

No. DSIR/MS/2024/07  
Government of India  
Ministry of Science & Technology  
Department of Science & Industrial Research

(Part-I Unclassified)

**Subject: MONTHLY SUMMARY FOR THE CABINET (For the month of July 2024)**

**Major achievements during the month of July 2024**

**COUNCIL OF SCIENTIFIC & INDUSTRIAL RESEARCH (CSIR)**

**Technologies licensed/transferred**

- **CSIR-CEERI**
  - o Smart Industrial Current Transmitter Technology licensed for to M/S Toshniwal Pvt Ltd. on 12/07/2024.
- **CSIR-CFTRI**
  - o Energy Food - New Formulation transferred to M/s Evexia Nutritions Pvt Ltd, Bangalore.
  - o Heat resistant white sesame seeds transferred to M/s AMRUTVA FINE FOODS LLP, Gujarat.
- **CSIR-CGCRI**
  - o Technology for Development of Solid Oxide transferred to M/s. Carborundum Universal Ltd, Chennai on 09/07/2024.
- **CSIR-CLRI**
  - o Making leather like material from rice straw transferred to M/s. Sai supreme Holding Company Ltd, Puducherry on 05/07/2024.
  - o A process for the preparation of organic supplement transferred to M/s. Sai Chamois Inc., Dindigul on 19/07/2024.
  - o Waterless Chrome Tanning Technology transferred to M/s Bhartiya International Ltd., Chennai, on 19/07/2024.
- **CSIR-CSIO**
  - o IoT-based Power Quality Analyzer (i-PQA) technology to M/s NIN Energy India Pvt Ltd, Chennai, paving the way for smarter energy solutions on 24/07/2024.
- **CSIR-IHBT**
  - o Aeroponic technology for Valeriana Jatamansi production and extraction transferred to Jnaani Nutritionals Pvt. Ltd. Tamil Nadu on 02/07/2024.
  - o Saffron Production under Hydroponic Aeroponic system and extractionTechnology transferred to Mani & Co., Saffrino Farms, Una (H.P) on 02/07/2024.
- **CSIR-IIP**
  - o Improved Biomass Stove technology transferred to M/s Ecosense Appliance Pvt. Ltd. Aurangabad
- **CSIR-NIIST**
  - o Technology on Manufacturing Leather alternative (Vegan Leather) from Cactus transferred to M/s Sunita Ecotex, Kolhapur.

**Number of New Projects initiated (01/07/24-31/07/24)**

Lab/Institute	CSIR	Ministry/Govt./PSU	Industry/sponsored/ Pvt
CSIR- CCMB	01	01	Nil
CSIR- CDRI	Nil	01	Nil
CSIR-CECRI	08	03	Nil

CSIR-CEERI	01	Nil	Nil
CSIR-CFTRI	Nil	01	Nil
CSIR-CGCRI	02	Nil	01
CSIR-CIMFR	01	04	06
CSIR- CLRI	02	03	04
CSIR- CMERI	Nil	02	Nil
CSIR- CRR I	01	06	07
CSIR-IGIB	02	Nil	Nil
CSIR- IHBT	01	01	02
CSIR- IICB	01	02	Nil
CSIR- IICT	01	Nil	05
CSIR- IIIM	02	Nil	Nil
CSIR- IIP	01	01	Nil
CSIR- NAL	Nil	03	Nil
CSIR- NEERI	Nil	02	02
CSIR- NEIST	Nil	03	Nil
CSIR- NGRI	01	02	01
CSIR- NIIST	04	03	02
CSIR-NIO	Nil	18	13
CSIR-NML	02	02	01
CSIR-SERC	03	09	04

#### Number of Ph.D. scholars joined/ completed (01/07/24-31/07/24)

Lab/Institute	Joined	Completed
CSIR-CDRI	25	01
CSIR-CECRI	Nil	03
CSIR-CIMFR	07	Nil
CSIR- CLRI	02	Nil
CSIR- CMERI	Nil	03
CSIR-IGIB	14	03
CSIR-IHBT	Nil	04
CSIR-IICB	01	03
CSIR-IICT	55	12
CSIR-IIIM	Nil	03
CSIR-IIP	12	02
CSIR-NAL	Nil	01
CSIR-NBRI	Nil	01
CSIR-NEERI	Nil	03
CSIR-NEIST	Nil	01
CSIR-NGRI	01	Nil
CSIR-NIIST	Nil	02
CSIR-NIO	04	02

#### National Collaborations/Agreements/MoUs Signed

- **CSIR-4PI**
  - o Signed MoU with University of Agricultural Science, Bangalore (UAS) on 24/07/2024 for conducting field experiment on Region Specific Smart Agro Technologies for Enhancing Soil and Plant Health.

- **CSIR-CCMB**
  - Signed MoA with ICGEB for research collaboration under the ongoing Rockefeller Foundation Project Phase -II for Dengue and AMR Surveillance programs.
  - Signed MoU with RICH (Research and Innovation Circle of Hyderabad) Hyderabad for Scholarship and Mentorship Programme for Women in STEM education and careers.
- **CSIR-CDRI**
  - Signed MoUs with
    - Bejoy Narayan Mahavidyalaya, West Bengal 18/07/2024 for development of CSIR-Digital library of Indian medicinal plants and their metabolites.
    - Sir Ganga Ram Hospital, New Delhi on 26/06/2024 to promote institutional linkage and to explore other avenues for possible collaboration.
- **CSIR-CFTRI**
  - Signed MoUs with
    - University of Horticultural Sciences, Bagalkot on 04/07/ 2024 to foster cooperation in education and research.
    - Bank Note Paper Mill India Private Limited (BNPM), Mysore on 09/07/2024 to introduce nutrition intervention programme for preschool children at Mysuru.
    - Central Silk Board – Central Sericultural Research and Training Institute (CSB-CSRTI), Mysuru and Tamil Nadu Veterinary and Animal Sciences University (TANUVAS), Chennai on 16/07/2024 to undertake a collaborative project on Evaluation and validation of nutritive and feeding value of silkworm (*Bombyx mori*) pupa meal in broiler and layer chicken.
    - Prayoga Institute of Education Research, Bengaluru on 25/07/2024 to enhance education research by conducting specific programmes.
- **CSIR-CIMFR**
  - Signed Bilateral agreement with SEPC Power Private Limited, Chennai on 25/07/2024 for Scientific & Technical studies on Sampling and Analysis of Imported and Indigenous Coal unloaded at VOC Port end, Tuticorin.
- **CSIR-CLRI**
  - Signed Technology Transfer agreements with
    - M/s. Sai supreme Holding Company Ltd, Puducherry, on 05/07/ 2024 for Making leather like material from rice straw.
    - M/s. Sai Chamois Inc., Dindigul, on 19/07/2024 for the preparation of organic supplement.
    - M/s Bhartiya International Ltd., Chennai, on 19/07/2024 for Waterless Chrome Tanning Technology
    - M/s. Declutter Solutions Private Limited, Coimbatore on 24/07/2024 for Characterization and Scaling Up Studies of Collagen Peptides Extracted from Fish Waste.
  - Signed a collaborative agreement with M/s. Sai Supreme Holding Company Ltd, Puducherry, on 05/07/2024 for Development of continuous process for making rice straw-based leather-like materials.
- **CSIR-CMERI**
  - Signed MoUs to promote institutional linkage and to explore other avenues for possible collaboration with
    - The Forum of Scientists, Engineers & Technologists (FOSET) Kolkata on 01/07/2024.
    - Indian Institute of Technology (IIT) Patna Campus, Patna on 18/7/2024.
    - National Institute of Technology Patna, Patna, Bihar on 18/7/2024.
- **CSIR-CRRI**
  - Signed a Project Based Agreement (PBA) signed with Ashita Renewables, Uttar Pradesh on 16/07/2024 for Development of Fiber Pellet for SMA Application.
  - Signed an MoU with Delhi Technological University (DTU), New Delhi on 16/07/2024 for Academic and research collaboration in the areas of mutual interest.

- o Signed an MoU with Visvesvaraya National Institute of Technology (VNIT), Nagpur on 19/07/2024 for Academic and research collaboration in the areas of mutual interest.
- **CSIR-IHBT**
  - o Signed MoUs with
    - Empowering Farmers Foundation (EFF) Tanzania on 02/07/2024 for emphasizing the industrial development of Africa through CSIR-IHBT Technologies.
    - Deputy Commissioner, Chamba, Himachal Pradesh on 19/07/2024 for strategic partnership as well as implementation partnership based on principles of mutual strengths and benefits for the purpose of livelihood promotion and rural development in Chamba District, Himachal Pradesh through technology intervention especially for value addition of aromatic crops via distillation technology and mutual interest area.
    - GSM Global Services, Dehradun on 16/07/2024 for collaboration in the area of essential oils.
- **CSIR-IICB**
  - o Signed MoUs with DBT, New Delhi, on
    - 09/07/24 for Impact of Voltage dependent anion-selective channel 1 (VDAC1) protein on mitochondrial shaping and dynamics.
    - 02/07/24 for
      - ❖ Tuning Lipid Droplets for Antiviral Interventions in Brain.
      - ❖ Development of clinical data repository and analysis platform for disease detection and prognosis.
      - ❖ National Networking Component.
- **CSIR-IIP**
  - o Collaborated with
    - Forest Research Institute, Dehradun for the Feasibility of different Seeds derived fatty oils for biodiesel production by CSIR- Room Temperature Biodiesel Process.
    - Bharat Petroleum Corporation Limited, Mumbai for the Cross Flow Reactor Technology and SAF production along with pre-treatment of vegetable oil
    - Social Development for Communities Foundation, Dehradun for the supply Waste plastic and used cooking oil to CSIR-IIP for R&D purpose
    - IOCL, Faridabad for Technology (DILSAAFTM) for SAF production and pre-treatment of vegetable oil 7.
  - o Signed MoU with Harcourt Butler Technical University, Kanpur for production and pre-treatment of vegetable oil.
- **CSIR-NAL**
  - o Signed Collaboration Agreement with Ahmedabad Textile Industry's Research Association (ATIRA), Ahmedabad on 26/07/2024 for the development of hi-performance electrically conductive composites and conducting fabrics using carbon nano materials for electromagnetic interference (EMI) shielding applications.
- **CSIR-NBRI**
  - o Signed MoUs with
    - Sabuja Sanatanpali Farmers Producer Company Ltd., Sambalpur on 08/07/2024 for collaborative work to promote floriculture and enhance the strength of farmers.
    - Odisha University of Agriculture & Technology Bhubaneswar on 10/07/2024 for joint research, academic activities and floriculture related work.
- **CSIR-NEIST**
  - o Signed MoUs with
    - The Tata Institute for Genetics and Society, on 19/07/2024 for joint research activities on Infectious Diseases, vector Control, Rare Genetic Disorders, Crop Improvement & Pest Management.
    - Harsh Earth tea Pvt Ltd, Kaustav M Kashyap, Dream Hives Pvt Ltd, NE Crafters Enterprise LLP, Ipshita Baruah, Maiyon Agro LLP as Incubation Cum rental Agreement to carry out their R & D at Bionest, CSIR-NEIST.

- **CSIR-NGRI**

- o Signed MoU with National Institute of Technology (NIT) Raipur to step ahead towards advancing research in geophysics, geology, and energy extraction from natural resources.

- **CSIR-NIIST**

- o Signed MoUs with
  - M/s Tata Elxsi Limited for Early Detection of Cancers from Blood Samples by Raman Spectroscopy and Artificial Intelligence: Clinical Validation of a Cutting-edge Diagnostic Technique.
  - DBT, Ministry of Science and Technology, Government of India, New Delhi for the development of ultrasound assisted membrane bioreactor and aligned operational processes for sustainable enzyme reusable saccharification of cellulose-enriched waste biomass.
  - M/s Nutriome Biosolutions, Tamil Nadu, for production of smart proteins from industrial by-products of pulses, legumes and cereals.
  - DBT, Ministry of Science and Technology, to carryout research in the field of Omega-3 fatty acid enriched edible algal biomass as feed supplements.
- o Signed Agreements with
  - M/s Olusium Technologies in Advanced Research Private Limited, Kanyakumari, for Early Detection of Cancers from Blood Samples by Raman Spectroscopy and Artificial Intelligence: Clinical Validation of a Cutting-edge Diagnostic Technique.
  - M/s Suchitwa mission, Thiruvananthapuram to carryout collaborative research studies, projects and testing for Suchitwa Mission and conduct training for officials of Suchitwa Mission, industries and other intuitions covered under different Acts and Rules.
  - M/s Sunita Ecotex, Kolhapur for Technology Transfer for manufacturing Leather alternative (Vegan Leather) from Cactus.
  - M/s SRF Limited for Microstructure Analysis of Industrial Yarns, polymer chips.

#### International Collaborations/Agreements/MoUs Signed

- **CSIR-IHBT**
  - o Signed MoU with Empowering Farmers Foundation, Tanzania on 02/07/2024 to lay the foundation for cooperation to develop the industry in Africa through introduction of modern methods of tissue culture, hydroponic and aeroponic methods of growing plants and Himalayan high value floricultural and aromatic crops.
- **CSIR-IICT**
  - o Signed Agreement with International Centre for Diffraction Data (ICDD), USA on 18/07/2024 for Grant-in-Aid project on Design and Development of Novel Multi component Crystal forms of Active Pharmaceutical Ingredients.
- **CSIR-URDIP**
  - o Signed Purchase Agreement (Service) with The Proctor & Gamble Company, USA on the theme area of Patent Analysis.

#### Patents Update

Patents Filed			Patents Granted			Patent Prosecutions		Copyright applications filed
India	Abroad* (Unique Patent Application)	Abroad (Multiple Countries)*	India	Abroad* (Unique Patent Application)	Abroad (Multiple Countries)*	India	Abroad*	
22	14	20	03	08	08	08	122	03

\* Data reported to IPU during July 2024 and may change later during national phase entries. The unique filed/ granted patent may appear in the next months also if its corresponding application is filed/ granted in the respective months.

### High impact S&T services

- **CSIR-CCMB**
  - o Provided molecular diagnostic services for 135 families comprising 151 samples
- **CSIR-CDRI**
  - o Animal Facility Laboratory approved 55 experimental animals were supplied to outside research organizations for research purpose.
  - o The CRTDH at the institute provided analytical services to one MSME during the reporting period.
- **CSIR-CMERI**
  - o RLA study of Critical Piping related to Turbine side for Mejia Thermal Power Station, DVC, Mejia, Bankura.
- **CSIR-CRRI**
  - o Traffic Study for Feasibility of mineral Transportation due to operation of Dalpahar Iron ore mine for Thriveni Earthmovers Pvt. Ltd.
  - o Condition Assessment and Suggestions for repair and rehabilitation measures of two bridges in Bihar section of Varanasi-Aurangabad Tollway Pvt. Ltd. (NH-2 Project). (Sona bridge structural safety Audit and Karmanasa Bridge only Visual Inspection) for Varanasi Aurangabad NH-2 Tollway Pvt. Ltd.
  - o Feasibility of Requirement of elevated road over the road connecting 45m wide ROW road in Sector 4 (Greater Noida) with village Shahberi, Crossing Republic and NH-91 Ghaziabad) in view of existing traffic and site conditions for Greater Noida Industrial Development Authority.
  - o Customized Training Programme on Road Network Planning for the Engineers of PWD Meghalaya for PWD, Meghalaya.
  - o Pavement Evaluation for rutting failure of Chittorgarh Udaipur section of NH-48 in the state of Rajasthan (Flexible Pavement: 66km) for Uchit Expressways Pvt. Ltd, Rajasthan.
  - o Mix Design and Technical Guidance for laying of CGBM layer as Wearing course on Phullan wal to Jain mandir road GLADA, Ludhiana for Greater Ludhiana Area Development Authority.
  - o Structural Safety Audit of major and minor bridges (total 5 nos) in Barhi Hazaribagh road project NH-33 for Ramky Infrastructure Ltd, Jharkhand.
  - o Development of steel slag road section at Adani Hazira port for construction of port road using steel slag Aggregates for Adani Ports and SEZ, Gujarat.
  - o Performance Evaluation of Epoxy Asphalt overlay on PQC at Mumbai Pune Expressway (chainage from km 34 + 500 to km 38 + 390) for SSPL KIBPL JV Maharashtra.
  - o Noise and vibration Analysis for underground section of East West Metro corridor, Kolkata with actual running of Rolling stock, KMRCL for Kolkata Metro Rail Corporation Ltd., West Bengal.
  - o Development of Bio Binders from agricultural waste for Utilization in Bituminous Road construction for Ministry of Road Transport & Highway, New Delhi.
- **CSIR-NAL**
  - o Experimental characterization of 2D spray injection with co- flowing after burner operation condition - AR&DB
  - o Development of a visual based automated inspection system for aircraft surface damage detection - AR&DB

- o Air data estimation from fusion data of flush air data system (FADS) & inertial navigation system (INS) - AR&DB
- **CSIR-NEERI**
  - o Technical Audit of Legacy Waste Processing Plant at Lucknow Municipal Corporation.
  - o Monitoring and Assessment of High Rate Transpiration System for Land Treatment and Disposal of Effluent from Hindustan Coca-Cola Ltd., Sanand.
- **CSIR-NGRI**
  - o Seismic Reflection Survey (DSRS) & Magnetotelluric (MT) survey along Churu, Rajasthan to Tikamgarh, Madhya Pradesh, by Geological Survey of India (Ministry of Mines) to obtain the sub-surface structural aspects and crust -mantle boundary beneath the Archean cratons being covered.
- **CSIR-NML**
- Smelting Studies for Nickel Laterite Brquettes in Electric Arc- Furnace (EAF): Client: Tata Steel Ltd, Jamshedpur, to carry out smelting studies Laterite Briquettes in EAF for improving the metallic yield.
- **CSIR-SERC**
  - o Condition Assessment of Fire Affected Concrete floors TP-16, TSTPS, Talcher, Orissa
  - o Proof Load Testing of Navigational Lifting Span and Approach Spans of the New Pamban Railway Bridge by Rail Vikas Nigam Limited

## Outreach Activities

- **CSIR Headquarters**
  - o Organised talks by Dr. Chintan Vaishnav, Mission Director, Atal Tinkering Lab, NITI Aayog and Prof. Valipe Ramgopal Rao, Group Vice-Chancellor, BITS-Pillani during EPIC Hackathon on 05/07/2024 & 19/07/2024 respectively by CSIR-HRDG.
  - o Implemented 22 student connect events by 15 CSIR labs during July month; 1980 participants.
- **CSIR-4PI**
  - o Organised Student Scientist connect programs for
    - Moraji Desai Residential School, Ramanagara on HPC, Cyber Security, GNSS & Climate informatics on 03/07/2024; 50 participants.
    - Government High School, Hoskote on HPC, Cyber Security, GNSS & Agritech on 18/07/2024; 44 participants.
  - o Organised Teacher's Workshop on Calculus, Probability, Atmospheric Physics, Earthquakes, GNSS, Heat Transfer, Agri-tech and High Performance Computing and concepts of Artificial Intelligence (AI) during 22-26/07/2024; 44 school participated.
  - o Organised Workshop on NSM-HPC Systems & AI: from Theory to Practice in collaboration with C-DAC Bangalore during 04-05/07/2024.
- **CSIR-CCMB**
  - o Organised Skill Development Training Programmes on
    - Molecular Cloning and Protein Expression during 01-16/07/2024; 11 participants
    - Environmental DNA (eDNA) and its applications during 23-27/07/2024; 09 participants.
- **CSIR-CDRI**
  - o Organised Student Scientist connect programs for
    - Khwaja Moinuddin Chishti Language University, Lucknow (U.P.) on 12/07/2024; 53 participants.
    - Delhi Public School, Gomti Nagar, Lucknow (U.P.) on 24/07/2024; 40 participants.
    - Saroj Institute of Technology & Management, Lucknow (U.P.) on 25/07/2024; 60 participants.
- **CSIR-CECRI**

- o Conducted Summer Internship Programme for school students during 08-12/07/2024; 82 participants.
- o Organised Lab Visit for Sethu Matriculation Higher Secondary School, Thuvankurichy on 18/07/2024; 117 participants.
- o Organised Skill Development programs on
  - Chromatography and Spectroscopy during 01-05/07/2024; 51 participants.
  - Cathodic Protection and Pipeline Corrosion during 08-12/07/2024; 47 participants.
  - Electrochemical Power Sources Lithium ion battery - Science and Technology during 29/07/2024-02/08/2024; 33 participants.
- **CSIR-CEERI**
  - o Organised CSIR EPIC Hackathon.
  - o Conducted ATL Sessions for Student Club on AI and ML, on 13 & 20/07/2024.
- **CSIR-CFTRI**
  - o Organised teachers training program on "Balanced diet and detection of adulteration in food" conducted by Agastya International Foundation, Mysore on 12/07/2024; 85 participants.
  - o Organised Skill Development programs on
    - 3D Bio printing on 18/07/2024; 41 participants.
    - Food Processing Technologies on 18/07/2024; 10 participants.
    - Post Harvest Technologies for Fruits and Vegetables during 22/07/2024-02/08/2024; 12 participants.
    - Analytical Quality Evaluation of Fortificant and Fortified Rice during 23-25/07/2024; 10 participants.
    - Processing of Turmeric and Value Added Products during 23-25/07/2024; 10 participants.
- **CSIR-CGCRI**
  - o Organised Skill Development programs on
    - Ceramic Membrane & Water Technologies: Theory & Practical during 09-10/07/2024; 09 participants.
    - Terracotta processing during 11-12/07/2024; 36 participants.
    - Ceramic White Wares Processing at CGCRI Khurja Centre, Uttar Pradesh during 22-26/07/2024; 29 participants.
    - Energy Saving Concepts and Possibilities in Vitreous China Sanitaryware Manufacturing at 'Panchal Ceramic Association vikas trust, Thangadh' by CGCRI Naroda Centre, Ahmedabad during 30-31/07/2024; 50 participants.
- **CSIR-CIMAP**
  - o Organised Export Opportunities and E-Commerce Based Entrepreneurship Awareness Program on 16/07/2024; 53 participants.
  - o Organised training programme on rural empowerment and entrepreneurship development through cultivation, processing, value addition, and marketing of aromatic plants in Sitamarhi district of Bihar on 20/07/2024; 75 participants.
  - o Organised awareness programme at Mandan Bharti Agricultural College, (Saharsa Bihar), Jhal, Bilaspur district (Chhattisgarh) & Kokadi, Kondagaon district, Chhattisgarh on 22/07/2024, 23/07/2024 & 26/07/2024; 62, 16 & 80 participants respectively
- **CSIR-CIMFR**
  - o Organised Skill Development programs on
    - Quality Monitoring of Water and Waste Water: Laboratory Analysis, Data Interpretation and Quality Assurance during 09-16/07/2024.
    - Modern Mining Technology and Fuel Science: Theory and Practices for Hindalco Industries during 18/07/2024-01/07/2024 to foster innovation and sustainability in mining.
  - o Organised workshop for Credo World School, Dhanbad for AI, ML & Augmented Reality and Virtual Reality during 03-05/07/2024; 36 participants.



- **CSIR-CLRI**
  - Organised visit for
    - Christian College, Chengannur, University of Kerala for physical and chemical testing methods, NMR, and wastewater effluent treatment analysis on 05/07/2024; 55 participants.
    - KRM Public School (CBSE), Perambur, Chennai for leather processing, wastewater effluent treatment, and the production of leather-like materials on 25-26/07/2024; 154 participants.
    - Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science & Technology, Avadi, for educational field trip on 12/07/2024; 97 participants.
    - National Institute of Fashion Technology (NIFT), Kolkata for research facilities on 30/07/2024.
- **CSIR-CMERI**
  - Organised visit & Lectures on Robotics and AI for
    - Asansol Institute of Engineering and Management-Polytechnic, Asansol on 11/07/2024.
    - Nutandanga High School Jigyasa on 11/07/2024; 28 participants.
    - Teachers & students of West Bengal, Jharkhand, Odissa, Chattisgarh, Assam & Tripura on 16/07/2024 & 26/07/2024; 124 & 194 participants respectively.
- **CSIR-CRRI**
  - Organised workshop for various KV and Dev Samaj Modern schools in and around Delhi NCR 16/07/2024; 221 participants.
  - Organizing a regular Hindi Parangat classes for the session of July-November 2024 w.e.f 23/07/2024; 25 participants.
  - Conducted customized training programme on Road Network Planning for the Engineers of PWD Meghalaya on 23/07/2024 & 25/07/2024; 154 participants.
- **CSIR-IICB**
  - Delivered lecture at Lakshmi Narayanpur Sitanath High School (H.S.) & Narayanpur High School, on 'Immunology of B and T cells', 'Chemistry of molecules and Biomolecules in daily life' & 'The astounding molecular machine for protein synthesis inside living cells: The ribosome' on 03/07/2024 & 11/07/2024 respectively.
  - Organised workshop on Careers in Chemical Sciences on 23/07/2024.
- **CSIR-IICT**
  - Organised workshop on Ignite Stem Passion in association with Indian Development Foundation (IDF), Mumbai on 27/07/2024; 350 participants.
  - Organised outreach program at ZPHS Thungaturthy village, Telangana on 26/07/2024; 300 participants.
- **CSIR-IIIM**
  - Organised visit for BHU; 45 participants.
  - Organised DIY activity for RRL High School on "Milk Adulteration" on 26/07/2024; 32 participants.
  - Organised talk on, Innovation/Entrepreneurship/ Technology development on 19/07/2024; 41 participants.
  - Organised Yuva Kaushal Karyashala on Industrial Biotechnology during 15-25/07/2024; 50 participants.
- **CSIR-IIP**
  - Organised Skill Development program on 'spectroscopic analytical techniques IR-NMR' during 01-12/07/2024.
- **CSIR-NAL**
  - Organised Scientist Teachers Connect Programme during 15-16/07/2024.
- **CSIR-NBRI**
  - Organised Skill Development program for

- TM University, Gwalior & Shri Ram Swaroop Memorial University, Lucknow on ' Bioinoculant Producer for Agricultural Application ' during 04/06/2024-04/07/2024; 29 participants.
  - Mahayogi Gorkhnath University, Gorakhpur, Jamia Hamdard University, Delhi and University of Allahabad, Prayagraj on Plant Tissue Culture Technician during 14/06/2024-12/07/2024; 16 participants.
  - Chemistry department, Lucknow University on Quality Analysts for Herbal Industry & Phytochemical Analysis Technician during 09-18/07/2024; 40 participants.
- o Organised Lecture Series online jointly with Centre for Biodiversity Exploration and Conservation CBEC and Mycoasia on 07/07/2024.
- **CSIR-NEIST**
  - o Organised residential Summer camp during 08-12/07/2024; 24 participants.
  - o Organised Scientist Teachers Connect Programme for Junaki Sangha Vidyalaya, Jorhat on 24/07/2024; 32 participants.
- **CSIR-NGRI**
  - o Organized a summer camp for educating school children about geological and geophysical methods used to explore Earth's resource potential on 09-10/07/2024.
- **CSIR-NIIST**
  - o Organised Skill Development program for "Sample preparation & extraction studies for nutraceutical preparation" & "Synthetic organic chemistry hands on training on fundamentals and specialized reactions".
- **CSIR-NIO**
  - o Organized Matlab Technical Session for the benefit of staff and students on 16/07/2024.
  - o Organised National Workshop on Water Quality Monitoring for Sustainable Aquaculture during 26-28/07/2024.
- **CSIR-NML**
  - o Organised Skill Development program for
    - Internship Training during 28/05/2024-23/07/2024; 12 participants.
    - Summer training during 20/05/2024-23/07/2024; 40 participants.
    - Innovative Product Prototype Making during 01/07/2024-31/07/2024; 10 participants.
    - Exposure training on Mineral Processing Techniques (AMPTIC'24) on 18/07/2024; 52 participants.
    - Training on Mineral Characterisation, Beneficiation and Agglomeration" (MCBA) 2024 during 23-26/07/2024; 13 participants
  - o Organised Visit for Church school Beldih, Bistupur Exposure training on Mineral Processing Techniques (AMPTIC'24) on 30/07/2024; 40 participants.
- **CSIR-SERC**
  - o Organised Summer camp for the Tamil Nadu State Government school students during 24-26/07/2024; 52 participants.
  - o Conducted Advanced course on Fatigue and Fracture Behaviour of Materials, Components and Structures during 24-26/07/2024; 37 participants.
- **CSIR-URDIP**
  - o Conducted the patent filing activity review meetings at CSIR-IGIB, New Delhi during 23-24/07/2024.

### Conferences, Workshops, Major Events

- **CSIR Headquarters**
  - o 11<sup>th</sup> CSIR-AMRIT Lecture on Technology Innovations in India delivered by Dr. Tessy Thomas; former DG, Aeronautical Systems & Former Project Director, Agni-IV Missile, DRDO on 18/07/2024.
  - o CSIR participated in the Govt. Achievements & Scheme Expo 2024 at Pragati Maidan, New Delhi during 20<sup>th</sup>-22<sup>nd</sup> July 2024.

- o Level A-Mandatory Training Programme for JSA/SSA (General/Finance and Accounts/Stores and Purchase) and Equivalent (ii) Training Cum Awareness Conclave for Head, PMEs and Head, Finance of CSIR Labs/Units: Organized by CSIR-HRDC, Central Planning Directorate (CPD)-CSIR HQ & Integrated Finance Division (IFD) / Budget Division-CSIR HQ.
- o Organised STI Conclave on "Traditional Knowledge for Sustainable Livelihoods" organised jointly by ISTIC-UNESCO and CSIR during 29-31/07/2024.
- **CSIR-CDRI**
  - o Organized a workshop on "Diversity, Equity and Inclusion".
- **CSIR-CECRI**
  - o Lecture delivered by "Padma Bhushan" Dr. V.K. Saraswat, Hon'ble Member, NITI Aayog, Govt of India, at 77<sup>th</sup> Foundation Day Celebration on 25/07/2024.
- **CSIR-CLRI**
  - o Organised One Week One Theme (OWOT) event on 16, 19, and 20 July 2024. A Tanner-Researcher-Chemical House Interaction Meet organised on Trends in Speciality Chemicals for Leather on 16/07/2024.
  - o Conducted the 2nd National workshop on "Statistics and Data Analytics using SPSS software" on 02/07/2024.
- **CSIR-IHBT**
  - o Organised Pushp Krishi Mela as part of the CSIR Floriculture Mission II to celebrate the Institute's 42nd foundation day on 02/07/2024, The DG CSIR also launched a brochure titled ""Impact of CSIR-Floriculture Mission in Himachal Pradesh.""
- **CSIR-IICB**
  - o Conducted Workshop for Handling and Care of Laboratory Animals from 01-05/07/2024; 30 participants.
  - o Conducted workshop on "Safety and Behaviour at Workspace, Laboratory and Institutional Campus" was organised on 09/07/2024.
  - o Lecture delivered by Dr. Rajan Sankaranarayanan, on 'Chiral proofreading during protein biosynthesis and its evolutionary implications' as a part of the Colloquium Lecture Series-Biology: 2024-25 on 10/07/2024.
- **CSIR-IICT**
  - o Organised Symposium on "Current trends in NMR spectroscopy" on 22/07/2024.
  - o Organised seminar on 'Natural products driven drug discovery' on 26/07/2024.
- **CSIR-IIP**
  - o Organised Industrial Meet on R&D Prospects and Challenges in Petrochemicals and Biochemicals (CSIR OWOT-CLP Program) on 18/07/2024.
- **CSIR-NAL**
  - o The 3<sup>rd</sup> Prof Roddam Narasimha Memorial Lecture delivered by Prof R I Sujith, IIT Madras on 22/07/2024.
- **CSIR-NCL**
  - o Organised the One Week One Theme Campaign as Nodal laboratory under Energy & ED Theme along with the participating CSIR labs.
- **CSIR-NEIST**
  - o Organized "One Week One Theme" program, focusing on Chemicals (including leather) and Petrochemicals on 19/07/2024.
- **CSIR-NIIST**
  - o Organized "One Week One Theme" program, on 'National Thematic Conclave on Speciality Chemicals and Sustainable Packaging' on 19/07/2024.
  - o Installed Self-powered indoor Air Quality Monitors at the Thiruvananthapuram International Airport (TIA) to keep a close tab on air quality parameters at the airport on 27/07/2024.

- o The foundation stone of the NIIST Innovation Centre at the campus laid by Dr.(Mrs.) N. Kalaiselvi, DG CSIR and Secretary DSIR on 27/07/2024.

### Visit of high level dignitaries

- **CSIR-CECRI**
  - o "Padma Bhushan" Dr. V.K. Saraswat, Hon'ble Member, NITI Aayog, Government of India, graced the 77<sup>th</sup> Foundation Day Celebration on 25/07/2024.
- **CSIR-CFTRI**
  - o Shri Hari Ranjan Rao, Additional Secretary Prime Minister's Office visited the Institute on 12/07/2024.
- **CSIR-CGCRI**
  - o Dr. Vijay Kumar Saraswat, Member, NITI Aayog and Chancellor, Jawaharlal Nehru University visited on 29/7/2024 to deliver one distinguished lecture.
- **CSIR-CLRI**
  - o The Deputy Commissioner, Jalandhar visited CLRI Regional Centre, Jalandhar on 19/07/2024 during a meeting on the CETP upgradation project.
- **CSIR-IHBT**
  - o H.E. Anisa K. Mbega, High commissioner, High Commission of the United Republic of Tanzania, New Delhi along with delegation visited to took brief overview of the technologies.
- **CSIR-IIIM**
  - o Hon'ble Union Minister and Vice President CSIR Dr Jitendra Singh launched the "Ek Ped Maa Ke Naam" plantation drive.
- **CSIR-NAL**
  - o Shri Hari Ranjan Rao, Additional Secretary, PMO visited CSIR-NAL on 12/07/2024.

### Honours/ Awards

- **CSIR Headquarters**
  - o Dr. N. Kalaiselvi, Director General, CSIR received 6<sup>th</sup> APJ Award instituted by Noorul-Islam Centre for Higher Education.
- **CSIR-CIMFR**
  - o Dr. Harsh Kumar Verma, Senior Principal Scientist selected for National GeoScience 2023 award.
  - o Dr. N. K. Bhagat received MEAI-SCCL Coal Award Mining Engineer 2023.
- **CSIR-IHBT**
  - o Dr. Sudesh Kumar Yadav, Director, CSIR-IHBT elected fellow of the Royal Society of Biology London.
- **CSIR-IICB**
  - o Prof. Vibha Tandon, Director, CSIR-IICB received the 1<sup>st</sup> AV Rama Rao Award.
- **CSIR-IICT**
  - o Dr. S. Sridhar, Chief Scientist inducted as a Fellow of Royal Society of Chemistry (FRSC), London, UK.
  - o Dr. A.V. Sesha Sainath honoured with National Technology Award "Tech Shri" 2024 from Association for Quality Education and Research (AQER).
- **CSIR-NGRI**
  - o Dr. Subash Chandra, Chief Scientist, has been elected as global vice-chair of the Society for Exploration Geophysics' (SEG) Near Surface Geophysics Technical Section for two years.

- o Dr. B. Prasanta K. Patro, Chief Scientist selected for the prestigious National Geoscience Award 2023.
- **CSIR-NIIST**
  - o Dr. M. Sundararajan honored with the prestigious Research Project Fund Award.
  - o Dr. Prathish K.P. and Er Abdul Haleem selected as NABL assessor
- **CSIR-NIO**
  - o Dr Pawan Dewangan, Senior Principal scientist selected for the prestigious National Geoscience Award 2023, presented by the Union ministry of mines.
- **CSIR-NML**
  - o Dr. Prem Kumar M and Dr. Ammasi A received M S Khan Memorial Award 2024" conferred by Indian Institute of Metals.
  - o Dr. Biraj K Sahoo received the "Young Metallurgist (Metal Science) Award 2023 conferred by Ministry of Steel.

## **DEPARTMENTAL ACTIVITIES**

DSIR's mandate is to promote Industrial Research and Development besides technology promotion, development and utilization. In order to promote and nurture Research and Development in the country, Industrial R&D Promotion Programme of the department gives recognition and registration to in-house R&D units of industries, not for profit Scientific and Industrial Research Organizations (SIROs), Public Funded Research Institutions (PFRI) and periodically renews these recognition / registration under the respective Government Notifications (as amended from time to time), by virtue of which these organizations are able to obtain Customs duty exemptions and Weighted tax deductions on R&D expenditures by Industry (under section 35(2AB) of IT Act).

### **Industrial R&D Promotion Programme (IRDPP)**

#### **Recognition/ Registration and renewal of In-house R&D in Industry**

- 32 in-house R&D units of industries were granted Recognition and 31 were granted Registration certificates
- 36 in-house R&D units of industries were granted renewal of Recognition and 36 were granted renewal of Registration certificates.

#### **Scientific and Industrial Organizations (SIRO)**

- 8 SIRO were granted Recognition and 7 were granted Registration Certificates
- 76 SIRO were granted Renewal of Recognition and 43 were granted Renewal of Registration Certificates

#### **Public Funded Research Institutions (PFRI)**

- 4 PFRI were granted Renewal of Registration Certificates

#### **Fiscal Incentives for Scientific Research u/s 35(2AB) of IT Act 1961**

- 9 in-house R&D units of industries were granted Approval and 11 in-house R&D units of industries were granted Extension of Approval in Form 3 CM u/s 35(2AB) of IT Act 1961.
- 11 Reports in Form 3 CL certifying R&D expenditures of Rs 145.73 Crores were issued to CCIT (E) for benefits u/s 35(2AB) of IT Act 1961.

**DSIR Central Sector scheme 'Industrial Research and Development (IRD)'** comprises of the four sub-schemes i.e (i) Promoting Innovations in Individuals, Start-ups and MSMEs (PRISM), wherein financial assistance is extended to independent innovators for converting innovative ideas into demonstrable working models / prototypes / processes that may take the form of new or

improved products, processes, or services; and assist them to become incubatees / techno-entrepreneurs, (ii) Patent Acquisition and Collaborative Research and Technology Development (PACE), wherein support shall be provided to industries and institutions for development and demonstration of innovative technologies, (iii) Building Industrial R&D and Common Research Facilities (BIRD), wherein support shall be provided for creation of Common Research and Technology Development Hubs (CRTDH) for use by entrepreneurs and industries and (iv) Access to Knowledge for Technology Development and Dissemination (A2K+) wherein studies and conferences in up-coming areas of industrial research shall be taken up besides undertaking a Technology Development and Utilization Programme for Women (TDUPW).

### **Promoting Innovations in Individuals, Start-ups and MSMEs (PRISM)**

Three innovation projects were reviewed during the period:

- Design and development of low-cost electropolishing unit for preparation of SEM and TEM samples for microstructural characterization.
- Dynamic response control of Building using Tuned Mass Damper.
- Radio frequency energy harvesting

One Prism project namely "Development of Biodegradable stent for cervix reconstruction for women with Cervical Atresia" was successfully completed during the period.

### **A2K+ Studies:**

The following Five on-going A2K+ Studies were reviewed by Project Guidance-Cum-Review Committee (PGRC) during the period :

- "Techno-Commercial Assessment of TRL-6 and above Technologies for Drinking Water Purification developed in India, in Academia, Research Institutions, Research Labs & Industry" supported to International Centre for Clean Water (ICCW), IIT Madras Research Park, Taramani Chennai.
- "A Study of the Usability and Accessibility of Various ICT Tools related to English Language Speaking and Reading Skills of Children with Autism Spectrum Disorder (ASD)" supported to Malviya National Institute of Technology (MNIT), Jaipur.
- "A study on research on indigenous development membranes for hospital waste water treatment in India to promote its recycle and reuse" supported to Department of Biosciences, Computer Science & Engineering (CSE), SRM University, Sonapat, Haryana.
- "A study on application of effective digital technologies for managing municipal waste in smart cities: A case of Andhra Pradesh" supported to IIM, Vishakhapatnam.
- "A Study on ICT Tools catering to a wide range of learners, including children with special need" supported to PSGR Krishnammal College for Women Peelamedu, Coimbatore, Tamilnadu, India.

### **Technology Development and Utilization Program for Women - TDUPW /A2K+:**

A project entitled - "Empowerment of Marginal Farmwomen of Western UP through small-scale enterprise development of value-added products from Finger millet (Ragi, Eleusine coracana) and Black wheat (Tritium aestivum) cultivation and training on drudgery reducing agricultural technologies" awarded to Amity Institute of Herbal Research & Studies (AIHRS), Amity University-Uttar Pradesh under TDUPW/A2K+ program of DSIR.

183 Women Beneficiaries have been trained under the various on-going TDUPW projects aiming women empowerment through technology deployment and dissemination.

## **PUBLIC SECTOR ENTERPRISES**

### **Central Electronics Limited (CEL)**

CEL is an Enterprise under DSIR having an objective to commercially exploit the indigenous technologies developed by national labs and R&D institutions in the country. CEL has developed a number of products through its own R&D efforts and continues to emphasize its leading role in the area of solar photovoltaic systems, electronic gadgets for Railway and other strategic electronic equipment/components among others.

- The company manufactured electronic components/systems/SPV products worth Rs. 2365.83 lakhs during the month of July.
- Sale of electronic components/systems/SPV products worth Rs. 2086.22 lakhs was realized during the month of July.

### **National Research Development Corporation (NRDC)**

The Corporation continued to lay emphasis on broadening and strengthening the technology resource base by nurturing long-term relationships with R&D institutions, Universities as well as industry.

- The Corporation Licensed three technologies namely:
  - Saline Water Lantern to M/s. Bespace Advisors
  - ANKUSH - A Silkworm bed disinfectant to Pure Chemicals
  - POSHAN –A Multinutrient Formulation for Mulberry to Pure Chemicals
- The Corporation signed following MoA/MoUs for Technology licensing and providing IPR assistance:
  - Jayoti Vidyapeeth Women's University (JVWU).
  - University of Science and Technology Meghalaya (USTM).
  - Assam Don Bosco University (ADBU).
  - BITS-Pilani
- The corporation collected a premium of Rs 6.45 Lakhs towards licensing of technologies to industries during the month.

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