5

FY 2016-17 = 20.8

### R&D Achievements

#### Research projects

- Cluster randomized trial of a health intervention to improve the delivery of the proven MNCH interventions through community-based accredited social health activists by enhancing their motivation and strengthening supervision in the tribal areas of Gujarat.
- Effectiveness of hospital-centric comprehensive sickle-cell care programme on the improvement of the coverage of the proven interventions of sickle-cell disease.

### Technical Collaborations

- NIIH, Mumbai
- District Health Society, Narmada
- District Health Society, Bharuch
- NEHA, Madhiwala
- Kutch Mahila Vikas Sangathan
- Population Research Centre, Vadodara

### Registered Office

Society for Education Welfare and Action (SEWA Rural),  
SEWA Rural, Post: Jhagdia,  
Bharuch, Gujarat 393 110  
T: 02645220868  
E: sewarural@gmail.com  
W: <http://sewarural.org>

### Recognition Status

File No.: 13/276/2013-TU-V  
Initial Recognition: 2013  
Valid Until: March 31, 2019

### R&D manpower

PGs/Graduates: 26  
Others: 1

### Research Areas

- Implementation research
- Maternal, new born, and child health care
- Malnutrition
- Sickle-cell disease

### Research Outcomes

- Papers published
  - » National/international: 6
- Conference Proceedings: 3
- Technical Report: 1

### Societal Relevance

- SEWA developed a hospital-based comprehensive sickle cell disease model to improve the coverage of the proven intervention for sickle-cell disease. The relevance of this programme will be tested by how efficiently the model is executed.
- SEWA developed the technology ImTeCHO—a mobile phone application. The relevance of this

technology is empowering 500 ASHAs (accredited social health activists) by improving the support and supervision by innovative mobile phone technology which ultimately leads to an improved coverage of maternal, new born, and child health proven interventions. 🔍



^ Services provided by IIDM

### Registered Office

Society for Institute of Development Management, E-7/136 Lajpat Society, Arera colony, Bhopal 462 016, Madhya Pradesh  
T: 0755 2426109

E: iidmbpl@gmail.com

W: <http://iidmindia.com>

### Location of R&D Units

- Delhi, Delhi (NCR) Haryana
- Bilaspur, Chhattisgarh
- Mumbai, Maharashtra
- Kolkata, West Bengal
- Roorkee, Uttarakhand
- Puranpur and Pratapgarh, Uttar Pradesh
- Jaipur and Chittorgarh, Rajasthan
- Guwahati, Assam
- Bhubaneswar and Jharsuguda, Odisha
- Surat, Gujarat
- Patna, Bihar and Jharkhand
- Raipur, Chhattisgarh

### Recognition Status

File No.: 13/267/2012-TU-V

Initial Recognition: 2012

Valid Until: March 31, 2018

### R&D Manpower

Doctorates: 5

PGs/Graduates: 8

## SOCIETY FOR INSTITUTE OF DEVELOPMENT MANAGEMENT

### Brief Description

The Indian Institute of Development Management (IIDM) is a well-established organization in the country. It works in the areas of developmental research that uses modern research, management, and communication tools. IIDM was established in the 1996 in Bhopal with a vision of empowering the underdeveloped and underprivileged by facilitating their transformation for economic empowerment. As a major enabling factor, such as nutrition, hygiene, women and child development, governance and ease of business and developmental communication, rural and urban development, and livelihood generation were given prominence by IIDM.

IIDM was established in 1996 in Bhopal as a consulting, training, and research organization. It was registered as society for the Institute of Development Management under MP Government Societies Act, 1973, in Bhopal in the year 1999–2000.

### R&D Set-up

- Fully furnished, Wi-Fi library with 1,000+ books along with a digital library
- The building is owned by the institute
- A well-equipped training hall
- A total of 7 computers and 10 laptops

### Sources of income for R&D

Government sources

### R&D expenditure (₹ in lakhs)

FY 2014-15= 33.02

FY 2015-16= 25.98

FY 2016-17= 43.15

### R&D Achievements

#### Major Research projects

- Evaluation of innovations in the Indian governance have been awarded by the Prime Minister of India. The institute carried out the evaluation for 13 innovations in 10 states of the country, which included Sakala online public services in Karnataka, revival of Sasur Khaderi River in UP, etc.
- The Annual Health Survey in Uttarakhand for Clinical Anthropometry & Biological data was sponsored by the Registrar General of India, Ministry of Home Affairs, the Government of India.

### Technical Collaborations

#### National

- Administrative Staff College of India, Hyderabad; National Institute of Nutrition, Hyderabad

#### Societal Relevance

- The Behaviour Change Communication Model developed by IIDM helped in improving health-seeking behaviour for the Swasth Bharat Programme.


### Research Areas

- Health system research
- Development, communication and media research
- Reproductive child health
- Family welfare
- Health hygiene
- Operation research

### Research Outcomes

- Technical report: 1

- An evaluation of the innovation in governance has resulted in various takeaways. These takeaways have helped approximately 80 replications of 13 innovations

in several Indian states. The Administrative Staff College of India, Hyderabad, used these findings in supporting their replications. 



▲ Rupantar 'Training the Teachers' project

## SRI AUROBINDO SOCIETY

### Brief Description

Sri Aurobindo Society is a not-for-profit NGO which has its activities spread globally. The society with its spiritual and philosophical inclinations works towards achieving individual perfection, social transformation, and human unity and solidarity in diversity. It invites participation from all who want to work together for a better tomorrow, with no distinction of nationality, religion, caste, or gender.

Sri Aurobindo Society is a registered as a society in Kolkata, India, under the Societies Registration Act of 1860.

### R&D Set-up

#### Research facilities/ infrastructure and its usage by local industries/institutions/ individuals

- Educational equipment (Nikon Coolpix P-520 digital camera; Canon digital camera-IXUS-145; Ozone generator and recal tube; broadcasting equipment-Install., Broadcasting equipment - Mats)
- Computers (HP laser jet-for SAFIM; dual core assembled desktop; laptops; and I Mac Apple computers) Electrical equipment, water plant SARVAM Forbes
- Furniture and fixtures

#### Sources of income for R&D

- Donations
- Grant-in-aid
- international funding

### R&D expenditure (₹ in lakhs)

FY 2014/15 = 805.83

FY 2015/16 = 1278.57

FY 2016/17 = 1615.63

### R&D Achievements

- Sharanam-I: Sustainable Development Phase-I Research Development and Training in the fields of architecture engineering materials and construction techniques at Sharanam.
- The Access English Training Programme trained all the students from the villages to speak and learn English.
- Integral Rural Development Programme completed 10 years via the sustainable and inclusive growth of rural India through a synergic, multipronged strategy.
- Ahar I, a pilot scientific study, was undertaken by Sri Aurobindo Society to validate the efficacy of homoeopathic preparations in boosting plant growth.
- Prisoners' reformation, and rehabilitation, research in sensitization, awareness and knowledge-building on the prisoners' rehabilitation for the inmates of Central Prison in Puducherry.

### Technical Collaborations

#### National

Tata Institute of Social Sciences (TISS), Mumbai; HDFC Bank; Tata Trusts; Larsen & Toubro; Infrastructure

#### Registered Office

Sri Aurobindo Society,  
Society House No. 11,  
St. Martin Street,  
Puducherry 605 001  
T: 0413 2330331  
E: vijay@aurosociety.org  
W: www.aurosociety.org

#### Recognition Status

File No.: 13/53/1988-TU-V  
Initial Recognition: 1988  
Valid Until: March 31, 2017

#### R&D manpower

Doctorates: 5  
PGs/Graduates: 54

### Research Areas

- Integral education/transforming education
- Rural development
- Integral management
- Research in Indian culture and Sanskrit
- Palliative care
- Integral health
- Sustainable development
- Creative centre for learning in media, arts, and communication

### Research Outcomes


- Papers published
  - » National: 4
- Books published: 6
- Conference proceedings: 12

& Finance Company; Bajaj Auto Limited; State Governments of Puducherry; Uttar Pradesh, Jharkhand and Chattisgarh; Indian Institute of Technology, Madras; National Institute of Rural Development (NIRD); Indian Institute of Technology, Kharagpur

### International

University of Oregon, Eugene, Oregon, USA; US Embassy, India

### Societal Relevance

- Around 100 eco-friendly and low-cost toilets in rural India have been constructed. The absence of toilets in villages makes people susceptible to diseases that spread through open defecation that further damages the environment and health as toilet waste mixes with drinking water. Constructing toilets would help address this challenge that the people in rural India face every day.
- Preparing training modules for Rupantar, a strategically designed initiative, in order to impart training to teachers across the states of Uttar Pradesh, Jharkhand, and Chhattisgarh. It provides a platform where the state and central governments, non-profit organizations, corporates, and volunteers come together for the development of a progressive education system in India.
- Contributes towards a transformative change, thus by virtue of its collaboration with IIT Madras, the society seeks to do meaningful work in areas, such as social and rural entrepreneurship, rural and sustainable development, skill enhancement and livelihood, and integral education.
- Prepare transformative leadership modules for qualitative empowerment and to develop the panchayats across the country; promote smart-village approach/models; create awareness and transfer sustainable house-building, green energy technologies; and promote volunteerism through leveraging ICT and the respective contacts amongst others by establishing a partnership between the society and the NIRD.
- Collaborating with IIT, Kharagpur, specifically in research activities and programmes including sponsored projects from governments, corporates, etc. Develop appropriate, sustainable, and affordable technological innovations for social development which contribute towards a transformative change in the individual, the society, and the country, leading to a better India and a better world.
- Develop school leadership training programmes for all the states and union territories and organize in-service training programmes in the areas of educational planning and administration and allied disciplines in collaboration with the National University of Educational Planning and Administration (NUEPA). 



# SRI SHYAM SUNDAR 'SHYAM' INSTITUTE OF PUBLIC COOPERATION AND COMMUNITY DEVELOPMENT

## Brief Description

Sri Shyam Sundar 'Shyam' Institute of Public Cooperation and Community Development conducts research in the areas of population, health, and development. The institute carried out a number of evaluation studies in rural development, health, and family welfare. The institute is registered as a trust.

## R&D Set-up

The research facilities and infrastructure of the institution are being used by the academia and individuals. These include the following:

- Data processing equipment
- Data analysis software

## Sources of income for R&D

- Government sources
- Donations
- International funding
- Others (such as the sale of publications)

## R&D expenditure (₹ in lakhs)

FY 2014-15 = 29.03

FY 2015-16 = 22.78

FY 2016-17 = 27.81


## R&D Achievements

- Published several technical reports and conference proceedings/ presentations.
- Learning video and manual for the management of normal delivery,

especially in out of hospital settings.

- The following innovative analysis in developmental research has been done by the institute:
- Village- and municipal ward-level analysis of development data
- Population and development data mining

## Societal Relevance

- The institute's studies are highly relevant for evidence-based developmental planning and programming, especially at the local level.
- The research is related to the state of the population, health, and development in India. 

## Research Areas

- Population
- Health
- Development
- Monitoring and evaluation

## Research Outcomes

- Papers published in peer-reviewed journals:
  - » National : 5
  - » International: 1
- Book published: 1
- Monographs: 5

## Registered Office

Sri Shyam Sundar 'Shyam' Institute of Public Cooperation and Community Development, 61, Phase II, Riviera Towne, Bhopal, Madhya Pradesh 462 003  
T: 0755 4222756  
E: sansthan@shyaminstitute.in  
W: www.shyaminstitute.in

## Recognition Status

File No.: 13/274/2013-TU-V  
Initial Recognition: 2013  
Valid Until: March 31, 2019

## R&D manpower

Doctorates: 3  
PGs/Graduates: 3



^ The research and development team involved in data collection in a rural area

## SWEEKAR ACADEMY OF REHABILITATION SCIENCES

### Brief Description

Sweekar Academy of Rehabilitation Sciences (SARS) is a non-profit, non-commercial, multi-speciality rehabilitation centre rendering services to the mentally challenged, physically disabled, deaf, aged, drug addicts, widows, and the destitute. SARS has 25 service units, which act as laboratories for the training colleges for professionals where the disabled are given treatment by specialists under one roof. The motto of the academy is 'Rehabilitation from Womb to Tomb' and so far SARS has been able to extend its services to over 55 lakh beneficiaries. SARS is also conducting training programmes, ranging from giving diplomas, to post-graduation, Psy.D, and PhD courses recognized by the state, central government, and universities.

SARS is a society registered under the Societies Registration Act.

### R&D Set-up

SARS has the following infrastructure of which the library is highly sought after.

- Library room
- Monitoring cell
- Documentation cell
- Data collection cell
- Audiology equipment; rating scales and inventories (children); rating scales and inventories (adults); materials for the behavioural therapy unit; neuropsychological tests material; personality tests material; intelligence tests material

### Sources of income for R&D

- Grants, donations, and foreign contributions

### R&D expenditure (₹ in lakhs)

FY 2014-15 = 3.65

FY 2015-16 = 3.43

FY 2016-17 = 14.74

### R&D Achievements

#### Processed developed

The following two tests have been developed and one test is still under development:

- Telugu binaural fusion tests: This test was developed to test the binaural fusion abilities in Telugu speakers.
- Self-appraisal scale for those with a hearing impairment: This scale was developed to quantify the hearing impairment in individuals with auditory problems.

#### Test under development

- Hearing in a noise test (Hindi): This test will help in estimating the ability to perceive speech in the Hindi listener in the presence of noise.

#### Commercialization potential of products/processes developed

- » The outcome/products of research are used in the area of disability rehabilitation.

#### Consultancy services rendered

- » NGOs
- » National institutes and Government of Telangana and Andhra Pradesh

### Registered Office

Sweekar Academy of Rehabilitation Sciences, Upkaar Complex, Upkaar Junction, Opposite Jubilee Bus Station, Mudfort, Gunrock Enclave, Secunderabad, Telangana 500 003  
T: 040 6999 6666  
E: sweekaar@gmail.com  
W: <http://sweekaar.org.in/>

### Location of R&D Units

- Hyderabad and Tandur, Telangana

### Recognition Status

File No.: 13/133/1993-TU-V  
Initial Recognition: 1993  
Valid Until: March 31, 2019

### R&D manpower

Doctorates: 5  
PGs/Graduates: 7

### Research Areas

- Disability
- Language
- Speech
- Audiology
- Psychology
- Special education

### Research Outcomes

- Papers published:
  - » National: 1
  - » International: 2

### The following are the innovative services provided by the institute:

- Creating awareness/advocating/transfer of the relative findings of the research to students and community by taking initiatives, such as motivating and guiding students to be involved in various societies-related projects to improve the quality of life.
- Lectures on the value of rehabilitation science education by the institute's faculty members. The aim of the academy is to educate the students of senior/middle classes of the nearby schools. The findings of the research have been subsequently published.
- Implementing the tested methods in clinical teaching and services.

### Technical Collaborations

- Ali Yavar Jung National Institute for Persons with Speech and Hearing Disabilities (AYNISHD), Mumbai; National Institute for the Empowerment of Persons with Intellectual Disabilities (NIEPID), Secunderabad

### Societal Relevance

All the programmes conducted by SARS are directed towards the cause of betterment of the differently abled/disabled people of all age groups. The academy has successively participated in various governmental and non-governmental programmes and has contributed substantially in improving the quality of life. 🔍



▲ Survey by TALEEM

### Registered Office

TALEEM Research Foundation,  
City Plaza, Sterling City, Bopal,  
Ahmedabad, Gujarat 380 058  
T: 02717 231003 (D)  
E: director.taleem@gmail.com,  
taleemad1@sancharnet.in  
W: www.taleemindia.org

### Recognition Status

File No. : 13/197/1999-TU-V  
Initial Recognition: 1999  
Valid Until: March 31, 2019

### R&D manpower

Doctorates: 5  
PGs/graduates: 7

### Research Areas

- Population
- Health and nutrition
- Micro-finance
- Adolescents and women empowerment
- Education
- Environment
- Media studies

## TALEEM RESEARCH FOUNDATION

### Brief Description

TALEEM Research Foundation was set up in 1996 as an autonomous, literary, scientific, and charitable society and trust. TALEEM, meaning education and training, is also an acronym for Transnational Alternate Learning for Emancipation and Empowerment through Multimedia. The mission of TALEEM is to provide access and opportunities for world-class research and education both in residential and distance and open-mode learning leading to employment and income generation, to promote and conduct research and training.

The research foundation has been registered under the Societies Registration Act XXI of 1860.

### R&D Set-up

The research facilities and infrastructure of the institution are being used by the academia and individuals. These include Computers and IT related facilities; and Library.

### R&D expenditure (₹ in lakhs)

FY 2014–15 = 166.35

FY 2015–16 = 129.39

FY 2016–17 = 114.53

### R&D Achievements

#### Major Research projects

- Fisherman satisfaction study in three project villages of Coastal Gujarat Power Ltd (CGPL) in Mundra
- Consumer survey for Tonk City
- A baseline study for assessing the health impact on project

villages around CGPL  
Mundra (Kutchh)

- End-line coverage evaluation survey of Vitamin-A and other micronutrients amongst women and children in three districts of Chhattisgarh
- An assessment of Village Health Sanitation and Nutrition Committee (VHSNC) in improving the coverage and quality of Village Health Sanitation and Nutrition Day (VHSND) Services in Bihar
- Developing a communication plan for the four districts under the Swachh Bharat Mission in Madhya Pradesh
- Bihar Assembly Elections Opinion Poll 2015, Phase-I and II
- Delhi Vidhan Sabha Election 2015: An Analysis Phase I, II and III (2015)
- Maharashtra Vidhan Sabha Election 2015 Phase I and II (2014)
- 16th Lok Sabha Election Survey-2014, Phase-I and II
- Baseline coverage evaluation survey of Vitamin-A and other micronutrients amongst women and children in three districts of Chhattisgarh
- Environment concern, awareness, and perception of stakeholders in Gujarat: A study for strategy development
- Out-patient End-line Survey to Complement Rashtriya Swasthya Bima Yojana in Mehsana and Narmada districts
- Haryana Assembly Election 2014: An Opinion Survey. 🔍



### Registered Office

Tamil Isai Sangam, Tamil isai kalloori, Raja Annamalai Mandram, Chennai 600 108  
T: 044 25341958E:  
E: tamilisaisangam@yahoo.in  
W: www.tamilisaisangam.in

### Recognition Status

File No.: 13/200/1999-TU-V  
Initial Recognition: 1999  
Valid Until: March 31, 2019

### R&D Manpower

Doctorates: 20  
PGs/Graduates: 80

### Research Areas

- Tamil language research
- Tamil music research
- Research of Tamil instruments
- History, the development of Tamil Music
- Pann Araichi (Pann research)
- Relationship with Carnatic music with a reference to Panns

### Research outcomes

- Papers published
  - » National/International: 3
- Books published: 3
- Conference proceedings/ presentations: 3

## TAMIL ISAI SANGAM

### Brief Description

The Tamil Isai Sangam located in Chennai was founded in 1943 by Raja Sir Annamalai Chettiar. The association was formed with the aim to promote Tamil music. The association believes in promoting and preserving a pure form of ancient Tamil music popularly known as the Tamil Isai throughout Tamil Nadu. The current president of the association is Judge P R Gopalakrishnan. Since the 1940s, the association has supported a college, the Tamil Isai Sangam College, for the instruction of Tamil music. Every month, the association hosts a musical festival promoting the understanding of Tamil music. The association is heavily invested in attempting to increase the awareness of pure Tamil Music (Tamil Isai) that has been declining in popularity in modern India.

The Tamil Isai Sangam is a trust and a self-financing institution.

### R&D Set-up

The institution's research facilities and infrastructure are being used by the academia and individuals. These include the following:

- A well-stocked library with rare books
- A variety of musical instruments along with the rare and old instruments
- An auditorium
- A proper infrastructure

### Sources of income for R&D

- Grants and donations

### R&D expenditure (₹ in lakhs)

FY 2014-15 = 51.14  
FY 2015-16 = 58.03  
FY 2016-17 = 59.75

### R&D Achievements

#### Products/processes/ prototypes developed

The main products of Tamil Isai Sangam were their publications, such as books, journal articles, and conference proceedings/ presentations. This association has done all the Devaram and other Pann research.

- Through Pann research, Tamil Isai Sangam found 94 Panns and equivalent ragas.
- Pann Araichi report
- Semmozhi report

### Remarks

Tamil Isai Sangam conducts the following courses to preserve, promote, and spread the influence of Tamil Isai at the state, national, and international level and to give visibility to its culture and heritage:

- Evening college: Diploma courses in music and dance
- Day college: Diploma courses in music and dance
- Undergraduates and post-graduate courses in music and dance
- MPhil courses in music and dance
- PhDs in music and dance. 🔍



▲ Literacy camp conducted at Karla village, Amravati, in February 2017

### Registered Office

Tata Institute of Social Sciences,  
opposite Deonar Bus Depot, V N  
Purav Marg, Mumbai,  
Maharashtra 400 088  
T: 022 2552 5203  
E: registrar@tiss.edu  
W: www.tiss.edu

### Location of R&D

- Tuljapur, Maharashtra
- Hyderabad, Telangana
- Guwahati, Assam

### Recognition Status

File No.: 13/291/2016-TU-V  
Initial Recognition: 2016  
Valid Until: March 31, 2019

### R&D Manpower

Doctorates: 134  
PGs/Graduates: 13

## TATA INSTITUTE OF SOCIAL SCIENCES

### Brief Description

The Tata Institute of Social Sciences (TISS) was established in 1936 as the Sir Dorabji Tata Graduate School of Social Work. In 1944, it was renamed as the Tata Institute of Social Sciences. Since its inception, the vision of TISS has been to be an institution of excellence in higher education that continually responds to changing social realities through the development and application of knowledge towards creating a people-centred, ecologically sustainable, and a just society that promotes and protects dignity, equality, social justice, and human rights for all.

TISS is deemed to be a university under Section 3 of the University Grants Commission Act (UGC), 1956.

### Location of R&D

- Tuljapur, Maharashtra
- Hyderabad, Telangana
- Guwahati, Assam

### R&D Set-up

The research infrastructure is used by the faculty, students, research scholars, visiting faculty, visiting scholars, and by members of the industry and civil society.

### Sources of income for R&D

- Government sources
- International funding
- Own sources

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D

FY 2014-15 = 1,147.85

FY 2015-16 = 1,416.29

FY 2016-17 = 3,002.63

### R&D Achievements

Over the last five years, the TISS has been engaged in over 400 research projects by the faculty, has been funded by in-house departments and/or has been in collaboration with various governmental, non-governmental, and international agencies. The findings have been used for capacity building, field action, academics, and policy advocacy on a spectrum of social, economic, and environmental issues. Research studies conducted at the institute also result in numerous reports, publications, and books. These publications become public domain documents that are easily accessible and widely disseminated and used by a cross-section of people and agencies for research purposes or policy advocacy.

### Products developed

- Tarang: A forum for empowering the elected representatives aims at empowering the women elected to the Panchayat Raj institutions.

### Technical Collaborations

#### National

Ministry of Human Resource Development, GOI; Maharashtra State Minorities Commission, Mumbai; Godrej & Boyce Mfg Co Ltd; Jain Irrigation Systems Ltd; Hindustan Petroleum Corporation Ltd; Educational Consultant India Ltd – Technical Support Group; Indian Council of Social Science Research

## Research Areas

- Children and youth
- Women
- Climate change
- Community development
- Corporate social responsibility
- Dalits and tribals
- Disaster management
- Education
- Food security
- Governance
- Human rights
- Labour and migration
- Health and mental health
- Natural resources management
- Rural development
- Urban issues
- Gender and development

## Research outcomes

- Papers published:
- National/International: 472
- Books published: 110
- Book chapters: 338
- Other publications: 183
- IPRs held
- Patents awarded : 1  
(Mobile APP for Prasutikaran)

## International

OXFAM Trust; Bill and Melinda Gates Foundation; New Castel University, UK; Max Planck Institute; London School of Economics; University of South Florida; Cornell University; PLAN International INC; Ford Foundation; British Council.

## Societal Relevance

The support to the programmes of the Government of India is in the form of policy advocacy, support for implementation, and impact assessment.

- The Beach Profile Monitoring Programme, citizen science-based initiative, has relevance in building community resilience through the creation of community-level preparedness, mitigation, and adaptation strategies and protocols to address coastal hazards.
- The National University Students Skill Development Programme trains a larger number of work forces in the unorganized sector; youth in higher education; and out-of-school people. The aim is for the people to gain skills in order to enhance their employability in the industrial and services sectors.
- iCALL, a telephone and email-based counselling service, offers free counselling services to individuals in emotional and psychological distress.
- Training of mental health professionals has built a formidable team of scholars in various areas of mental health.
- TISS as a knowledge partner of the Ministry of Rural Development facilitates the process of selection, recruitment, training and mentoring, and monitoring the work of the PMRD fellows. The PMRD fellows work closely with the district collector in some of the most isolated and remote districts of India and strives to reduce developmental and governance deficits.
- The Saksham programme (for strengthening the National TB Prevention and Control Programme) provides counselling services for drug-resistant TB patients in Maharashtra, Gujarat, Rajasthan, and Karnataka. This has resulted in improving treatment adherence amongst drug-resistant TB patients, reduce loss to follow up, address their mental health problems, and connect them with the required social protection services for nutrition, educational, and livelihood support.
- Rashtriya Uchchatar Shikshya Abhiyan has relevance in the creation of a sophisticated digital monitoring system and a road map created for executing the curriculum reforms process.
- Tarasha is a care home for women from the Thane Mental Hospital in Mumbai.
- TISS invests in research in order to strengthen the capacity for strong evidence-based intervention in national and international policy-making. 🔍



▲ Publications of the institute

### Registered Office

The EFI Social and Labour Research Foundation, 17/3, World Trade Centre - I, Cuffe Parade, Mumbai, Maharashtra 400 005  
 T: 022 22151726/22151733  
 E: efsolar@gmail.com  
 W: www.efionline.in

### Recognition Status

File No.: 13/166/1996-TU-V  
 Initial Recognition: 1996  
 Valid Until: March 31, 2019

### R&D Manpower

Doctorates: 1  
 PGs/Graduates: 1

### Research Areas

- Remuneration survey
- Executive compensation survey
- Employment generation in the post-globalization era in Greater Mumbai funded by the Planning Commission
- Dearness allowance in India: concept, practice, and impact
- Tax fall outs of the labour welfare legislation
- Right to work: Its concept and connection

## THE EFI SOCIAL & LABOUR RESEARCH FOUNDATION

### Brief Description

The EFI Social & Labour Research (SOLAR) Foundation was set up in 1983 coinciding with the 50th celebration (a golden jubilee) of the Employers' Federation of India. Mr Naval H Tata, President Emeritus of The Employers' Federation of India, conceived the idea of establishing such an organization. Not only did he feel there was a need for such a foundation but he also ensured its financial viability through a munificent donation of ₹15 lakh handed over to the foundation by the Sir Ratan Tata Trust, of which he was the chairman. SOLAR Foundation is a public trust under the Bombay Public Trusts Act, 1950. The EFI has recently completed a study commissioned by the Planning Commission on 'Employment Generation in Post Globalisation Era in Greater Mumbai'. The EFI has initiated research in the areas of social and labour problems that are of direct concern to the government, industry, and labour.

This institute is registered under the Bombay Public Trust Act.

### R&D Set-up

The research facilities and infrastructure of the institution are being used by the academia and individuals. These include the following:

- Office building comprising of 300 sq. ft. area
- Computer systems

### R&D expenditure (₹ in lakhs)

FY 2014-15 = 4.25  
 FY 2015-16 = 8.5  
 FY 2016-17 = 9.14

### R&D Achievements

- Represented employers on the first and second National Commission on Labour.
- Came up with support measures to deal with HIV and AIDS at the workplace.
- Represented India on various activities and programmes of the ILO, India, and at the headquarters in Geneva.
- Represented Indian employers at the Indian Labour Conference, EPFO, ESI, Workers Education, Contract Labour Advisory Boards, Minimum Wages Advisory Board Central Apprenticeship Council, and other tripartite fora of the Ministry of Labour.

### Societal Relevance

Industrial peace is an important aspect to avoid incidences, such as industrial unrest, industrial violence, strikes, lock outs, production loss, etc. The organization puts efforts in maintaining industrial relations, industrial peace, encouraging affirmative approach in the labour community, inclusiveness, etc.

The foundation conducts training programmes, workshops, and seminars on topical matters in various locations in the country. 🔍

### Research outcomes

- Books published: 5





## THE GEORGE INSTITUTE FOR GLOBAL HEALTH

### Brief Description

The George Institute for Global Health (formerly known as George Institute for International Health-India) is an independent medical research institute. The institute manages a range of clinical trials and population health studies throughout the country, working closely with multiple communities, hospitals, government agencies, and NGOs.

### R&D Set-up

- All facilities at George Institutes are solely used for research and for supporting research. There are two offices in Hyderabad and New Delhi where the staff is based. All offices have infrastructure support, such as servers/computers/printing/fax/etc.

### Sources of income for R&D

- Others - Project funding and a small component of other income

### R&D expenditure (₹ in lakhs)

FY 2014-15 = 960  
 FY 2015-16 = 1,170  
 FY 2016-17 = 1,270

### R&D Achievements

- Research projects
- SMART Health Project: cRCT was conducted across 54 villages. An electronic decision support tool was developed and implemented to manage the increased risk of CVD. The results are being analysed.

- SMART Mental Health: Pilot pre-post study on 42 villages was conducted where a complex intervention using electronic decision support tools was used to provide the screening and treatment for common mental disorders. The results have been positive and the use of mental health services has improved many folds.
- Indian Chronic Kidney Disease Study: This was established to set up a cohort across India. Studies regarding this are underway.
- ATTEND Trial: RCT was established to test if home-based rehabilitation is better for stroke patients as compared to the usual care. Results have indicated that home-based care is as effective as the current practice.

### Technical Collaborations

#### National

All India Institute of Medical Sciences, New Delhi; Christian Medical College, Ludhiana; University of Hyderabad, Telangana; BD Sharma University, Rohtak

#### International

University of Oxford, England; King's College, London; University of Sydney, Sydney, Australia; World Health Organization, Geneva

### Registered Office

The George Institute for Global Health, Unit No. 301, ANR Centre, Road No. 1, Banjara Hills, Hyderabad, Telangana 500 034  
 T: 01 141588091/8800493204  
 E: pmaulik@georgeinstitute.org.in  
 W: www.georgeinstitute.org.in

### Location of R&D Units

- New Delhi, Delhi

### Recognition Status

File No.: 13/260/2011-TU-V  
 Initial Recognition: 2011  
 Valid Until: March 31, 2019

### R&D Manpower

Doctorates : 7  
 PGs & Graduates : 19

### Research Areas

- Cardio-metabolic diseases
- Mental health
- Kidney disorders
- Stroke
- Health services
- Disadvantaged populations

### Research outcomes

- Papers published:
  - » National/International: 66 (during September 2016–August 2017)
- Technologies transferred/commercialized: 2 (The SMART Health platform; the ATTEND)

### Societal Relevance

- Projects conducted by The George Institute are aligned with the National Mental Health Programme

and the national programmes relevant to diabetes, CVDs, kidney diseases, strokes. 🔍



^ ISAE publication

## THE INDIAN SOCIETY OF AGRICULTURAL ECONOMICS

### Brief Description

The Indian Society of Agricultural Economics is an all-India body which provides a forum for agricultural economists, scholars, academicians, and policymakers. The aim is to promote the study of the social and economic problems of agriculture and the rural areas and also for the promotion of technical competence for teaching and research in agricultural economics.

The society is registered under the Societies Registration Act, 1860, and the Bombay Public Trusts Act, 1950.

### R&D Set-up

#### Research facilities / infrastructure and its usage by the local Industries/ Institutions/Individuals

- There are no research facilities and infrastructure in the form of laboratory.

#### Sources of income for R&D

- Government sources
- International funding

#### R&D expenditure (₹ in lakhs)

FY 2014-15 = 46.58

FY 2015-16 = 33.01

FY 2016-17 = 38.97. 🔍

### Research Areas

- Social and economic problems of agriculture
- Agricultural economics

### Research Outcomes

- Papers published
  - » National/International: 9
- Books published: 5
- Conference proceedings/ presentations: 3

### Registered Office

The Indian Society of Agricultural Economics, C-104, First Floor, Sadguru Complex -1, Gen. A K Vaidya Marg, Goregaon East, Mumbai, Maharashtra 400 063  
 T: 022 28493723  
 E: isae@vsnl.com  
 W: www.isaeindia.org

### Recognition Status

File No.: 13/164/1996-TU-V  
 Initial Recognition: 1996  
 Valid Until : March 31, 2017

### R&D Manpower

Doctorates: 1  
 PGs/Graduates: 1



- ▲ 1<sup>st</sup> World Conference on Access to Medical Products and International Laws for Trade and Health conducted by ISIL

### Registered Office

The Indian Society of International Law, V K Krishna Menon Bhawan, 9, Bhagwan Das Road, New Delhi 110 001  
T: 91 11 23384458/59  
E: isil@iasdl01.vsnl.net.in  
W: www.isil-aca.org

### Recognition status

File No.: 13/94/1989-TU-V  
Initial Recognition: 1989  
Valid Until: March 31, 2017

### R&D Manpower

Doctorates: 6  
PGs/Graduates: 3

### Research Areas

- Application and development of international law

## THE INDIAN SOCIETY OF INTERNATIONAL LAW

### Brief Description

The Indian Society of International Law (ISIL) was established in 1959 primarily due to the efforts of the late V K Krishna Menon. As a premier national institution for teaching, research, and the promotion of international law, the objectives of the ISIL inter alia are to foster a nation-wide study and development of international law; to interpret through its fora and publications the application of international law in India; to encourage the comparative study of the application of international law in other states; and to promote research in international law.

ISIL is a registered society.

### R&D Set-up

- Land and building
- International Law Library

### Sources of income for R&D

- Income from seminar and conferences, academy receipts, project income, interest, and rental income

### R&D expenditure (₹ in lakhs)

FY 2014-15 = 173.83

FY 2015-16 = 190.94

FY 2016-17 = 216.79

### R&D Achievements

#### Products/processes/ prototypes developed

- ISIL brings out a quarterly journal, *Indian Journal of International Law*

- ISIL brings out Yearbook on *International Humanitarian and Refugee Law*
- The teaching wing of the ISIL runs the postgraduate diploma courses and the certificate course on many subjects in international law
- Conference proceedings/ presentations: 1
- Technical reports: 1

### Technical Collaborations

#### National

Ministry of Health, Delhi; Ministry of Environment, Forest and Climate Change, Delhi; Ministry of Finance, Delhi; MSME, Government of India; Ministry of External Affairs, Government of India

#### International

WHO, India; ICRC, New Delhi

### Societal Relevance

The service provided by the ISIL has direct relevance to the Make in India programme.

- ISIL's awareness programmes MSME Programme on sensitization of IPR, Training programme for Indian economic Service Officers, Training Programme for Indian Forest Service Officers; Summer and Winter Course for Law Students, etc., has societal relevance. 🔍



^ ICAI Digital Learning Hub

## THE INSTITUTE OF CHARTERED ACCOUNTANTS OF INDIA

### Brief Description

The Institute of Chartered Accountants of India (ICAI) is the national professional accounting body of India. The ICAI is the only licensing-cum-regulating body of the financial audit and accountancy profession in India. The institute, functions under the administrative control of the Ministry of Corporate Affairs, Government of India. It works closely with the Government of India, Reserve Bank of India and the Securities and Exchange Board of India in formulating and enforcing the standards. For the duration of its 64 years, the ICAI has achieved recognition as a premier accounting body not only in the country but also globally for its contribution in the fields of education, professional development, maintenance of high accounting, auditing, and ethical standards. The ICAI is the second-largest accounting body.

The ICAI was established under the parliamentary act, The Chartered Accountants Act, 1949.

### R&D Set-up

The research facilities and infrastructure of the institution are being used by the academia and individuals. These include:

- ICAI have its own infrastructure facilities at different locations all over India

### Sources of income for R&D

- Fee from members
- Fee from students
- Journal, newsletter, and publications
- Interest on investments
- Donations for scientific research
- Other miscellaneous sources of income

### R&D expenditure (₹ in lakhs)

FY 2014-15 = 13,778.84

FY 2015-16 = 9,235.79

FY 2016-17 = 8,716.54

### R&D Achievements

#### Products developed/under development

- Financial and management accounting, auditing, taxation, and other business legislations and allied subjects

#### Commercialization potential of products/processes developed

- Providing service to the nation

### Registered Office

The Institute of Chartered Accountants of India, ICAI Bhawan, Post Box No. 7100, Indraprastha Marg, New Delhi 110 002  
T: 0120 3045853, 54  
E: accounts@icai.in  
W: www.icai.org

### Recognition Status

File No.: 13/62/1988-TU-V  
Initial Recognition: 1988  
Valid Until: March 31, 2018

### R&D Manpower

Doctorates: 1  
PGs/Graduates: 94

### Research Areas

- Financial and management accounting
- Auditing
- Taxation
- Business legislations and the allied subjects

### Research Outcomes

- Papers published:
  - » National/International: 472
- IPRs held
  - » Patents awarded :  
1 (Mobile APP for Prasutikaran)
- The publications issued by the ICAI are patents under the name of the Institute of Chartered Accountants

### Societal Relevance

- The ICAI is conducting research in the area of financial and management accounting, auditing, taxation, and other business legislations and the allied subjects.
- The ICAI has achieved recognition as a premier accounting body

not only in the country but also globally, for its contribution in the fields of education, professional development, maintenance of high accounting, auditing, and ethical standards. 🔍



^ IIME publications

## INTERNATIONAL INSTITUTE OF MANAGEMENT AND ENTREPRENEURSHIP

### Brief Description

The International Institute of Management and Entrepreneurship (IIME) is an autonomous, non-profit, and multidisciplinary research and educational organization. Research studies are a primary focus of the institute's activities. The emphasis is on action-oriented, collaborative, and applied research on various chosen spheres and on problem solving. The credibility of the institute's research findings has resulted in several government and private organizations inviting the IIME to conduct studies. Its holistic approach ensures that people from deprived sections of society are provided with new opportunities in a variety of streams. The institute has implemented numerous projects in the field of rural and agricultural development at the request of the municipal boards and gram panchayats of particular areas. The IIME undertakes, supports, promotes, and coordinates research in the field of management, entrepreneurship, business history, rural development, and socio-economic research in any area by establishing chair(s) or other bodies as the institute may deem fit. The institute also works towards skill development in areas of industrial and entrepreneurship development.

The IIME is a society registered under the Societies Registration Act.

### R&D Set-up

The research facilities and infrastructure of the institution include:

- A well-stocked library and a computer and documentation centre
- Separate rooms for research associates
- Software related to studies

### Sources of income for R&D

- Membership fees
- Bank interest
- Sale of books, bibliography, data archives
- Donation
- Project grants, etc.

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 42.22

FY 2015-16 = 61.05

FY 2016-17 = 22.35

### R&D Achievements

The IIME has conducted extensive research on topics that are relevant nationally, and later research findings have been disseminated through research publications, which have been appreciated by the luminaries. These publications have also been reviewed in several prominent magazines and newspapers.

### Research projects

- The Marwari Heritage Oil
- Lighting up Our Lives
- The Colours of Rajasthan

### Societal Relevance

This institute has conducted research studies on topics of

### Registered Office

The International Institute of Management and Entrepreneurship (IIME)  
Mangalam-401, C-79, Yash Path,  
Tilak Nagar, Jaipur,  
Rajasthan 302 004  
T: 0141 2620111  
E: iime.jaipur@gmail.com  
W: www.iimejaipur.org

### Recognition Status

File No.: 13/181/1997-TU-V  
Initial Recognition: 1997  
Valid Until: March 31, 2018

### R&D Manpower

Doctorates: 3  
PGs & Graduates: 17

### Research Areas

- Socio-economic research
- Entrepreneurship
- Rural development
- Business history

### Research Outcomes

- Books published: 3

national importance. Their current undertaking aims at integrating the qualities of renowned businessmen

and industrialists with the current practices that are popular amongst the younger generation of society. 🔍





^ The K R Cama Oriental Institute Conservation Laboratory in which conservation work is being carried out

## THE K R CAMA ORIENTAL INSTITUTE

### Brief Description

The K R Cama Oriental Institute aims at promoting study and research in the fields of history, religion, and culture of the east. Reputed scholars from around the world use the excellent facilities provided at the institute's library. The institute also promotes research and study on Indo-Iranian, Zoroastrian, and aspects of Oriental studies.

K R Cama Oriental Institute is registered with the Charity Commissioner, Maharashtra State, under the Bombay Public Trust Act, 1950, since 1953 and the Ministry of Science and Technology, Government of India, as a research institute in the social sciences.

### R&D Set-up

#### Research facilities/ infrastructure and its usage by local industries/institutions/ individuals

- Land and building
- A well-established library containing rare books in various languages and manuscripts in Avestan, Pahlavi, Zend, and Persian languages.

#### Sources of Income for R&D

- Government
- International funding

#### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate account for R&D

FY 2014–15 = 25.25

FY 2015–16 = 29.64

FY 2016–17 = 26.10

### R&D Achievements

Following are the main project undertaken by the organization:

- Art furniture, household decoration in 19th century Bombay: Trading art across the globe
- Reflections of socialist philosophy in Urdu poetry
- Collecting architecture, making history – The historiography of Indian architecture
- Arthur Travers Crawford: A riddle wrapped up in an enigma

### Societal Relevance

- The institute is connected with the Swachh Bharat Mission.
- Holding lectures and seminars on various public issues pertaining to conservation, heritage management, comparative religion, history, and culture. 🔍

### Research Areas

- Oriental studies
- World religions
- History and culture of the east
- Indian philosophy

### Research Outcomes

- Papers published:
  - » National: 1
  - » International: 1
- Books published: 2
- Conference proceedings: 1

#### Registered Office

The K R Cama Oriental Institute,  
136 Bombay Samachar Marg,  
Opposite Lion Gate,  
Churchgate East Fort, Mumbai,  
Maharashtra 400 023

#### Recognition Status

File No.: 13/64/1988-TU-V

Initial Recognition: 1988

Valid Until: March 31, 2019

#### R&D Manpower

Doctorates: 5

PGs & Graduates: 4



^ Sakta Pragya (with drawing)

## THE KUPPUSWAMI SASTRI RESEARCH INSTITUTE

### Brief Description

The Kuppuswami Sastri Research Institute (KSRI) does extensive work in the areas of Sanskrit and related Indology research. The institution has been operating since 1945, contributing substantially through its core activities; steadily progressing in achieving its stated vision and mission—which is essentially “preserving” Sanskrit and related Indology research, in an all-encompassing manner—establishing, institutionalizing, propagating, consolidating, and creating perpetuity of the great Sanskrit heritage.

KSRI is a non-governmental organization registered under the Society’s Registration Act.

### R&D Set-up

- Library
- Computer facilities

### Sources of income for R&D

Donations

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.


FY 2014-15 = 17.32

FY 2015-16 = 34.72

FY 2016-17 = 42.69

### R&D Achievements

#### Major Research Projects

- Patanjali Mahabhashya I-VI & Vol. XIV
- Yoga
- Books published: 4 

### Research Areas

- Sanskrit and Indological research

### Research Outcome

- Books published: 4

### Registered Office

The Kuppuswami Sastri Research Institute,  
84, Thiru Vika Road, Mylapore,  
Chennai, Tamil Nadu 600 004

### Recognition Status

File No. : 13/106/1990-TU-V  
Initial Recognition: 1990  
Valid Until: March 31, 2018

### R&D Manpower

Doctorates: 4  
PGs & Graduates: 2



^ Workshop in opportunities and challenges

## THE MOTHER'S SERVICE SOCIETY

### Brief Description

The Mother's Service Society (MSS) was founded with a view to studying and applying the basic laws of human development based on the theory of creation and evolution of consciousness propounded by Sri Aurobindo and The Mother. The society's activities now include applications to social development, business management, agriculture, economics, education, global governance, peace and security, literary criticism, psychology, and spirituality.

MSS was registered in Pondicherry under the Societies Registration Act on October 17, 1970.

### R&D Set-up

- A 123-acre agricultural development project (Ramapuram, Cuddalore and Rainbow Nagar, Puducherry 2,500 sq. ft)
- Office property at No. 5, Puduvali Sivam Street, Venkata Nagar Extension, Puducherry (2,760 sq. ft)
- Primrose School Land and Development Gundu Salai, Oulgarpet, Puducherry (48, 100 sq. ft) ₹41,81,300,
- Playground (60,000 sq. ft)

### Sources of income for R&D

Donations

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 46.96

FY 2014-15 = 46.06

FY 2015-16 = 50.56

### R&D Achievements

#### Major Research Projects

- Individuality & Values in Social Evolution
- Toward an Integrated Science of Society
- Essence of Effective Leadership
- Post Graduate Certificate Course in Future of Education
- Post Graduate Certificate Course in Mind, Thinking & Creativity
- Post Graduate Certificate Course in Social Power
- New Economic Theory
- Strategies to Promote Full Employment
- Future Education in the 21st century
- Mind, thinking and Creativity
- New Paradigm
- Theory of Development
- Peace and Security
- Advanced Agricultural Technology
- Management Theory
- Social Development in Literature
- Applied Education Research 

### Research Outcomes

- Papers published
  - » National/International: 30

#### Registered Office

The Mother's Service Society,  
No. 5, Puduvali Sivam Street,  
Venkata Nagar Extension,  
Pondicherry 605 011

#### Location of R&D Units

- A total of 16 meditation centres in Chennai

#### Recognition Status

File No.: 13/65/1988-TU-V

Initial Recognition: 1988

Valid Until: March 31, 2017

#### R&D Manpower

Doctorates: 1

PGs & Graduates: 9



▲ Book published in 2014 *Coalition Politics in India: Selected Issues at the Centre and the States*

### Registered Office

University of Pennsylvania  
Institute for the Advanced  
Study of India, India Habitat  
Centre, Core 5A, 1st floor,  
New Delhi 110 003

### Recognition Status

File No.: 13/149/1995-TU-V  
Initial Recognition: 1995  
Valid Until: March 31, 2019

### R&D Manpower

Doctorates: 108

### Research Areas

- Governance
- International relations
- Economic and social change

### Research Outcomes

- Papers published
  - » National/International: 11
- Book published: 1
- Conference proceedings: 18

## UNIVERSITY OF PENNSYLVANIA INSTITUTE FOR THE ADVANCED STUDY OF INDIA

### Brief Description

The University of Pennsylvania Institute for the Advanced Study of India (UPIASI) is the counterpart institution in New Delhi of the Centre for the Advanced Study of India (CASI). UPIASI is a non-profit research organization. UPIASI's collaborative research projects have engaged scholars across a range of institutions in India and abroad.

UPIASI is a non-governmental organization registered under the Society's Registration Act.

### R&D Set-up

The research facilities and infrastructure of the institution are being used by the academia and individuals. These include:

- Office space
- Computer equipment
- Large collection of books

### Sources of income for R&D

- Grants from government and national NGOs
- International funding

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 178.33

FY 2015-16 = 200.40

FY 2016-17 = 196.56

### R&D Achievements

- The institute is the editorial office for the *India Review*, a

refereed social science journal on contemporary India.

- UPIASI produced 12 lessons (over 6 CD's) in the Telugu language for school drop outs.
- UPIASI's research is available to the general public and academia for developing social and scientific knowledge.
- UPIASI's research promotes greater understanding of governance, foreign policy, and socio-economic issues and their effect on society.

### Commercialization potential of products developed

- Ten edited volumes of books and these were published by commercial publishers.

### Technical Collaborations

#### National

Lal Bahadur Shastri National Academy of Administration, Mussoorie; University of Delhi; Jawaharlal Nehru University; IIM Ahmedabad; IIM Bangalore; University of Pune

#### International

Center for the Advanced Study of India, University of Pennsylvania; R.I.C.E. Institute, Initiative at Princeton University; University of Pennsylvania; University of Washington; University of Warwick; Tsinghua University; Senshu University; University of Malaysia

### Societal Relevance

UPIASI has produced several research papers/journals which have relevance in promoting knowledge in the social sciences.



↗ Department of research and development activities

### Registered Office

Ved Vignan Maha Vidya Peeth (VVMVP)  
21st KM, VVMVP Campus,  
Kanakapura Road, Udayapura,  
Bengaluru, Karnataka 560 082  
T: 080-67262626/27/28.  
E: info@vvmvp.org  
W: <http://www.vvmvp.org>

### Location of R&D Units

- Bengaluru, Karnataka
- Vasad, Gujarat
- Hyderabad, Telangana
- Pune, Maharashtra
- Kalady and Trivandrum, Kerala

### Recognition Status

File No.: 13/68/1988-TU-V  
Initial Recognition: 1988  
Valid Until: March 31, 2017

### R&D Manpower

Doctorates: 3  
PGs & Graduates: 10

## VED VIGNAN MAHA VIDYA PEETH

### Brief Description

Ved Vignan Maha Vidya Peeth (VVMVP) is the umbrella organization under which various service projects of The Art of Living Foundation in India operate. In addition to rural development programmes, women's empowerment projects and educational initiatives, VVMVP is also involved in Vedic research, medical research, and social research. VVMVP promotes spiritual, educational, cultural and social developmental activities for the benefit of the public.

The organization is a registered public charitable trust.

### R&D Set-up

The following are the research facilities provided by the organization:

- Land and buildings
- Respiratory belt (2 Numbers)
- -70 °C ultra deep freezer
- Labchart software
- Real-time PCR
- Digital brand pH meter
- Pen type pH meter waterproof pocket pH/temp meter
- Laminar air flow cabinets (horizontal, size 6x2x2, model: 2622-H and horizontal, size 4x2x2, model: 2422-H)
- Weighing balance
- Refrigerated centrifuge
- Microscope with digital camera
- Spinner (Microcentrifuge - MC-01)
- Vortex mixer
- Rotary shaker
- Bacteriological incubator

- Refrigerator (300L-fridge home applicants type)
- Deep freezer
- Autoclave vertical
- Gel Doc with software

### Sources of income for R&D

- Donations
- Interests and other income

### R&D expenditure (₹ in lakhs)

The SIRO is maintaining separate account for R&D

FY 2014-15 = 7,243.79

FY 2015-16 = 9,562.20

### R&D Achievements

#### Products developed

- Shakti Kriya
- Ayur Jagiriti
- Spine Care

#### Processes developed

- Ethics committee

#### Major Research projects

- Sudarshan Kriya yoga improves the quality of life in people living with HIV (PLHIV): results from an open label randomized clinical trial.
- Effectiveness of yogic breathing intervention on the quality of life of opioid-dependent users.
- Assessment of cardiac autonomic tone following long Sudarshan Kriya Yoga in the Art of Living practitioners.
- Research on Sudarshan Kriya.
- Rhizoplane and endophytic fungi of *Hemidesmus indicus* R. BR.: Breaking the communication barrier between the fungi and host.

### Research Areas

- Spiritual practices, including yoga, meditation, pranayama, Sudarshan Kriya yoga, Shakti Kriya, and plant sciences

### Research Outcomes

- Papers published
  - » National/International: 6
- Books published: 1
- Conference proceedings: 2

- Drumstick-fermented leaf juice (DFLJ): A promising organic signature for tomato cultivation package.
- *Moringa oleifera* (PKM-1)-fermented leaf juice: Part of organic integrated natural management in organic cultivation of *Brassica oleracea* (L.)
- Co-inoculation effect of plant growth-promoting rhizobacteria (and plant growth-promoting endophytic bacteria on *Sesbania grandiflora* (L.) PERS.
- Plant growth promoting and disease-prevention properties of endophytic and rhizoplane bacteria isolated from *Hemidesmus indicus*: A rare endangered medicinal plant.

### Technical Collaborations

#### National

BMS College of Engineering (BMSCE) Bengaluru; Swami Vivekananda Yoga Anusandhana Samsthana (S-VYASA)

Bengaluru; National Institute of Mental Health and Neuro Sciences (NIMHANS) Bengaluru; Health Care Global (HCG) Enterprises Ltd, Bengaluru

### Societal Relevance

- Art of Living is involved in the river rejuvenation programme in Tamil Nadu, Maharashtra, and in Karnataka.
- Courses conducted by Art of Living are highly relevant to society as these courses have helped people in getting rid of stress and anxiety and has helped them in improving their health by bettering their antioxidant levels, improving their immunity through increased natural killer cells and has even shown improvement in gene expression by the upgradation of immunoglobulin genes and the down regulation of inflammatory genes and cancer-causing genes. 🔍



^ A corporate programme organized by Vedanta

## VEDANTA CULTURAL FOUNDATION

### Brief Description

Vedanta Cultural Foundation was founded by Swami Parthasarathy. It is a centre for the study, research, and dissemination of *vedanta*—a culmination of knowledge. The academy disseminates knowledge through scientific programmes of study and reflection while also conducting educational programmes for schools, colleges, public- and private-sector organizations, and social service organizations.

It is a charitable trust registered under The Bombay Public Trust Act, 1950.

### R&D Set-up

#### Research facilities/infrastructure and its usage by local industries/institutions/individuals

- Lecture and conference facilities, library, computer laboratory with broadband facilities, and residential and dining facilities for the research staff

#### Sources of income for R&D

- Donations
- Investment and other income

#### R&D expenditure (₹ in lakhs)


The SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 187.38

FY 2015-16 = 220.23

FY 2016-17 = 222.87

### Societal Relevance

- Through its research, the foundation seeks to disseminate knowledge and higher values to people, thus enabling a productive and peaceful society/nation. 

### Research Areas

- Social Science
- Ancient Indian philosophy and its application to modern life areas

### Research Outcomes

- Papers published
  - » National/International: 10

#### Registered Office

Vedanta Cultural Foundation,  
1a, Lands End, Dongarsi  
Road, Malabar Hill, Mumbai,  
Maharashtra 400 006

#### Recognition Status

File No. : 13/219/2003-TU-V  
Initial Recognition: 2003  
Valid Until: March 31, 2018

#### R&D Manpower

PGs & Graduates: 48



^ Publications by Vipassana

### Registered Office

Vipassana Research Institute,  
Green House, Green Street,  
2nd Floor, Fort Mumbai,  
Maharashtra 400 023  
T.: 022-22665926  
E: spgoenka@goenkasons.com  
W: www.vridhamma.org

### Location of R&D Units

- Borivali (West), Mumbai, Maharashtra

### Recognition Status

File No. : 13/113/1991-TU-V  
Initial Recognition: 1991  
Valid Until: March 31, 2017

### R&D Manpower

Doctorates: 2  
PGs & Graduates: 9

## VIPASSANA RESEARCH INSTITUTE

### Brief Description

Vipassana Research Institute (VRI) was established in 1985 for the purpose of conducting research into the sources and applications of the Vipassana meditation technique. The VRI's research work focusses on two main areas: translation and publication of Pali texts, and research into the application of Vipassana in daily life. Twenty five centuries ago, Pali was the lingua franca of northern India, a dialect in which the Buddha himself taught.

The VRI is a registered public charitable trust.

### R&D Set-up

#### Research facilities / Infrastructure and its usage by local industries/institutions/ individuals

- Land and building
- Dehumidifier and humidifier
- FAS NetApp storage system
- Projector
- Computers and printers
- Currency analyser
- CCTV camera
- Rack-slotted angle

#### Sources of income for R&D

- Interest
- Distribution of books
- Distribution of CDs/ DVDs
- Newsletters (yearly subscription)
- Donation

### R&D expenditure (₹ in lakhs)

This SIRO is maintaining separate accounts for R&D.

FY 2014-15 = 175.07

FY 2015-16 = 189.96

FY 2016-17 = 186.67

### R&D Achievements

#### Products/processes/prototypes

- Books published in different languages: 34
- Reprinted books published: 83
- CDs/DVDs published: 13
- Reprinted CDs/VCDs/DVDs published: 48

### Technical Collaborations

#### National

Mumbai University (Department of Philosophy), Maharashtra; Nava Nalanda Mahavihara, Bihar

#### Societal Relevance

- The VRI is in the process to get associated with the National Tobacco Control Programme.
- The formats designed and developed by the VRI support many national missions, such as the Swachh Bharat, Swastha Bharat, and Skill India.

### Remarks

- The VRI have developed certain formats of meditation which have been designed to help an individual remain calm and balanced in today's stressful world. In addition to this, the VRI uses these techniques for special




### Research Areas

- Exploration of the sources of Vipassana in the *Tipitaka* (the traditional term for Buddhist scriptures).
- Publication of the *Tipitaka* and other allied literature.
- Conduct courses in Pali language.
- Practical research into the application of Vipassana in daily life and its impact on society.
- Publishing books and other inspirational material related to Vipassana.

### Research Outcomes

- IPRs held (patents: filed/granted, Copyright/trademark/design registrations, and so on): 22
- Technologies transferred includes meditation formats developed by the VRI

groups, such as prison inmates, for tobacco and alcohol addicts, senior citizens, the mentally challenged, and the differently abled, and so on. The same format is applied for improving the work culture in the government sector, private sector, management colleges, and so on.

- Special programmes are conducted for school-going children which are designed to help them in focussing better, to enhance their attention, increase their concentration, build character and values, and so on. Especially in Maharashtra as Govt program MITRA (Mindin Training for Right awareness) 

# About SIRO Scheme

The Department of Scientific and Industrial Research (DSIR) is the nodal government department for granting recognition to not-for-profit Scientific & Industrial Research Organisations (SIROs). The organisations eligible for recognition are Registered Trusts, Registered Societies, Companies incorporated as section 8 (erstwhile section 25) of the Companies Act, 2013, Universities, etc. having the objective of undertaking scientific and/or industrial research.

The Recognition Scheme for SIROs aims to bring together voluntary organizations operating in non-commercial sector with a view to promote their activities in the area of scientific and industrial research, design and development of indigenous technology to achieve technological self-reliance. The SIROs recognised by DSIR are eligible for customs duty exemption and concessional Goods & Services Tax (GST) under various Notifications issued & as amended by Ministry of Finance from time to time. The recognition would help them to evolve research infrastructure by way of overall administrative support assistance and other assistance as may be necessary for the efficient working of a research-oriented organization.



Ministry of Science and Technology  
Government of India

## Department of Scientific & Industrial Research (DSIR)

Technology Bhawan, New Mehrauli Road,  
New Delhi-110016, India

Phone: +91 11 26567373 / 26562629 / 26562122 / 26562133

Website: [www.dsir.gov.in](http://www.dsir.gov.in)

