

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

Major achievements during the month of January, 2024

COUNCIL OF SCIENTIFIC & INDUSTRIAL RESEARCH (CSIR)

New Technologies/Processes Developed/Transferred

- **CSIR-AMPRI**
 - Bamboo Composites for Modern Housing Structures to M/s Asili Bamboo Products, Meerut.
- **CSIR-CBRI**
 - Crafted a unique system for the newly constructed Ram Temple in Ayodhya. The system ensures the appearance of a tilak (Surya Tilak) on the forehead of the idol in the sanctum sanctorum using sunlight, mirrors and lenses. The displays scheduled for Ram Navami on March 29, marking Lord Ram's birth anniversary.
 - A Scaled-down model of the Ram Temple developed using wood, ply, recycle material and 3D printing techniques.
 - CO₂sequestered lightweight aggregates from industrial wastes.
- **CSIR-CDRI**
 - Developed small molecule modulator targeting a rare histone modification, regulation of adipogenesis and pharmaceutical formulation
- **CSIR-CFTRI**
 - Developed High Performance Advanced Oxidation process for STP's grey water and industrial waste water (Food and Non Food) also for roasted and flavored cashew kernels
- **CSIR-CIMAP**
 - Mobile app launched and AloeRoma cream was released on 31/01/2024 by Honorable Chief Minister of UP in the presence of DG CSIR.
- **CSIR- CLRI**
 - A process to protect leather against degradation has been developed.
- **CSIR-IHBT**
 - Process for 2,5-diformylfuran (DFF) synthesis from fructose or low cost carbohydrate feedstock's
 - Free flowing decomposer
- **CSIR-IIP**
 - Separation and Recovery of Bicyclic Aromatic Chemicals (BAC) from Carbon Black Feedstock (CBFS), Coker Liquid, and Light Cycle Oil (LCO)

- **CSIR-NIIST**
 - Technologies Developed:
 - TRL 5 for the production of plant based meat analogies by innovative extrusion process
 - Developed injection-molded 100% biodegradable coir composite pellets to be used in agriculture, construction, packaging, consumer goods, healthcare.
 - Plant - Based High Moisture Extrudates.
 - Coffee crema technology
 - Production of Premix for Fortified Rice Kernels
 - Technologies Transferred:
 - For the production of the enzyme – Beta glucosidase using filamentous fungus employing solid state fermentation to M/s Sarthak Metals Limited, Nagpur.
 - For manufacturing leather alternative (Vegan Leather) from sugarcane bagasse by M/s PA Footwear Pvt. Ltd, Chennai, Tamil Nadu.
- **CSIR-NIO**
 - Launch of C-bot, NIO's Technology
- **CSIR-SERC**
 - New Technologies Developed:
 - Flexi Heat Fire
 - Engineered cement-based composite systems for expansion joint-free bridges (Jt-Free)
 - Development of Paver block using slag cement and recycled concrete aggregate
 - 3D-Printable Ultra High-Performance Concrete (Concrete - 3D)

Collaborations/Agreements/MoUs Signed (International)

- **CSIR-AMPRI**
 - IIT Roorkee for close linkage in terms of research and academic activities on 10/01/2024 for 10 Years.
- **CSIR-CCMB**
 - Extension of MoU with National Council for Science Museums to run the Gene-Health Connect bus until Jul 2024
 - Signed MoA with National Council of Science Museums(NCSM)-represented by Visvesvaraya Industrial and Technological Museum (VITM), Bengaluru: For establishment of Mobile Science Exhibition (MSE) bus on the theme “In your Genes- decode and deter genetic disorders”.
- **CSIR-CDRI**
 - Signed MoA with DBT, New Delhi 24/01/2024 w.r.t. “Identifying kinases regulating Glucocorticoid receptor (GR) protein stability: its implication in combatting glucocorticoid (GC)-induced paclitaxel resistance in Triple Negative Breast Cancers (TNBCs)” and “Elucidating the role of Nucleotide Binding Oligomerization Domain containing Proteins (NODs) in Development and Progression of Non-alcoholic Fatty Liver Disease (NAFLD)”
- **CSIR-CEERI**
 - Signed MoU with M/s Tech-X Corporation, USA for Institutional Collaboration on 15/01/2024

- **CSIR-CLRI**
 - Signed Consultancy Agreement with The District Magistrate, Maharajganj, Uttar Pradesh on 29/12/2023 towards (a) the preparation of expression of interest (EoI) for seeking enrolment of entrepreneurs for establishment of a pilot plant and operate the same, for producing microcrystalline cellulose (MCC) from agricultural waste, (b) scrutiny of the expressions of interest, (c) deliberating with the potential entrepreneurs (who submit the EoI), and (d) finalization of the business framework for establishing the plant.
- **CSIR-CRRI**
 - Signed MoU with:
 - Indian Institute of Technology Madras, Tamil Nadu (IIT-Madras) for Academic and research collaboration in the areas of mutual interest on 05/01/2024.
 - Indian Institute of Technology, Banaras Hindu University (IIT-BHU) for Academic and research collaboration in the areas of mutual interest on 12/01/2024.
 - National institute of Technology, Delhi (NIT-Delhi) for Academic and research collaboration in the areas of mutual interest on 31/01/2024.
- **CSIR-CSMCRI**
 - Signed collaborative project agreement with ICAR- Central Institute of Fisheries Education entitled "Propagation and utilisation of red seaweed, Gracillaria spp. for sustainable shrimp aquaculture";
 - Signed GAP agreement with Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth, Dapoli, Ratnagiri District, Maharashtra entitled "Strategies to initiate seaweed cultivation along the coast of Maharashtra"
- **CSIR-HRDC**
 - Signed collaborative MoU on 24/01/2024 with four Sector Skill Councils (SSCs) - Agriculture Skill Council of India (ASCI), Capital Goods & Strategic Skill Council (CGSSC), Hydrocarbon Sector Skill Council (HSSC) and Life Sciences Sector Skill Development Council (LSSSDC) under CSIR's unique Program "CSIR Integrated Skill Initiative" held at CSIR Headquarters, New Delhi on 24/01/2024. to exchange their expertise and strengthen the skill ecosystem by running joint-programs.
- **CSIR-IHBT**
 - Signed MoU with M/S Cirkla Technologies, Goregaon, East Mumbai on PHA based Bioplastic and its co-polymers and any other areas mutually decided on 03/01/2024
 - Signed Agreement with:
 - Dev Bhoomi Nursery, Housing Board colony Bindraavan, Palampur for producing floriculture plants for using facilities for its commercial sale on 09/01/2024
 - Mr. Kuber Sharma, Rajouri Garden, New Delhi for Saffron cultivation initially across 2.5 acres as per technical know-how of Consultancy services on 16/01/2024
 - Red Mirchi Associates, A-4, Palika Bazar, Jind Haryana for producing floriculture plant (Tulip) using Autonomous Greenhouse facility and other floriculture plants for using facilities its commercial sale on 18/01/2024
- **CSIR-IICT**
 - Signed Agreement with:
 - Roligt Foods pvt ltd for "Homogenisation and processing of fruit juices using hydrodynamic cavitation technology".
 - Relco Pharma Ltd for Development of laboratory scale processes for preparation of Carbomer 971P and Carbomer 980.
 - Granules India Ltd for Process Know-how for Calcium cyanamide (CaCN₂) from Calcium carbide.

- Consultancy for the development of R&D Centre at Refinery Laboratory, Nayara Energy.
 - Higher order structure analysis of ziconotide peptide formulations using NMR spectroscopy for Protein Advanced Analytics.
- SignedMoA with DBT New Delhi on 02/01/2024 in the area of Medical Biotechnology related to uncover the gender-specific role of inflammatory proteins and their epigenetic regulation in Ischemic Stroke by proteomic profiling.
- SignedMoU with St.Pauls college of Pharmacy, Turkayamjal, Telangana on 25/01/2024 to promote cooperative research and to facilitate the exchange of ideas, the development of new knowledge and to enhance high quality research acumen.
- **CSIR-IIP**
 - SignedMoUwith University of Birmingham on 22/12/2023
- **CSIR-NCL**
 - MoU was signed with the Department fo Biotechnology, India, for the implementation of two BioCaRE fellowships.
 - MoU was signed with Organisation for Rare Diseases India (ORDS) for exploring research opportunities in rare disease field.
- **CSIR-NEERI**
 - SignedMoU with:
 - Priyadarshini College of Engineering (PCE) to promote collaborative research and to facilitate the exchange of ideas, development of new knowledge and enhance high quality research acumen.
 - Institute of Science Nagpur to promote collaborative research and to facilitate the exchange of ideas, development of new knowledge and enhance high quality research acumen.
 - SignedConsortium Agreement withVisvesvaraya National institute of Technology (VNIT) Nagpur for "Artificial intelligence in Agriculture"
- **CSIR-NGRI**
 - SignedMoUwith Geological Survey of India at Kolkatta for "Deep Seismic Reflection Survey (DSRS) and Magnetotelluric (MT) survey along Churu, Rajasthan to Tikamgarh, M.P., Northern transect, under the project UNCOVER to study the crustal architecture and mineral system underneath the cover sediments".
- **CSIR-NIIST**
 - SignedResearch Collaboration Agreement with M/s Olusium Technologies in Advanced Research, Kanyakumari, aiming to foster innovation and develop intellectual property.
 - SignedMoU with
 - The Office of the Land Revenue Commissioner, Thiruvananthapuram for Preparation of Mine plan including Environmental Management for potential Sand mining sites in districts of Thrissur, Palakkad and Malappuram in Kerala.
 - Mrs. INDIRA.T, the Managing Partner of M/s SIRA NATURALS, Vadakarafor the Preparation of homogeneous solution of four compounds (1) Squalene, (2) Oxyresveratrol, (3) Linoleic acid (4) Vitamin E in Squalane base.
 - Signed technology transfer for:

- manufacturing leather alternative (Vegan Leather) from sugarcane bagasse by M/s PA Footwear Pvt. Ltd , Chennai, Tamil Nadu.
- production of the enzyme – Beta glucosidase using filamentous fungus employing solid state fermentation to M/s Sarthak Metals Limited, Nagpur.
- Signed agreement to write the terms and conditions that would govern the arrangement made for “Global Science Festival of Kerala, 2024” with GLOBAL SCIENCE FESTIVAL KERALA, Thiruvananthapuram.

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	15	18	52	05	05	41	122

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

High impact S&T services offered

- **CSIR-CCMB**
 - Provided Molecular Diagnostic services for 296 families comprising 306 samples
- **CSIR-CDRI**
 - Common Research and Technology Development Hub (CRTDH): Provided analytical services to two MSME, and consultancy for new drug product development to one Medium-Sized Enterprise in the Pharmaceuticals sector.
 - Animal Facility Laboratory: The CPCSEA (Committee for the Purchase of Control and Supervision of Experimental Animals) approved experimental animals were supplied to outside research organizations for research purposes, including 115 Rats and 62 Mice. Sophisticated Analytical Instrument Facility: Provided service for analysis of samples by IR Spectroscopy, Elemental Analysis, Liquid Chromatography–Mass Spectrometry (LC-MS), Electrospray Ionization Mass Spectrometry (ESI-MS), and NMR Spectroscopy-Bruker Advance400/AvIII HD-300 [FT NMR]. In January 2024, a total of 135 external samples were analyzed for 30 external users.
- **CSIR-CMERI**
 - Condition assessment of concrete berth (02 nos.) and wagon loading station including two silos. Vedanta Limited, Vizag General Cargo Berth Pvt.Ltd, Visakhapatnam Port, Visakhapatnam, Andhra Pradesh
- **CSIR-CRRI**
 - Traffic study to review the proposed roundabout at Shalimar Bagh Intersection near RUB, New Delhi in view of existing traffic and site conditions for Public Works Department (PWD), Delhi
 - Traffic Study for feasibility of Mineral Transportation Due to Expansion of Surjagarh Iron Ore Mines in Maharashtra for Lloyds Metals and Energy Ltd.
 - Investigation of bulged RE wall and suggestion of suitable remedial measures at Mihan Depot, Nagpur-Phase-1 for Maharashtra Metro Rail Corporation Limited

- Carrying Capacity of Mineral Transportation Road of Gandhamardan Iron Ore Mines of OMC for Odisha Mining Corporation Ltd. (OMCL)
- Structural Safety Audit of 41.3 M Span Steel Suspension Bridge at Bageshwar, Uttarakhand for Public Works Department (PWD), Uttarakhand
- Assessment of FDR related work executed on PMGSY road (Package UP17111 & UP17112) in PIU Bulandshahar, Uttar Pradesh for Rural Engineering Department
- Technical Advice during construction of 2-lane bridges on the Agra canal at Kms 8.000 and 32.585 near Faridabad for UP Irrigation Department
- Condition Assessment, Structural Evaluation and Suggestions for remedial measures/Strengthening of two Bridge at Rihand STPP of NTPC in Sonebhadra district of U.P. for National Thermal Power Corporation Ltd. (NTPC)
- Pre Opening Structural Safety Audit after Rehabilitation of major bridge over river Yamuna at Benda Ghat in the Raebareli-Banda Section of NH-232 in the state of Uttar Pradesh for National Highway Authority of India (NHAI)"
- **CSIR-IHBT**
 - Process development and stabilization of lutein from *Tagetes erecta*
 - Isolation of steroidal saponins from *Paris polyphylla*
 - Metabolomic study of *Swertia* species, *Thalictrum foliolosum*, *Juglans regia* and *Carya illinoensis*
 - Conducted inspection of J. Mitra & Co. Pvt. Ltd., Lodhwan, H.P. Goat farm Himachal Pradesh as a Nominee (Scientist from Outside the Institute) of the CCSEA, Ministry of Fisheries, Animal Husbandry and Dairying, Governments of India on 05/01/2024.
 - Field Genebank and Seed conservatories of commercially important threatened species at Centre for High Altitude Biology Ribling, Lahaul & Spiti.
- **CSIR-IIP**
 - Sponsored project for testing of quality of Type 2 Paraffin Waxes produced by CPCL, Chennai started.
- **CSIR-IITR**
 - Toxicity study of Aqueous Film Forming Foam (AFFF) sponsored by DRDO-CFEES, Govt. of India, Delhi.
- **CSIR-NAL**
 - Design & realization of hinge moment rear model, ftc balance, rudder balance along with accessories for dhvaniconfig from advanced system laboratory Dr. APJ Abdul Kalam missile complex, Kanchanbagh, Hyderabad.
 - 2095-micro-mechanical accelerometer based on heterogeneous integration of piezoelectric PVDF substrates from AR&DB New Delhi
- **CSIR-NCL**
 - Around 800 industrially important microbial strains supplied to academia and industry for research purpose. Provided genetic and biochemical based microbial identification services.
- **CSIR-NEERI**
 - One Season baseline data collection for the proposed projects of M/s. Reliance Industries Ltd., Motikhavdi, Jamnagar, Gujarat.
 - Containment and Management plan of Leachate generated from the coal reject yard of CSTPS.
 - Feasibility studies for implementation of ZLD concept for higher utilization of treated wastewater at Manali Petrochemicals Limited and Tamil Nadu Petroproducts Limited.

and Recommendation of Zero Liquid Discharge system with respect to RO reject at Kothari Petrochemicals Ltd., Chennai.

- **CSIR-NML**
 - Preparation of Detailed Project Report(DPR) for technological intervention through Technology Facility Centre (TFC) at four numbers of Bell and Brass metal clusters of West Bengal for the Directorate, MSME.
- **CSIR-SERC**
 - Condition Assessment of Critical Power Plant Structures for NTPC Vindhyachal, the largest coal-fired thermal power plant.

Outreach Activities (Jigyasa, Skill Development, and others)

- **CSIR Headquarters**
 - CSIR showcased its Tableau on 26/01/2024 during the Republic Day Parade on the Kartavya Path on 'Purple Revolution through scientific Interventions of CSIR" under Viksit Bharat theme of the Republic Day Parade 2024
- **CSIR-AMPRI**
 - Organized "7th National Science Teachers Workshop" from 29-30/01/2024 under the CSIR-Jigyasa program for science teachers of Kendriya Vidyalaya Sangthan, Navodaya Vidyalaya Samiti, State Govt. Schools and Some private schools.
- **CSIR-CBRI**
 - Three days' Skill Development Training Programme on "Behaviour and Control Measures of Landslides" for 24 working professionals of Tata Steel Ltd. during 29-31/01/2024.
 - CSIR-CBRI, Roorkee installed 3 D selfie points(showcasing CBRI achievements), at five different locations in Roorkee City.
 - Demonstration of advanced materials laboratory, cement laboratory building products from waste materials and advanced instruments to ~90 students from Gokul Chand Rehti Devi Govt. Girls Inter college, Deoband on 10/01/24
- **CSIR-CCMB**
 - A week-long Young Innovators Program for 26 selected high school students from both govt and private schools.
- **CSIR-CDRI**
 - Skill Development Program (SDP)
 - For students pursuing Postgraduate courses: 78 Participants
 - For the research scholars and R&D Institutions/Univ employees. / Industry etc.: 01 Participant
 - For Plant authentication, phytochemical extraction, formulation, and HPLC analysis of herbal products: 09 Participants
 - Jigyasa programs
 - "CSIR JIGYASA EPIC Hackathon 2024"on 05/01/2024. 500 hundred students and Teachers from 10 schools have participated online.
<https://www.youtube.com/live/PBc2OKhTdpA?si=qjsYAoy2rtFMokiG>
 - Student Scientist connect program on 09/01/2024 for the students of Babu Sunder Singh College of Pharmacy, Nigoha, Lucknow (U.P.). Total 35 number of students and faculty actively participated.

- Participated in Mega Outreach Event in IISF 2023, Faridabad from 17-20/01/2024. More than 30,000 students and Faculty from nearly 120 schools and colleges from Noida, Palwal, Gurugram and Faridabad and other nearby districts were visited the CSIR Pavilion.
- **CSIR-CECRI**
 - Launch of CSIR Jigyasa EPIC Hackathon 2024 on 05/01/2024
 - Visit of School students (Vocational) from APGHSS, Thiruppathur and SBGHSS, Pudukkottai to CSIR-CECRI, Karaikudi on 11/01/2024
 - JIGYASA CSIR-JIGYSA EPIC Hackathon 2024 Bootcamp-1 on 16/01/2024
- **CSIR-CEERI**
 - Organized SHILP Training from 01-12/01/2024 for batch of 15 students of GLA University Mathura.
 - Organized workshop on CCA Conduct Rules 1964 on 09/01/2024.
 - Celebrate Energy Literacy week to visit schools on 16/01/2024 and spread awareness about Energy Literacy and increasing Global Warming.
 - Installed Climate Clock at JNV Sikar & Jaipur, JNV Pali (Barmer), JNV Jodhpur, JNV (Alwar&Bharatpur) JNV Karauli and JNV Dholpur on 18/01/2024, 19/01/2024, 20/01/2024, on 24/01/2024 and 25/01/2024 respectively.
 - Organized workshop on Phenome India - CSIR Health Cohert Knowledgebase (PI-CHeCK) to identify India-specific risk factors for cardiometabolic diseases on 23/01/2024.
 - Organized SHILP Training from 22/01/2024 to 02/02/2024 for batch of 15 students of Ganpat University Gujarat.
- **CSIR-CFTRI**
 - Skill Development:
 - Advanced Spectrometric based Analysis (GC-MS, LC- MS/MS, FT-IR & NMR) in Food Science from 08-12/01/2024 - 6 participants
 - Post-Harvest Technologies for Value Addition to Sweet Lime, Custard Apple, Onion, and Chilli from 22-23/01/2024 - 30 participants;
 - Application of Instrumental Analysis in additives and toxins (FSSAI - 5) - from 22-24/01/2024 - 22 participants
- **CSIR-CGCRI**
 - Skill development training programme:
 - Classical and advanced instrumental analysis of glass, ceramics and allied raw materials on 02-05/01/2024. 15 participants.
 - Ceramic whiteware processing at CSIR-CGCRI, Khurja centre, Uttar Pradesh on 02-05/01/2024. 22 participants
 - Ceramic whiteware processing and characterization at CSIR-CGCRI, Khurja centre, Uttar Pradesh on 02-15/01/2024. One participant.
 - Drinking water and waste water quality parameters: Theory and Practical on 30-31/01/2024. 27 participants
- **CSIR-CIMAP**
 - Training programme:
 - Making Incense Sticks and Fragrant Cones under CSIR-Aroma Mission- III during 30-31/01/2024. (450 participants)
 - Cultivation of medicinal and aromatic plants between 02-04/01/2024 (32 participants) and 08-12/01/2024. (39 participants)

- **CSIR-CLRI**
 - Organized visit for 196 Students (Class 10) and 8 Teachers from Kendriya Vidyalaya, Anna nagar, under the Pradhan Mantri Schools for Rising India (PM SHRI) Scheme on 23/01/2024.
 - Organized visit for 17 students (B.Sc, Biotechnology) and 3 Teachers from Kumararani Meena Muthiah College of Arts and College on 24/01/2024, 23 students (B.Sc, Vocational Biotechnology, Zoology and Biochemistry) and 3 Staff from Justice Basheer Ahmed Sayeed College for Women, Chennai 24/01/2024.
 - Organized visit for schoolstudents for “MICRO RESEARCH PROJECT WORK” as a part of JIGYASA 2.0 on 23/01/2024.
 - Organized visit for a group of 19 IAS Officers trainees from Lal Bahadur Shastri National Academy of Administration (Gol), Mussoorie on 11/01/2024 as a part of their Study Tour cum Bharath Darshan Program.
 - MSME-funded Entrepreneurship cum skill development programme:
 - Gait Analysis and Quality Control Chemist-Microbiology on 04/01/2024 in CSIR-CLRI main campus and on 25/01/2024 CSIR-CLRI Kanpur campus. 25 participants
 - Waste Management for Leather Sector on 02/01/2024 at CSIR-CLRI, Chennai
 - Entrepreneurship Awareness Program on 24/01/2024.
- **CSIR-CMERI**
 - Jigyasa Programme:
 - Jigyasa EPIC Hackathon Boot camp on 05/01/2024, 80 Students of Sagarbhanga High School participated.
 - Jigyasa programme on the topic “Water quality parameters and its effect on health” on 11/01/2024. 38 students and 02 teachers of Army Public School, Paragraph Durgapur participated.
 - Jigyasa EPIC Hackathon Boot camp on 16/01/2024, 100 Students of APS Panagar participated.
 - IISF Programme on 17-20/01/2024 at Faridabad, 400 Students were demonstrated the models of “Vehicle Mounted Drain Cleaning and E-Tractor”.
 - Jigyasa programme on 31/01/2024. 45 students and 02 teachers of PM Shri Kendriya Vidyalaya Chittranjan, CLW(W.B) participated.
 - Skill Development Programmes (SDP):
 - Analytical Techniques & Instrumentation for Water Quality Assessment; 17-19/01/2024.
 - Plastic Waste Disposal and Fuel Recovery - Characterization through Gas Chromatography on 22-24/01/2024.
- **CSIR-CRRI**
 - Training programme:
 - “Maintenance of Rural Roads – Road Asset Management and Budgeting” during 29/01/2024 -02/02/2024, 28 participants.
 - “Design, Construction and Quality Control in Flexible & Rigid Pavements” for the officials of NRIDA, during 15-19/01/2024. 22 participants.
 - “Geotechnical Investigation and landslide Mitigation Measures” during 08 -12/01/2024. 13 participants.
 - As part of Jigyasa2.0, interactive programs / events for KV schools under DoE-SKV on 12/01/2024 and for KV Bulandshahar on 30/01/2024. 200 students participated.
- **CSIR- CSMCRI**
 - Organized training program "Seaweed Cultivation and Processing Technology" during 17-19/01/2024, 22 participated.

- **CSIR-IHBT**
 - CSIR-JIGYASA Program:
 - Organized visit 220 students and 18 teachers from Govt. Sr. Sec. School Distt. Mandi, GSSS Bohni, Distt. Hamirpur and Govt. Sr. Se. School Lahru, Distt. Kangra (H.P.) on 04, 09 and 29/01/2024.
 - Outreach Program:
 - Organized Lecture cum on site demonstration on “Solid Waste Management-Waste to Wealth” for PM SHRI Kendriya Vidyalaya, Palampur on 27/01/2024, 260 students (and 20 staff members participated).
 - Organized talk by Dr. Vivek Dogra on “Vision of Youth: Viksit Bharat@2047” on 30/01/2024, 70 students and 06 staff members participated.
 - Skill Development Program:
 - “Advanced Entrepreneurship and Skill Development Program on Nutraceutical Delivery System” on 15-19/01/2024, 20 M.Sc. and PhD students participated.

- **CSIR-IICB**
 - Organized visit for students of Shri Shikshayatan College, Kolkata (Botany Honours) and Adamas University, Kolkata (Department of Biotechnology) on 15/01/2024.
 - Participated in the CSIR pavilion at the IISF Expo during 17-20/01/2024.
 - Organized visit for students of Department of Biotechnology, Gauhati University, Assam on 24/01/2024.

- **CSIR-IICT**
 - Skill Development: Training Program on ‘Animal Cell Culture Techniques’ during 08/01/2024 to 16/02/2024 in association with Gujarat State Biotechnology Mission (GSBTM), Gujarat, 20 Postgraduate students participated.
 - Jigyasa: Organized 'Jigyasa' program for KV, Tirumalagiri, XI students for AGR, Atmospheric water generator pilot plants and also demos of Microbial fuel cell, Pheromone Trap and Salt water battery on 25/01/2024, 90 students and 5 teachers participated.
 - Conducted Foldscope Demonstration for Rural High School Students in Thirupathi, Chittoor and Nellore Districts of Andhrapradesh, through video during 04-06/01/2024 and 27/01/2024, around 2000 students participated.

- **CSIR-IIIM**
 - Organized visit for students of PM Shri JNV Akhnoor Students of JNV Akhnoor on 08/01/2024 (72 students and 5 teachers) and 12/01/2024 (76 students and 3 teachers).
 - Launch of CSIR Jigyasa EPIC Hackathon 2024 on 05/01/2024 on the themes of : Clean and green energy and One health
 - Organized Boot camp 1 for CSIR Jigyasa EPIC Hackathon 2024 was on 16/01/2024, with the featured talks by eminent scientists on clean and green energy, one health and S&T innovation and entrepreneurship.
 - Organized Boot camp 2 for CSIR Jigyasa EPIC Hackathon 2024 on 24/01/2024.

- **CSIR-IIP**
 - Conducted Two Skill Development Training Program during 15-25/01/2024 on 'Spectroscopic Analytical Techniques IR-NMR' and 'Analysis with Elemental, Microscopic and Thermogravimetric Tools', 28 Students of B.Tech Petroleum Engineering from DIT University Dehradun along with their Faculty Members participated

- **CSIR-IITR**
 - Launched the CSIR EPIC Hackathon on 05/01/2024 on themes focus on Clean and Green Energy, S & T Innovation and Entrepreneurship, and One Health.

- **CSIR-NAL**
 - conducted JIGYASA outreach program for school student on 24/01/2024 & 31/01/2024
- **CSIR-NCL**
 - Organized sample collection camp for the Phenome India CSIR Health Cohort Knowledgebase project was during 08-22/01/2024.
- **CSIR-NEERI**
 - Skill development activities
 - Industrial Waste and Wastewater Management for Grossly Polluting Industries (GPIs) in the National Capital Region of Delhi during 10-11/01/2024
 - Tools and Technique of Air Quality Management during 23-24/01/2024
- **CSIR-NEIST**
 - Organized a Students-Scientists Connect Program on 12/01/2024, 49 School students with 11 teachers from Sophy Mercy Memorial School, Sivsagar participated.
 - Conducted seminar under CSIR-JIGYASA initiative in collaboration with NIPGR on 06/01/2024, 60 college students participated.
- **CSIR-NGRI**
 - Skill Initiative training program for "Paleomagnetism and its Applications in Geology, Geophysics and Geochronology" held during 01-06/01/2024, 19 Participants.
- **CSIR-NIIST**
 - Skill training program on "Microbial Identification: From Sequences to Species" during 08-11/01/2024.
- **CSIR-NIO**
 - Conducted workshop on Biodiversity Assessment through Molecular Approach under the CSIR-Integrated Skill Initiative Programme (Phase II) during 16-18/01/2024.
- **CSIR-SERC**
 - Advanced Course on "Analysis and Design of Steel Structures for Extreme Loads" during 22-24/01/2024, 17 Participants.
 - Advanced Course on "Computational and Experimental Mechanics for Advanced Protective Structures" 29-31/01/2024, 07 participants.

Major Conferences, Seminar/Webinars, Workshops organized

- **CSIR Headquarters**
 - CSIR with its laboratories participated in the India International Science festival- 2023, held THISTI, RCB Campus, Faridabad, Haryana during 17/01/2024 to 20/01/2024.
- **CSIR-AMPRI**
 - Organised Rajbhasha Workshop on 12/01/2024.
 - International conference on Recent Trends in Materials Science & Devices 2023 (ICRTMD-2023) online from on 29-31/12/2023.
- **CSIR-CCMB**
 - A workshop on making science storybooks for children was conducted by Ipsa Jain.

- **CSIR-CDRI**
 - Hands On Workshop on 3D Bioprinting from 30/01/2024 to 01/02/2024
- **CSIR-CIMFR**
 - Organised National Energy Literacy Week (NELW) and lecture on 'Energy Awareness and Climate Action' 18/01/2024, 07 teachers and 250 students participated.
 - Organized a lecture about 'Energy Awareness and Saving Measures' by Energy Swaraj Foundation on 03/01/2024.
- **CSIR-CMERI**
 - Organized lecture on "Prevention of Sexual Harassment against Women at Workplace" on 11/01/2024.
 - Organized lecture on "Road Safety in Urban Areas" on 11/01/2024
- **CSIR-HRDC**
 - Organized training programme on Evaluation of Uncertainty in Measurement, 29-30/01/2024.
- **CSIR-IHBT**
 - Conducted the Advanced Entrepreneurship and Skill Development Programme on Nutraceutical Delivery System during 15-19/01/2024.
 - Organized a workshop on "Hands on Training in Electron Microscopic Characterization of Nutraceutical Delivery Agents" on 15/01/2024.
- **CSIR-IICB**
 - Organized Annual Research Conclave 2024 on 25/01/2024.
 - Organized workshop for Bioinformatics Centre and National Networking Project of Genome Informatics from 29/01/2024 to 09/02/2024.
- **CSIR-IICT**
 - Lecture on Green Hydrogen from biomass wastes via aqueous phase reforming, by Prof.K.Seshan, on 04/01/2024.
 - Organized a talk on "Climate Change & Corrective Actions" as a part of Energy Awareness Campaign on 17/01/2024.
- **CSIR-IIIM**
 - Organized workshop on theme of Scientific, regulatory and medical writing on 09-15/01/2024, 25 participants.
 - Organized Workshop on "Value Addition of Floricultural Crops for Skill Development and Entrepreneurship" under CSIR Floriculture Mission, 75 participants.
- **CSIR-IIP**
 - Industry Performance Review Meeting of Petroleum Planning & Analysis Cell on 15/01/2024
- **CSIR-IITR**
 - Training on "Processing of plastic and other polymeric products" under Entrepreneurship and Skill Development Programme (ESDP), 08-12/01/2024.
 - Training on "Fatty Acid Profiling and Trans Fats" under the training and capacity building program for food testing laboratories of FSSAI 29-30/01/2024.
- **CSIR-NAL**
 - Participated in WINGS INDIA 2024 during 18-21/01/2024 held at Hyderabad.

- Participated in Indian International Science Festival, Faridabad during 17-20/01/2024
- **CSIR-NIIST**
 - Organized Seminar on "Computing in the Time of Apocalypse" on 18/01/2024.
 - Organized workshop on Microbial Identification: From Sequences to Species" (08-11/01/2024), 18 participants.
- **CSIR-NIO**
 - Oceanographic certificate course for the Colombo Security Conclave (CSC) member countries on 15/01/2024.
- **CSIR-SERC**
 - Conducted workshop on "Sustainable Materials for Construction" and lecture by Dr. J. Prabakar, Chief Scientist, on "Precast Concrete Lightweight Large Wall and Roof Panels for Mass Housing" on 24/01/2024.

Visit of high-level dignitaries to the Institute/Laboratory

- **CSIR-AMPRI**
 - Prof. Sankar Chakma from IISER Bhopal visited on 22/01/2024.
 - Visit of Dr. G Das, IISER Director at Bamboo Baithak 30/01/2024.
- **CSIR-CCMB**
 - Prof K. Vijay Raghavan, Former PSA to Govt of India visited on 09/01/2024 to deliver Annual Plenary Lecture on "The Development on Movement".
- **CSIR-CECRI**
 - The Hon'ble Governor of Tamilnadu, Shri R.N. Ravi, visited CSIR-CECRI for the inauguration of Pariksha Pe Charcha on 29/01/2024.
- **CSIR-CFTRI**
 - Shri Surya Pratap Shahi, Hon'ble Minister for Agriculture, Govt. of Uttar Pradesh visited on 06/01/2024.
- **CSIR-CIMAP**
 - Shri Yogi Aditya Nath, Hon'ble Chief Minister, Govt. of Uttar Pradesh, Shri Surya Pratap Shahi, Hon'ble Minister of Agriculture, Govt. of Uttar Pradesh and Dr. N. Kalaiselvi, DG, CSIR & Secretary, DSIR, Govt of India visited on 31/01/2024 in Kisan Mela.
- **CSIR-CSIO**
 - Dr. Nagahanumaiah Director CMTI Bengaluru
- **CSIR-IGIB**
 - Delegates visit @CSIR -IGIB from WHO and Ministry of Ayush. (WHO's Dr. Rudi Eggers & Ministry of Ayush's Dr. Pradeep Dua) On 10/01/2024.
- **CSIR-IICB**
 - Prof. Debabrata Maiti, Professor, IIT, Bombay delivered a special talk on "En-Light-ening C-H Functionalization" on 09/01/2024.
- **CSIR-IIIM**

- Dr. Rajesh Gokhale, Secretary, Department of Biotechnology, MoS&T, GoI, and Dr. Alka Sharma, Sr. Adviser, DBT visited on 05/01/2024.
- **CSIR-IIP**
 - Shri Manoj Kumar, Director General PPAC visited CSIR-IIP on 15/01/2024
- **CSIR-IITR**
 - Sri Ashish Tiwari, IFS, Secretary, Department of Environment, Forest & Climate Change, Government of Uttar Pradesh visited to inaugurate Miyawaki Forest in Dr. CRK Campurs, CSIR-IITR, Lucknow on 02/01/2024.
 - Padma Shri Ram Saran Verma visited as Chief Guest in Republic day Celebration on 26/01/2024 at main campus, CSIR-IITR, Lucknow.
 - Padma Bhushan Dr Anil Kumar Joshi visited as Chief Guest in Republic Day Celebration on 26/01/2024 at Dr. CRK Campus, CSIR-IITR, Lucknow
- **CSIR-NAL**
 - Shri. S. Somanath, Chairman - ISRO as NAL's Research Council Chairman attended 63rd Research Council Meeting on 09/01/2024
- **CSIR-NGRI**
 - Dr. Tirtha Pratim Das, Director, Space Science Programming ISRO Headquarters, Bengaluru delivered New Year Day Lecture on 11/01/2024
- **CSIR-NIO**
 - Dr (Mrs) N. Kalaiselvi, Secretary, DSIR & DG CSIR, visited CSIR-NIO on 29/01/2024 and Inaugurated the Clean laboratory, Antiquities from the sea: Anchor display Bhoomi poojan of Innovation Centre and student Hostel, Madam also interacted with the new scientist and technical staff, and later addressed the staff members of CSIR-NIO, Goa

COVID related developments/research

- **CSIR-NCL**
 - Waste water surveillance of SARS CoV2 indicated 1st detection of JN.1 in Pune samples by metagenomic sequencing
 - CSIR's Antiviral's Mission Project (HCP41): Synthesized novel chemical entities (NCE) based on GC-14 (Mpro Inhibitor), and submitted to the nodal lab CSIR-IICT, Hyderabad for biological screening.
- **CSIR-NEIST**
 - Health camp on PI-CHECK from 24/01/2024 to 01/02/2024 at NEIST Clinical centre wherein approx 400 participants did their health checkup under the program.

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

- **CSIR-AMPRI**
 - Dr. Archana Singh, Principal Scientist, CSIR-AMPRI, Bhopal selected for the prestigious Indian National Young Academy of Science (INYAS) Membership for 2024.
 - Mrs. Medha Mili, Scientist, CSIR-AMPRI, Bhopal has received the Best Paper Award [Under Faculty/Scientist (Invited) category] in 2nd International Conference on Recent Trends in Materials Science & Devices 2023 (ICRTMD-2023) organized by Research

Plateau Publishers & Sat Kabir Institute of Technology & Management Bahadurgarh, Haryana, India during 29-31/12/2023. The title of her paper was Designing of Flexible and Moldable Bamboo Fiber-Reinforced Brine Sludge PDMS Based Composites for Thermal Insulation Applications.

- **CSIR-CIMAP**
 - Kisan Mela-2024 was organised during 30-31/01/2024. About 5,000 participants were participated in this event including large number of women farmers and industry representatives. Quality planting material of menthol mint vareity CIM-Kosi, CIM-Kranti and CIM-Unnati and other medicinal and aromatic plants was given to farmers.
- **CSIR-CRRI**
 - Celebrated "Vishwa Hindi Divas" during 08-12/01/2024 with an aim to promote the use of the Hindi language worldwide.
- **CSIR-IIIM**
 - Participated in Startup Expo at Biotech Park Kathua on 04/01/2024.
- **CSIR-IIP**
 - Organization of poetry recitation competition on the occasion of Vishwa Hindi Divas on 30/01/2024 under the auspices of City Official Language Implementation Committee, Dehradun.

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 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

- 18 in-house R&D units of industries were granted Recognition and 18 were granted Registration certificates
- 13 in-house R&D units of industries were granted Renewal of Recognition and 13 were granted renewal of Registration certificates.

Scientific and Industrial Organization (SIRO)

- 11 SIROs were granted Recognition and 7 were granted Registration Certificates.

Public Funded Research Institutes(PFRI)

- 2 PFRI were granted renewal of 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)

Three innovation projects namely Tea Leaf Classifier Machine; Sustainable Space Cooling Station; Advanced Voting Machine were reviewed during the period. One project namely Redesigning, testing and Dissemination of Blow Pipe to protect the goldsmiths from exposure to smoke/fume during melting of gold beads/ jewellery was successfully completed during the period.

A2K+: Studies

- The second Project Guidance cum Review Committee (PGRC) was conducted on 15th January, 2024 to review the technical & financial progress of the study entitled "A study on application of effective digital technologies for managing municipal waste in smart cities" supported to IIM, Vishakhapatnam.
- The second Project Guidance cum Review Committee (PGRC) was conducted on 16th January, 2024 to review the technical & financial progress of the study entitled "A Report on ICT Tools catering to a wide range of learners, including children with special needs" supported to CUSAT, Kochi, Kerala.
- The second Project Guidance cum Review Committee (PGRC) meeting was conducted on 30th January, 2024 to review technical and financial progress of the study entitled "Readiness and interest of Indian refineries for adopting AI/ML technology for operations" supported to Rajiv Gandhi Institute of Petroleum Technology (RGIPT), Amethi.

A2K+ - TDUPW

- The sixteenth Technical Advisory Committee (TAC) Meeting was held on 23rd January, 2024 to discuss 9 TDUPW Proposals.
- The second meeting of Project Review Committee (PRC) was held on 25th January, 2024 to review the project entitled "Creating sustainable livelihood opportunities to the tribal women of Kuchai Block, Saraikel District, Jharkhand by establishing a Skill Satellite Centre" undertaking by Deepak Foundation, Vadodara for setting up Skill Satellite Centre.
- The first meeting of Project Review Committee (PRC) was held on 31st January, 2024 to review the project entitled "Livelihood Enhancement for Resource Poor and COVID-19 Victim Families Women and Girls through Skilling and Enterprising" undertaken by Coastal Voluntary Network (CVN), Tenali, Guntur Dist., Andhra Pradesh.

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

Foundation Day Celebration

Department of Scientific & Industrial Research celebrated its 40th Foundation Day at auditorium of CSIR-NPL, New Delhi on 05.01.2024. Dr. Jitendra Singh, Hon'ble Minister of State (Independent Charge) Science & Technology was the Chief Guest. Dr. Vijay Kumar Saraswat, Member(S&T), NITI Aayog and Prof. Ajay Kumar Sood, PSA to the Government of India were Guests of Honour at the event.

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. 3365.49 lakhs during the month of January.
- Sale of electronic components/systems/SPV products worth Rs. 4037.87 lakhs was realized during the month of January.

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 a technology on "Development and Validation of Protocol for Computerized Zari Testing" to M/s Titan Company Ltd, Bangalore.
- The corporation signed 1 MoU with Startup Odisha to boost the state's Startup Ecosystem. The MoU was signed in presence of Hon'ble Minister of Industries, MSMEs & Investment, Govt of Odisha and other dignitaries at Bhubneshwar on 31st January, 2024.
- NRDC signed a MoA with Dr Ambedkar Institute of Tehnology, Bangalore on 9th January, 2024 for providing intellectual property protection and technology commercialization services.
