

**No. DSIR/MS/2023/11**  
**Government of India**  
**Ministry of Science & Technology**  
**Department of Science & Industrial Research**

(Part-I Unclassified)

**Subject: MONTHLY SUMMARY FOR THE CABINET (For the monthly of November 2023)**

**Major achievements during the month of November 2023**

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

**New Products/Processes/ Technologies developed**

- **CSIR-CBRI**
  - Fire Retardant Intumescent Coating for Steel and GI Ducts
  - Foldable Shelter with Fire Retardant for Salt Workers.
- **CSIR-CEERI**
  - Developed 'IoT Enabled handheld water quality and discharge measurement system' Technology.
- **CSIR-CLRI**
  - Multifunctional formulation for leather application and a process for the preparation
- **CSIR-IIP**
  - Separation and Recovery of Bicyclic Aromatic Chemicals (BAC) mainly naphthalene from Carbon Black Feedstock (CBFS), Coker Liquid, and Light Cycle Oil (LCO)
- **CSIR-NBRI**
  - 5 - biopesticide formulations against Fusarium wilt for different crops

**Technologies licensed/transferred**

- **CSIR-CEERI**
  - Know-How Transferred to Plasti Surge Industries Pvt Ltd., Amravati for "IoT Enabled handheld water quality and discharge measurement system" on 06-11-2023.
- **CSIR-CFTRI**
  - Transferred following Technologies:
    - Instant traditional food: Sambar to Venkateshwar Food Products
    - RTS fruit juices and beverages to Green Touch Kaig Group
- **CSIR-CLRI**
  - Waterless Chrome Tanning Technology was licensed to 14 tanneries towards environmental sustainability to Iqbal & Company; Hayat Tanners; New Era International; New Leather Line; Raza Leather Finishers; Nafees Leather Finishers; J.N. International; Iqbal Exports; Golden Enterprises; Anwar Ahmad ki Tannery; Babloo Enterprises; Khan Leather Finishers; Paradise Leather Finishers and Amin Enterprises (I. A. Chemical)

- **CSIR-CBRI**
  - Developed Internal Fuel based Low Carbon Footprint Clay Bricks with Criss- Cross Bricks Setting technology and transferred to Bhanu Bricks Field; SaugaCeramic Pvt. Ltd; Universal Industries; M.D. Star Enterprises and Kailash Bricks Kiln Owner.
  - Developed Foldable Shelter with Fire Retardant for Salt Worker technology and transferred to Sehgal & Sehgal Industries and Jeeta Industries Pvt. Ltd.

### **Collaborations/Agreements/MoUs Signed (National)**

- **CSIR- Hqrs**
  - CSIR Technology Management Directorate signed MoU with HQ Integrated Defence Staff (IDS) for technical collaborations and joint research development in the field of defence technology on 23-11-2023 at CSIR Science Centre, New Delhi.
  - Technology Transfer Mela organised by CSIR-CBRI at Habitat Centre, New delhi, 75 Building and construction technology showcased and transferred on one slot on 24-11-2023.
- **CSIR- CDRI**
  - MoU executed among the International Institute of Information Technology, Hyderabad (IIIT-H), IIIT-H Data I-Hub Foundation, Hyderabad to promote institutional linkage between CSIR-CDRI, IIIT-H, and I-Hub-Data.
  - Memorandum of Cooperation executed with INMAS, DRDO, New Delhi for:
    - IND enabling studies of radio protective drug candidate N-acetyl-L-tryptophan on 05-09-2023.
    - Development of IL-6 based radio-protective formulation, pharmacokinetic and toxicity evaluation on 05-09-2023.
- **CSIR-CIMAP**
  - Signed MoU with ICAR-National Dairy Research Institute (NDRI) for Utilization of Aromatic Plants distillation residue as a source of dry roughages for ruminants on 28-11-2023.
- **CSIR-CLRI**
  - Signed MoU with MSME & T, Kolkata towards Establishment of Skill Development Centre at TTSC Building, Calcutta Leather Complex (CLC), Kolkata during the Bengal Global Summit on 22-11-2023.
  - Signed following consultancy agreements:
    - FARMGULP Private Limited, Yellapur, Karnataka towards Evaluation of Extracts from Agricultural by-product for possible use in leather application on 01-11-2023.
    - Bismee Trading Company, Chennai towards developing a process for making Harness Leathers (IS 580: 1973) from wet salted buffalo hides on 01-11-2023.
    - Erode Tannery Owners Association, Erode towards Conductance of Process Audit for Erode Tanners on 31-10-2023.
- **CSIR-CMERI**
  - Signed MoU with Security Printing and Minting Corporation of India Ltd., New Delhi for collaborative project for mutually carryout research specific test on 01.11.2023.
  - Signed MoU with National Institute of Advanced Manufacturing Technology, Ranchi, Jharkhand on 22.11.2023 to facilitate exchange of students, scientists, faculty members, experts, officials to carry out Industrial as well as academic R&D activities.
  - Signed MoU with National Institute of Technology, NIT Campus Jamshedpur on 23.11.2023 to facilitate exchange of students, scientists, faculty members, experts, officials to carry out Industrial as well as academic R&D activities.



- **CSIR-CRRI**
  - A Project based Agreement signed on 01-11-2023 with Envirotech Instruments Private Limited (EIPL) for consultancy services for Noise Mapping, hot spot Identification and Mitigation Plan for Noise Pollution control in Goa.
  - Signed MoU with Indian Institute of Technology Hyderabad (IIT-Hyderabad) for Academic and research collaboration in the areas of mutual interest on 17-11-2023.
  
- **CSIR-CSIO**
  - Signed MoU with Hindustan Aeronautics Limited (HAL) Nasik for collaborative design and development of technologies in realms of avionics and defense, marking the beginning of an innovative partnership
- **CSIR-CSMCRI**
  - Agreement for knowhow deployment right for Preparation of Activated Carbon with Powertech, Kolkata
- **CSIR-IHBT**
  - Following MoUs Signed with:
    - Yenna Tech, Hyderabad for R&D cooperation in the area of aromatic crops, essential oils, floriculture, tissue culture on 06.11.2023.
    - Chitkara University, Himachal Pradesh to collaborate for research and teaching in the designated subjects of Pharmaceutical Sciences, Chemistry, Dietetics & Nutrition, Environmental Sciences, Molecular Biology, Chemical Sciences, Agricultural Sciences on 06.11.2023.
    - The Luxmi Seva Sehkari Sabha Simiti, Gungyas, Chamba H.P. to install distillation unit under CSIR Aroma Mission Phase-III on 23.11.2023.
    - Signed Agreement with the Lahoul Fruit & Vegetable Growers Co-operative Marketing cum Processing Society Ltd., Lahoul & Spiti H.P. to install a Low-Temperature Adapted Methanogenesis (LTAM) plant (capacity 3000-liter/day) on 28.11.2023.
- **CSIR-IGIB**
  - Signed MoU with Institute of Aerospace Safety, Indian Air Force. New Delhi on 11-10-23.
- **CSIR-IICT**
  - POC Study for the separation and purification to obtain PFHO NLT 99.5% employing Spinning Band Distillation Column (SBDC) along with GC analysis (Contract order) with Dr Reddy's Labs.
  - Signed agreement with Fountomics Lifesciences for Protein Characterization with hyphenated analytical techniques.
  - Signed Know-how agreement with HPCL, Bengaluru for (Photo)Catalytic Reduction of CO<sub>2</sub> to Methanol – Demonstrating Feasibility and Generating Technology Readiness.
- **CSIR-IITR**
  - Signed MoU with Odisha State Pollution Control Board, Bhubaneswar on 04-11-2023 for foster collaboration and research programmes to provide advancement in Scientific and technological knowledge for the benefit of society at large.
  - Signed MoA with Esniff Devices Private Limited, Uttar Pradesh on 24-11-2023 to perform R&D activities jointly as per Term of Reference for incubation at BIRAC-BioNEST, CSIR-IITR, Lucknow.
  - A work contract agreement was signed with DRDO-CFEES, New Delhi to carryout toxicity studies of AFFS sample on 29-11-2023.

- **CSIR-NEERI**

- Signed following MoUs for academic and collaborative research on Environmental Health Impact on oral & dental health:
  - Government Dental College, Nagpur (GDCH)
  - Sathyabama Institute of Science and Technology for academic and collaborative research.
- Signed MoU with Maharashtra State Power Generation Co. Ltd. for Algae-based flue gas CO2 sequestration with co-production of high-value bio-chemicals.

- **CSIR NIIST**

- Executed MoU for the installation of pilot plant BMT technology for municipal solid waste management and treatment with Nedumangad Municipality, Ministry of LSGD, Govt of Kerala.
- Signed MoU with Hindustan Aeronautical Limited (HAL), Bengaluru to collaborate on strengthening the indigenisation and import substitute programme for the nation's aerospace and defence sector.
- Jointly developing Biomass-based leather alternates and other related materials and chemicals with ALT Materials Innovations Pvt. Ltd., Bangalore.
- Collaborated with following:
  - Department of Biotechnology (DBT) New Delhi for Poly-gamma-glutamic-acid and its blends as biodegradable material and an alternative to single use plastics.
  - Bio Vastum Solutions Pvt. Ltd, Ernakulam to investigate the impact of biomedical waste treated using NIIST technology on selected soil parameters, under a collaborative platform -

- **CSIR-NML**

- Following agreements signed:
  - R&D in the areas of mutual interest(Umbrella) with M/s. Kashi Vishwanath Steels Pvt Ltd. Kashipur, Uttarakhand.
  - Studies on Creep Behaviour of SS304L Base and Weld Material(Sponsored) with BARC, Mumbai.

### Patents Update

Patents Filed			Patents Granted			Patent Prosecutions	
India	Abroad* (Unique Patent Application)	Abroad (Multiple Countries) *	India	Abroad* (Unique Patent Application)	Abroad (Multiple Countries) *	India	Abroad*
17	12	18	34	04	04	28	156

\* Data reported to IPU during the above said period and may change later during national phase entries. The unique filed/granted patent may appear in the next month also if it's corresponding application is filed/granted in the respective months.

### High impact S&T services offered

- **CSIR-CDRI**

- Provided analytical services to one MSME and consultancy for new drug product development to one Medium-Sized Enterprise in the Pharmaceuticals sector.



- Provided service for analysis of samples by High-Resolution Mass Spectrometry (HRMS), Liquid Chromatography - High-Resolution Mass Spectrometry (LC-HRMS), IR Spectroscopy, Elemental Analysis, Liquid Chromatography–Mass Spectrometry (LC-MS), Electro spray Ionization Mass Spectrometry (ESI-MS), and High-Performance Liquid Chromatography (HPLC). In the month of November 2023, a total of 207 external samples were analysed.

- **CSIR-CIMAP**

- The planting material of 2000 slips of Lemongrass (vr. CIM-Krishna), 2000 slips of Vetiver (vr. CIM-Vridhi), 250-gram seeds of Palmarosa (vr. PRC-1) and 200 gram. Tulsi (vr. CIM-Saumya) was provided to KVK Ujwa, New Delhi for demonstration.

- **CSIR-CMERI**

- Integrated Scientific Solution for Improving Legacy Municipal Solid Waste Management in the India Himalayan Region.
- Eco-Friendly Identifier A Handhold Plastic Type Detector An AI-enabled Portable Solution for identifying Plastic Polymers.
- Design and Manufacturing of Air Foil Bearing supported High Speed Turbo Blower used in Wastewater Treatment.
- Development of Novel Eggshell Membrane Harvester.
- Condition assessment of mill foundation, ID fan Foundations FD fan Foundation and TG Duk at IGSTPP, Jharli.

- **CSIR-CRRI**

- Drafting Noise Barrier Guidelines for Delhi Metro Rail Corporation, New Delhi
- Development of Performance Grade(PG) Bituminous Binder Classification system for India for Ministry of Road Transport & Highways(MORTH)
- Noise Mapping, Identification of Hot Spots and Mitigation Plan for Control of Noise Pollution for Goa State for Envirotech Instruments Pvt. Ltd.

- **CSIR-CSMCRI**

- Evaluation of Deep eutectic solvents as a new potential non-aqueous media for the efficient dissolution and bio-material preparation of e-Poly-L-lysine.
- Ionic Liquid–Catalysed Regio selective Oxygenation of Quinoxalin-2(1H)-ones Under Visible-Light Conditions.

- **CSIR-IIP**

- Testing services offered under various ongoing projects of the institute, industrial clients and AcSIR activities. These tests include gaseous fuels, liquids fuels engine oils, lubricating oils, waxes, GC-MS and HRMS of petroleum fuels and general chemicals.
- Testing and evaluation of "HC HFDU 68" hydraulic fluid for Fire Resistance Characteristics, Thermal stability, Hydraulic stability, Elastomeric seal compatibility and Four ball wear characteristics for the samples submitted by Hydrocarbons and Chemicals, Kolkata, West Bengal.

- **CSIR-NCL**

- Supplied industrially important microbial strains and provided allied microbial identification services to industries and academia

- **CSIR-NEERI**

- Watershed development plan for micro water shade within Kolhapur district and Satara District of Maharashtra.



- Environmental Impact Assessment study for the proposed integrated solid waste management plan (ISWMP) at Dadumajra, Chandigarh.
- No Increase of pollution load for the installation of New Biturox Unit along with allied facilities at Barauni Refinery.
- Rapid Environmental Impact and Risk Assessment study for the proposed power plant of RSL, Jamnagar.
- Conducting the Third Party Environmental Audit for compliance of EC conditions of Kulda and Garjanbahal OCP of Basundhara Area, Mahanadi Coalfield Ltd. (MCL).
- **CSIR-NML**
  - Roasting & Hydrometallurgical Processing of Coal Slag.
- **CSIR-SERC**
  - Assessment of Performance of Super Structure through Instrumentation in Major Bridge No.310 between Kharwa Chanda-Zawar Stations near Udaipur in Ajmer Division of North Western Railway.
  - Condition Assessment of Partially Built Steel Circular Skywalk Structure at Kottayam
  - Evaluation of Seismic Characteristics of Telephone Exchange Unit Using Shake Table Resonance identification and seismic qualification studies.

### **Outreach Activities (Jigyasa, Skill Development, and others)**

- **CSIR-4 PI**
  - 64 students and 5 faculty members from Yerahalli Government High School, visited CSIR Fourth paradigm Institute on the occasion of Janajatiya Gaurav Diwas celebration on 23-11-2023. The students were briefed regarding High-Performance Computing (HPC), Cyber Security Lab, Global Navigation Satellite System Set-up and Energy Farm facilities
- **CSIR-AMPRI**
  - Students-scientist interaction and lab visit on 21-11-2023, 80 students and 10 teachers of Oriental School Bhopal participated.
  - Celebrated Janjatiya Gaurav Diwas programme on 24-11-2023, 400 tribal students and 50 teachers students participated.
  - 400 students and 100 teachers interacted during Regional Science Congress-2023 at Jawahar Navodaya Vidyalaya Ratibad on 28-11-2023.
- **CSIR-CBRI**
  - Organized Skill Development Training Programme on Training of Master Trainers for Masons' during 20-11-2023 to 24-11-2023. The programme was attended by 31 Engineers from different departments of Himachal Pradesh.
  - Conducted two days Skill Development Training Programme on Design, Construction and Operation: SOP & Advances in Burnt Clay Brick Industry during 03 & 04-11-2023. 56 participated.
- **CSIR-CDRI**
  - Organized following Training programmes:
    - Skill Development Program (Training/Dissertation) for students pursuing Postgraduate courses
    - Advance Training Program for the research scholars and R&D Institutions/ Industry etc.
    - Skill Development Program on Basic Training in Electron Microscopy Techniques for Life Sciences.
  - The Student Scientist Connect program
    - Celebration of Ayurveda Day on 02 & 03-11-2023, 175 students and faculty members of Khawaja Moinuddin Chishti Language University, Lucknow, and



73 students and faculty members of Shree Nishadraj Akhandanand Post Graduate College, Amethi, UP participated.

- Celebration of Janjatiya Gaurav Divas on 23-11-2023 at Kasturba Gandhi Awasiya Vidyalaya, Kumhrawa, Bakshi ka Talab, Lucknow, UP. 100 female students and faculty members participated.
- Celebrated World Antimalarial Awareness (AMR) week. 70 students and faculty members of Goal Institute of Pharmacy & Sciences, Lucknow, UP and 90 students and faculty members of Army Public School, Lucknow, UP participated.

- **CSIR-CECRI**

- Conducted following Skill Development Training Programme:
  - Electroplating and Metal Finishing during 06-11-2023 to 10-11-2023. 27 participated.
  - Additive Manufacturing: A Technology of Rapid Customization during 15-11-23 to 17-11-2023. 21 participated
  - Electrochemical Power Sources: Lithium-ion battery - Science & Technology during 20-11-2023 to 24-11-2023 .28 participated
- Under Naan Mudhalvan scheme, 539 school students and 26 teachers from Sivagangai District Govt./Govt. aided schools visited during 28-11-2023 to 30-11-2023.

- **CSIR-CEERI**

- 50 students of NVS Kajra School's visited the campus on 01-11-2023.
- Organized the IETE Lecture and R&D Lab visit for the Faculty Development Program (organized by BKBIET) on 03-11-2023.
- Installed Climate Clock at NVS Kanina, Mahendragarh, Haryana; NVS Jhajjar, Gurugram, Sonapat; JNV Bhiwani, Haryana and NVS Sirsa, Hisar, Fatehabad during the month.
- Demonstration of Semiconductor technologies in CEERI Museum to 46 school children of Satya Jyoti Vidya Mandir, Bhurasar, Jhunjhunu on 08-11-2023.
- Celebrated Birsa Munda's Birth Anniversary on 15-11-2023 as a 3rd Janjatiya Gaurav Divas at CSIR-CEERI Campus and spread awareness about govt's Schemes and relations for Tribal Community.

- **CSIR-CFTRI**

- In association with Agastya Foundation, Science innovation fair was conducted at Jalapuri, Mysuru on 20.11.2023. 60 students and 20 teachers of Govt. schools of Mysuru Dist participated in the program.
- 10 training programs were conducted during the month under various topics and 139 participants were trained.

- **CSIR-CGCRI**

- One-day workshop was organized on 17-11-2023 for Institute of Engineering and Management, Kolkata.
- Organized five-day skill development programme on Physical testing of refractory materials as per IS standard at CSIR-CGCRI, Kolkata during 20-24 November, 2023.
- Organized Skill Development Training Program on Classical Analysis and Advanced Instrumental Analysis for Chemical Characterization of Glass, Ceramics and related raw materials during 21-24November, 2023.

- **CSIR-CIMAP**

- Organized five, one-day awareness programmes on cultivation of medicinal and aromatic plants during 06-23 November, 2023. 228 participants from different part of Uttar Pradesh and Bihar participated.



- Displayed activities & technologies at Maharishi University, Lucknow on 03-11-2023 and Integral University, Kurshi Road, Lucknow on 04-11-2023.
- **CSIR-CIMFR**
  - Organized Students-Scientist Connect Program on Artificial Intelligence and its Role in Academic Excellence the Beginning of New Era at:
    - Kendriya Vidhyalaya No.1 Dhanbad on 06-11-2023. 53 students participated.
    - Sanskriti Vidya Mandir High School Digwdih on 08-11-2023. 56 students participated.
    - Eklavya Madhyamik Vidyalaya, Sahraj, Govindpur, Dhanbad on 10-11-2023. 50 students participated.
- **CSIR-CLRI**
  - Organized the Faculty Development Programme on 23-11-2023 on Industry 5.0 for Health Care 5.0 sponsored by AICTE. 36 members from Veltech University, Avadi participated.
  - Organized Entrepreneurship cum skill development programme (E-SDP) training programmes funded by MSME Technology and Development Centre on GAIT Analysis and Quality Control Chemist - Microbiology during November 2023
  - Science Seminar: on Achieving Improved Electrical Properties of Conjugated Polymers using Self-Assembly and Novel Processing Routes at CSIR-CLRI on 28-11-2023.
  - Organized an awareness program on iGOT Karmayogi platform on 02-11-2023.
- **CSIR-CMERI**
  - Organized Analytical Techniques and Instrumentation for Water Quality Assessment programme during 29-11-2023 to 01-12-2023.
  - 3<sup>rd</sup> Janjatiya Gaurav Divash programme was organised on 24-11-2023 for Jemua Bhadubala Bidyapith (H.S). 63 students and 4 faculty members participated.
- **CSIR-CRRI**
  - Conducted 15-day certification course on Road Safety and Other Road safety related aspects during 15-11-2023 to 30-11-2023. 69 participated.
- **CSIR-CSIO**
  - Conducted Management Development Programme on Bio-signal Acquisition and Analysis sponsored by Ministry of External Affairs (MEA), Govt. of India on 17-11-2023.
  - Conducted five days workshop on Artificial Intelligence and Computational Imaging in Healthcare under CSIR-Integrated Skill Initiative Program in Hybrid mode on 20-11-2023.
- **CSIR-CSMCRI**
  - Organized training program on Marine Algae Cultivation and Processing Technology during 3<sup>rd</sup> Janjatiya Gaurav Divas 2023 on 23 & 24 November, 2023. 27 participated.
  - Provided training on seaweed cultivation to a total of 95 fishermen, with 28% being women. Two training sessions were conducted at Narayan Sarovar and Lakki villages of Kori Creek area, Kachchh, Gujarat.
- **CSIR-HRDC**
  - Organized programme on Public Procurement: Vigilance Perspective on 08-11-2023
  - Organized programme on Ethics and Governance in Science on 16-11-2023
- **CSIR-IHBT**
  - 682 students and 80 teachers from 12 different schools of Distt. Kangra, Mandi and Hamirpur of Himachal Pradesh visited during 02-11-2023 to 28-11-2023.
  - 3<sup>rd</sup> Janjatiya Gaurav Divas was celebrations and conducted different programs for 35 children and faculty members of tribal areas of Lahaul and Spiti district of Himachal Pradesh on 20-11-2023



- **CSIR-IICB**
  - One-day lab visit was organized for 30 students and 03 teachers from Krishna Chandrapur High School, Mathurapur on 24-11-2023 during 3<sup>rd</sup> Janjatiya Gaurav Divas.
- **CSIR-IICT**
  - Online lecture cum interactive session arranged on AGR technology. 6600 school students from Telangana state attended the session.
- **CSIR-IIIM**
  - Children Science Festival was organized on 06-11-2023 under the flagship of Student-scientist connect program, 300 school students participated.
  - One-day Global Bio-India Road Show, 300 students participated.
- **CSIR-IIP**
  - 100 students and faculty members visited on as a part of the UCOST's endeavour to provide exposure of National Laboratories to the students programme on 07-11-2023.
- **CSIR-IITR**
  - Organized workshop on Comet assay under the CSIR-Integrative Skill Initiative Programme on 21-11-2023.
- Organized NABL training course on "ISO/ IEC 17025: 2017 assessors for Testing (other than medical) & Calibration laboratories from 21-24 November, 2023.
- **CSIR-NBRI**
  - Jigyasa team visited two Kendriya Vidyalayas of Deoria Dist. On 03-11-2023 & interacted with students/ teachers.
  - An interactive session on Understanding & Implementing Mission Life was jointly organized with NBRI-EIACP on 06-11-23. 103 students & 5 teachers participated.
  - Organized an interactive session for 120 students & 11 teachers of PM Shri Kendriya Vidyalaya Hardoi on 17-11-2023.
  - Under Jigyasa, 100 students & 10 teachers of PM Shri KV Amhat, Sultanpur visited on 20-11-2023.
  - Organized one-month training programme on Dehydrated Floral Crafts for women empowerment from 10-10-2023 to 09-11-2023.
  - Organized two-day Diwali Flower Market by CSIR-NBRI during 10&11-11-2023, under CSIR-Floriculture Mission Phase-II.
- **CSIR-NEERI**
  - Conducted following Skill Development Training Program on:
    - Analytical Instrumentation Techniques for Measurement of Environmental Contaminants during 07-08 November, 2023.
    - Acquiring Environmental Engineering Skill – Monitoring, Measurement and Analysis during 23-24 November, 2023.
  - Conducted training course for IFS officers on Environment Management: Science and Technology during 31-10-2023 to 04-11-2023.
- **CSIR-NIIST**
  - Assisted the Regional Children Science Congress at Kendriya Vidyalaya AFS Akkulam during 2&3-11-2023. 150 students participated.
  - Conducted training program on Hands on training of IR, UV-Vis & Fluorescence Spectroscopic Techniques from 01-11-2023 to 15-11-2023.
  - Organized one day Scientist-Student interaction program on 16-11-2023. 141 students and 14 Teachers from 5 vocational higher secondary schools participated.
  - Organized Scientist-Student Connect Program and R&D Lab visit for M.Sc. Chemistry students on 16-11-2023. 101 Students and 9 Faculties participated.



- Organized a Scientist-Student Connect Program at PM Shri Kendriya Vidyalaya AFS Akkulam on 22-11-2023. 100 students and 10 teachers participated.
- Celebrated Janjatiya Gaurav Divas 2023. Scientist–Student Interactions, invited talk, R&D Lab visit and interactive quiz organized for Tribal students in Thiruvanthapuram on 22-11-2023. 120 students and 10 teachers participated.
- Organized Industry Connect meet on Novel Building Materials on 17-11-2023
- Conducted one day National Workshop on Review & Update of Strategies for Persistent Organic Pollutants (POPs) Management on 23-11-2023.
- **CSIR-NIO**
  - Organized Science Teachers Connect Program under Jigyasa 2.0, at its Regional Centre Visakhapatnam from 20-11-2023 to 23-11-2023.
- **CSIR-SERC**
  - Conducted Advanced Course on Recent Advances in Concrete Technology & Durability of Concrete Structures 2023 (RACT&DCS 2023) during 22-11-2023 to 24-11-2023. 09 participated.
  - Organized two-days, CSIR JIGYASA ATL workshop during 01-11-2023 to 03-11-2023. 900 students and 50 teachers participated.
  - Organized two-day, CSIR JIGYASA ATL workshop during 28-11-2023 to 30-11-2023. 500 students and 40 teachers participated.

#### **Important Conferences, Workshops, etc organized during the month**

- **CSIR Headquarters**
  - IGCW-2023 EXPO, held during 06-08 November, 2023. CSIR and its labs (CSIR-NIIST, CSIR-CDRI, CSIR-NEIST, CSIR-CSMCRI) participated at Westin Garden City, Goregaon, Mumbai.
  - Agrovision 2023 held at PDKV ground, Dabha, Nagpur, Maharashtra. during 24-27 November, 2023. CSIR and its labs (CSIR-NEERI, CSIR-NBRI, CSIR-IIIM, CSIR-IHBT, CSIR-CFTRI) participated.
  - World Food India 2023 held at Pragati maiden, New Delhi. on 05-11-2023, CSIR and its labs (CSIR-CFTRI, CSIR-IHBT and CSIR-NIIST) participated.
- **CSIR-CBRI**
  - Organized Technology Transfer Mela and exhibited the latest advancements in building and housing technologies.
- **CSIR-CFTRI**
  - Aarambh-Global Bio India (GBI) Roads how event and connect meet for Startups, Scientists, Students & Investors were organised in the Institute on 20-11-2023 in association with BIRAC.
- **CSIR-IGIB**
  - Organized One Day workshop on GCP Guidelines and Role & Responsibilities of Ethics Committee on 05-10-23
  - Cardiovascular Research Convergence 2023 on 29-10-23
- **CSIR-IICB**
  - Neuroupdate 2023 meeting was held during 25&26-11-2023at CSIR-IICB, Jadavpur.
- **CSIR-IICT**
  - Organized Indo-French Seminar during 01-11-2023 to 03-11-2023on Synergy of Chemistry and Biology towards Affordable Health.
- **CSIR-IIIM**
  - Conducted workshop on Scientific & Technological interventions in Medicinal & Aromatic Plants for Rural Development from 28-10-2023 to 06-11-2023 in Srinagar branch.



- **CSIR-NIIST**
  - Organized International Conference NHBT 2023 - New Horizons in Biotechnology, during 26-11-2023 to 29-11-2023
- **CSIR-SERC**
  - Organized Webinar (through MS-Teams) on Fire-Resistant Design of Steel Structures was held on 27-11-2023, No. of Participants: 36
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#### **Visit of high-level dignitaries to the Institute/Laboratory**

- **CSIR-AMPRI**
  - Er. Simanta Das Chief Radio Technologist, NECTAR, DST, New Delhi visited on 29-11-2023 in Bamboo Baithak.
  - Prof Hideaki Morikawa, Dean of Faculty of Textile Science and Technology, Shinshu University, Miss Naho Osaka and Prof. M. Gopiraman Shinshu University, Japan visited on 30-11-2023.
- **CSIR-CEERI**
  - Hon'ble Jal Shakti Minister Sh. Gajendra Singh Shekhawat visited on 23-11-2023.
- **CSIR-IICT**
  - Dr Nitin Seth, Director IFCPAR, New Delhi, CNRS (Dr.Srini Kaveri from New Delhi Office), Embassy of France (Dr. François-Xavier Mortreuil, Attaché for Science and Academic Cooperation, Bangalore) visited CSIR Institute for CEFIPRA's French Alumni Meet on 02-11-2023.
- **CSIR-IIIM**
  - Dr. Jitendra Singh, Union Minister of State (Independent Charge) Science & Technology visited on 06-11-2023.
- **CSIR-IITR**
  - Padma Shri Prof. S. Ayyappan, Former DG-Indian Council of Agricultural Research and Former Secretary, Department of Agricultural Research and Education visited to deliver 27th Professor Sibte Hasan Zaidi Oration on 03-11-2023.
  - Dr K Murugesan, IFS, Member Secretary Orissa State Pollution Control Board and Dr Ravi Kumar Singh IFS, DFO, Awadh, Uttar Pradesh participated in 59<sup>th</sup>CSIR-IITR Foundation Day Celebration on 04-11-2023.
- **CSIR-NAL**
  - Hon'ble President of India, Smt. Droupadi Murmu, along with Minister for S & T (I/C), Dr.Jitendra Singh, visited CSIR-National Aerospace Laboratories (NAL), Bengaluru stall at International conference cum exhibition on Aerospace & Aviation in 2047 at New Delhi on 18<sup>th</sup> November, 2023
- **CSIR-NCL**
  - Prof. Maarten A Jongsma, Wageningen Plant Research, Wageningen University & Research, Wageningen, Netherlands visited.

#### **Details of events celebrated to mark India@75 or Azadi Ki Amrit Mahotsav / 75 Years of Indian Independence**

- **CSIR-CLRI**
  - Organised Fit India Swachhata Freedom Run 4.0 on 02-11-2023.
  - celebrated Constitution Day on 24-11-2023
- **CSIR-CRRI**
  - Celebration of Janjatiya Gaurav Divas on 24-11-2023.
- **CSIR-IICT**



- Ayurveda Day-2023 under the theme Ayurveda for everyone on every day was celebrated on 08-11-2023.
- **CSIR-IIIM**
  - 8th National Ayurveda Day was jointly organized with Regional Ayurveda Research Institute, Jammu on 02-11-2023.
- **CSIR-IITR**
  - Celebrated 59th Foundation Day on 04-11-2023.
- **CSIR-NBRI**
  - On the occasion of the Constitution Day, the Preamble of the Constitution was read by the Institute on 24.11.23 by Director Dr. AK Shahshani and all the officers/employees along with the Director.

## **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 (PFRIs) 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 by Industry (under section 35(2AB) of IT Act). This scheme helps in encouraging industrial R&D in the country.

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

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

- 14 in-house R&D units of industries were granted Recognition and 14 were granted Registration certificates.
- 14 in-house R&D units of industries were granted Renewal of Recognition and 26 were granted renewal of Registration certificates.

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

- 9 SIROs were granted Recognition and 3 were granted Registration Certificates.

**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)**

2 new projects namely Development of Automatic Portable Ventilator and Photonic Reflector integrated Solar Maximizer were sanctioned during the period.

## **Common Research and Technology Development Hubs (CRTDH) Scheme:**

Two days DSIR-CRTDH Conclave-2023 was organized on 6<sup>th</sup> & 7<sup>th</sup> November 2023 at Indian Institute of Technology (IIT), Gandhinagar wherein all the supported CRTDHs participated and showcased their achievements. Dr. N. Kalaiselvi, Secretary, DSIR & DG, CSIR addressed the participants. An exhibition was organized in which products/prototypes developed by various CRTDHs along with its associated MSMEs / Start-ups incubated at the CRTDH were showcased. The conclave was attended by various MSMEs, Industry associations, start ups, students & researchers.

The Conclave saw the unveiling of two reports prepared by DSIR showcasing the activities and noteworthy achievements of CRTDHs and its stakeholders:

- 'Ten years of CRTDH - Empowering MSMEs and stimulating transformation'
- 'Chintan shivir report - CRTDHs empowering MSMEs' – a compilation of discussions, dialogue and key challenges of MSMEs for the five chintan shivirs organized by DSIR.

## **Scheme A2K+ Studies**

DSIR organised stakeholder consultant meeting jointly with TERI in India Habitat Center, New Delhi on 30.11.2023 for collaborative conversations and insightful perspectives on energy efficient building materials and design for achieving energy efficiency and on current status of membrane technologies in India for sewage treatment. The experts from Industry, Academia, associations and policy makers participated in the discussions towards sustainable and technology driven future of smart cities.

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

119 Women Beneficiaries have been trained under the various ongoing TDUPW projects aiming women empowerment through technology deployment and dissemination.

## **Events /Special campaigns organized by/in the Department:**

- A Chintan Shivir / Brainstorming Meeting with Stakeholders on Fiscal Incentives (FI) for Engineering & Automotive Sector was organized in DSIR on 17.11.2023. The objective of Stakeholders meeting was to discuss and take feedback from the Stakeholders for the measures towards strengthening of R&D Structure in the country. About 50 participants mainly from Industry Associations (FICCI, ASSOCHAM, PHDCCI, CII, SIAM, ICEMA, etc.), Industries (Mahindra & Mahindra, TVS Motor Company, Cummins India Ltd., Tata Motors, Tata Advanced Systems Ltd., Comster Automotive Technologies Pvt. Ltd., etc.) and representatives of Ministry of Heavy Industries, CBDT, DC-MSME, etc. The participants deliberated on various issues and challenges before the industries in carrying out Research and Development in Engineering & Automotive Sector. The participants were of the opinion that the Weighted Tax deduction may be restored.



## **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. 3463.12 lakhs during November, 2023.
- Sale of electronic components/systems/SPV products worth Rs. 2329.31 lakhs was realized during November 2023.

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

NRDC continues 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 following three technologies to industries:

- i) Development of special purpose Silk Thread for Sue Battle Tank engines in Defense developed by CSTRl (CSB Bengaluru to M/s H Gangadharsa & Sons, Bengaluru)
- ii) Wave Powdered Navigational Buoy Technology developed by National Institute of Ocean Technology (NIOT) to M/s Tridel Technologies Private Limited.
- iii) MARESOL-Marine Oil Spill Bioremediation developed by National Institute of Ocean Technology (NIOT) to M/s NATCAP.

The corporation signed 1 MoU with IIT Roorkee for providing IP portfolio management and technology commercialization services:

The corporation collected a premia of Rs 5.75 Lakhs towards licensing of technologies to industries during the month.

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