

No. DSIR/MS/2020/02
Government of India
Ministry of Science & Technology
Department of Scientific & Industrial Research
MONTHLY SUMMARY FOR THE CABINET
(For the month of **February, 2020**)
(Part-I Unclassified)

Major achievements during the month of FEBRUARY, 2020 :

1. Council of Scientific & Industrial Research (CSIR)

Key Contributions and Activities of CSIR

CSIR Society meeting chaired by Hon'ble PM and President of CSIR Society was convened on 14th February. Hon'ble Ministers Dr Harsh Vardhan, Shri Piyush Goyal and other distinguished members drawn from different areas including Government, PSU, Industries, Academics and Research Institutions and Universities, attended the meeting. DG CSIR presented the key achievements and laid the road map for discussion. Hon'ble PM Shri Narendra Modi appreciated the efforts and contributions of CSIR and desired that a strong connect needs to be there between research and the needs of the society. Further, various inputs and directives were given by the Society. Post the CSIR Society meeting, the guidance and directives received from the Society were deliberated at length CSIR Director's Conference at Goa where in strategy and action plan was discussed to deliver on the directives of Hon'ble PM.

Societal Sector

- **CSIR-CSIO** Chandigarh transferred the technology of 'Divya Nayan – Personal Reader for the Visually Impaired' to CEL. The technology has been transferred for the most upgraded version of Divya Nayan. This personalized reading device is now equipped with the most compact form factor as compared to commercially available devices worldwide. This portable device can scan and read approximately fifty pages, depending upon the size and content, once fully charged and can store more than ten thousand pages with converted information. The device has all features of a mobile/portable IoT (Internet of Things) device.
- **CSIR-NIIST**, Thiruvananthapuram and **CSIR-IIP**, Dehradun scientists along with researchers from Imphal based Institute of Bio-resources and Sustainable Development (**IBSD**) have sought a way to save endangered Sangai deer using weed oils. Unchecked growth of aquatic weeds (water hyacinth and para grass) has meant reduced space for indigenous plants around the lake on which brow-antlered deer, Sangai feeds. Conversions of weeds into bio-char and bio-oil would not only help release more space for the growth of plants which are favored by Sangai deer but also help a new source of income generation through transportation of this biomass

- The Bombay High Court directed **CSIR-NEERI** and Bombay Natural History Society to assess the impact of the solid waste treatment plant at Kanjurmarg on the nearby Thane creek, which is home to flamingos.
- Telangana got first eco-friendly sewage treatment plant (STP) based on **CSIR-NEERI's** Phytorid Technology.
- Madras High Court called for a report from **CSIR-NEERI** on the supposed ill-effects of Seemai Karuvelam (*Prosopis juliflora*) trees, an invasive species found across State, on the environment, with particular reference to water table
- The Itanagar branch of **CSIR-NEIST** in collaboration with Arunachal Pradesh Rural Bank Rural Self Employment Training Institute (APRB-RSETI) conducted a two day training programme on vermiculture & vermicompost production technology
- Three days training program under Aroma Mission was conducted at Gandhigram, Dindigul district, Tamil Nadu by **CSIR-CIMAP**. Participants included farmers, entrepreneurs and NGOs
- One day training program organized in collaborative project funded by HCL foundation under **CSIR Aroma Mission** in Hardoi district of Uttar Pradesh. 25 lead farmers attended the training program on MAPs of the cultivated by them in project.
- Two days training program started at **CSIR-CIMAP** on cultivation and processing aspects of Medicinal and Aromatic plants. Department of Horticulture and Food Processing, Govt of Uttar Pradesh sponsored the program.
- **CSIR-IHBT** conducted one-day awareness cum training program on improved agro and process technologies of aromatic plants for the tribal farmers of Sundargarh, Odisha on in association with Social Action for People Society. About 50 farmers participated.
- **CSIR-CLRI** and **CSIR-NEIST** conducted 5th Training programme under CSIR-HARIT at Rural Consultancy and Assistance Centre, Rengkai Road, Churhandpur Dist, Manipur. This program is joint initiative of CSIR-CLRI, CSIR - NEIST and Forest Department of Manipur
- Workshop conducted on dry flower technology by **CSIR-NBRI** to provide livelihood opportunity to ST women of Nabrangpur, Orissa
- **CSIR-NEIST**, Jorhat organized a one-day training programme on mushroom cultivation for sustainable socioeconomic development.
- **CSIR IHBT**, HP conducted one-day awareness cum training programme on improved agro and processing technologies of aromatic plants for the tribal farmers of Sundargarh, Odisha in association with Social Action for People Society. About 50 farmers participated in this programme.

Strategic Sector

- **CSIR-NAL**, Bengaluru transferred technology of "Drishti" transmissometer to Central Electronic Limited (CEL) through NRDC. It is a visibility measuring system, useful for safe airport operations and landing at runway.

- **CSIR-CSIO**, Chandigarh and Bharat Electronics Limited (**BEL**) signed a transfer agreement for manufacturing of a new variant of Head-Up Display (HUD) for the Tejas Fighter Aircraft for commercial production.
- **CSIR-CIMFR** has signed Project specific Agreement with Ordnance Factory Dehu Road (OFDR), Pune for underground magazines and Underground Proof Range at Lucknow during Defence Expo 2020, organised by Ministry of Defence.

Industrial Sector

Licensing and Memorandum of Understanding (MoU)

- **CSIR NML**, Jamshedpur and **UNQ.IND.PVT.LTD.** Firozabad inked a MoU to boost cooperation in the sector of e-waste recycling.
- **CSIR-NPL** transferred technology on 'Recycling of Plastic Waste into Tiles' to M/S NAS Industries Ltd., Maharashtra. A tripartite agreement was signed between CSIR-NPL, NRDC and the industry.
- **CSIR-IIIM**, Jammu signed a major agreement on cannabis research with **IndusCann**, a Canadian company to develop medicines from the cannabis plant. This is a an opportunity for Jammu & Kashmir with India's first Cannabis Medicinal Project, launched at CSIR-IIIM as it can potentially generate revenue, research & jobs.
- Foundation stone was laid as part of tripartite agreement between **CSIR-CFTRI**, APIT and Buhler, India for Setting up Global Centre for Rice Technology (GCRT).
- **CSIR-AMPRI** transferred know-how on Bamboo-composites for modern housing structures etc to M/S Permali Wallace Pvt. Ltd. Technology comprises of know how of manufacturing of multifunctional bamboo composite materials.
- **CSIR-NCL** has signed licensing agreement with GMM-Pfaunder Ltd for design, engineering and development of the first-of-its-kind miniaturized glass lined flow reactors. These glass coated metal reactors increase chemical compatibility.
- A Workshop was organized by **CSIR** with several CSIR labs with **Tata Steel Ltd** to explore areas of mutual interest and collaboration. Several CSIR labs participated in the workshop led by DG CSIR, which included CSIR-CEERI, CSIR-IIP, CSIR-NEERI, CSIR-AMPRI, CSIR-IMMT, CSIR-4PI, CSIR-CGCRI, CSIR-NML and CSIR-NCL
- **CSIR-NEERI** inks MoU with Glenmark Foundation to extend cooperation & collaboration under Corporate Social Responsibility (CSR) for improving livelihoods through technologies/knowledge developed by NEERI.

Patents Update

Patents Filed		Patents Granted		Patents Prosecutions	
India	Abroad	India	Abroad	India	Abroad
10	14	17	25	28	4

Skill Development, Conferences & Workshops

- **CSIR-IMTECH**, Chandigarh, in partnership with Biotechnology Industry Research Assistance Council (BIRAC) and IKP Knowledge Park, organized a Tech Exposition and Workshop to boost entrepreneurship amongst start-ups and innovators
- **CSIR-NEIST**, Jorhat organized a 3-day international conference (**ESTEC-2020**) on advances in engineering sciences and technology
- CSIR-CSIO conducted hands-on session of testing of medical devices during the National Biopharma Mission medical device training.
- **CSIR-CFTRI**, Mysore organized a one-day workshop on “Innovation and Sustainable Library services in Digital Era”.
- **CSIR-CFTRI**, Mysore organized a one-day workshop on “Value chain Network for Food Micro-Entrepreneurs in Mysore” in the area of agri-food processing under Micro-Entrepreneurs Network (MENT) Forum.
- **CSIR-NML**, Jamshedpur in association with Tata Steel and Indian Institute of Metals, Jamshedpur organized a two-day international conference on Steelmaking and Casting- Sustainable Technology and Practices.
- Course on Smart Internet of Things (IoT) Solutions for Healthcare was conducted at **CSIR-CSIO**, Delhi Centre
- **CSIR-NEERI**, Nagpur conducted a Training Program on "Ecology and Biodiversity for Environmental Impact Assessment (EIA) Projects" scheduled from February 19-21,2020.
- 3-day workshop was conducted by **CSIR-IMTECH** on Protein characterization tools in partnership with NanoTemper Technologies focusing on Affinity & Stability studies using MST & nanoDSF instruments.
- Seven Physicians (Vascular Surgeons) from Egypt visited **CSIR-CLRI** Gait Analysis Laboratory, SPDC to learn about "The importance of Gait analysis and corrective footwear in the treatment of Diabetic Foot"
- A five days workshop on Multi-Hazard Resistant Housing & Habitat organized for 31 engineers of Uttarakhand under CSIR Integrated Skill Initiatives conducted by **CSIR CBRI**.
- **CSIR-NEERI**, Nagpur conducted a Training Program on "Ecology and Biodiversity for Environmental Impact Assessment (EIA) Projects"
- One week training programme on "Energy Efficiency & Alternative Fuels for Advance Engine Technology" sponsored by MoRTH, Delhi, Feb24-28, 2020 was conducted at **CSIR-IIP**
- Hon'ble Governor of Jharkhand Smt. Droupadi Murmu inaugurated two days National Conference on Advances in Mining (AIM -2020) at **CSIR-CIMFR**, Dhanbad conducted by CSIR-CIMFR, Dhanbad and IEI (India), Dhanbad Local Centre
- Conference on “Fly-Ash Utilization & Green-Building-Materials” was held at **CSIR-AMPRI, Bhopal**. Also a two days workshop o Advanced- Materials- for- Energy-Storage and Conversion-Devices” was held at **CSIR-AMPRI**, Bhopal.
- **CSIR CMERI** conducted skill development program for Students of North East regions to inculcate scientific temper in them. More than 200 students got trained at Vivekananda Kendra Vidyalaya, Tinsukia, Assam.

- Two days national workshop on IoT and AI applications in Precision Agri at **CSIR-CMERI**. More than 40 participants from different disciplines and organizations took training and got opportunity to visit AI & IoT Lab of the Institute.
- **CSIR-CLRI**, SPDC Team conducted a two days workshop on “Design Innovation and Product Design for Northeast India” at Department of Design, Indian Institute of Technology, Guwahati for the Master of Design (M.Des) Student as part of the CSIR-HARIT

CSIR Outreach Programs

- DG CSIR launched **portal of Jigyasa**: Student Scientist Connect an outreach program of CSIR as part of Scientific Social Responsibility at CSIR Directors Conference
- On occasion of National Science Day on 28th February 2020, many CSIR labs organized various outreach events especially keeping in view the theme of “Women in Science”.
- On the occasion of “National Science Day”, 37 students along with two teachers of Govt. Sr. Sec. School Sullah, Tehsil Palampur visited **CSIR IHBT** under JIGYASA Program. They were shown different R&D products of the Institute through organizing exhibition
- Jigyasa More than 250 students from Schools and Colleges visited Science and Technology Expo organized by **CSIR-IITR** on National Science Day 2020
- **CSIR-NML** & NASI Jharkhand Chapter jointly celebrated National Science Day on Feb 28th by hosting open day to students and awarding BEST SCIENCE TEACHER AWARD for making significant contributions in science education.
- Jharkhand Chapter of NASI & **CSIR NML** received Terfil water filters developed by **CSIR IMMT**, which was handed over to SEEDS for its trial in tribal areas.
- CSIR-IHBT Palampur participated in “Organic Food Festival” held at Jawahar Lal Nehru Stadium, New Delhi on Feb 21- 23, 2020. Shri Rameshwar Teli, Minister of State for Food Processing Industries, GoI and Shri Sukhbir Singh Badal, Ex Deputy CM, Punjab were amongst the key visitors
- An educational visit of 55 B.Sc. students along with 02 faculty members from Shaheed Captain Vikram Batra Government College was conducted at CSIR-IHBT, Palampur (H.P.)
- On the occasion of “National Science Day”, 37 students along with two teachers of Govt. Sr. Sec. School Sullah, Tehsil Palampur visited **CSIR IHBT** under JIGYASA Program. They were shown different R&D products of the Institute through organizing exhibition
- **CSIR-NEERI** conducted outreach program at The Cathedral & John Connon Infant School, Mumbai on Noise and Water Pollution
- **CSIR-CFTRI**, Lucknow organized a public lecture entitled “Why Evolution is central to Biology and our Lives”
- 157 Civil Judges (Junior Division) exposure cum awareness visit was organized to **CSIR CIMAP** on medicinal and aromatic plants cultivation, processing and value addition technologies.
- **CSIR-NPL** organized JIGYASA on occasion of International Women’s Science Day on 11th Feb where in school students from KV visited various labs of NPL.

- Shivpriya Junior College, Kalmeshwar visited CSIR-NEERI. Students of the college visited Harit Sangralaya (NEERI's Exhibition) and interacted with Scientists.
- **CSIR-CECRI** organized a week-long Science Awareness Programme for students from Jan 27 to Feb 3 2020. Around **1250 students** belonging to various government schools located in Sivagangai District got benefited which was held under the banner of JIGYASA
- Biotechnology students enriched on Translational Toxicology at CSIR-IITR where in 48 undergraduate and postgraduate students along with three teachers from C. K. Thakur College, Navi Mumbai visited

Honors and Awards

- Dr Niti Kumar, Senior Scientist, **CSIR-CDRI**, Lucknow, bagged Science and Research Board (**SERB**) **Women Excellence Award** for her work on understanding the protein quality control machinery in Human Malaria Parasite.
- Dr Ritu Trivedi, the Principal Scientist at **CSIR-CDRI** has been conferred with prestigious **Tata Innovation Fellowship 2019-20** in recognition of her outstanding research contributions.

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, Goods & Service Tax (GST) concessions and Weighted tax deductions on R&D by Industry (us 35(2AB) of IT Act). This scheme helps in encouraging industrial R&D in the country.

Industrial R&D Promotion Programme

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

- 18 in-house R&D units of industries were granted recognition as well as registration certificates.
- 04 in-house R&D units of industries were granted renewal of recognition as well as renewal of registration certificates.

Scientific and Industrial Research Organization (SIROs)

Recognition/ Registration and Renewal of SIROs

- 08 SIROs were granted recognition and 02 were granted registration certificates.

Public Funded Research Institution (PFRIs) Registration and Renewal of PFRIs

- 04 PFRIs were granted renewal of registration certificates.

Fiscal Incentives for R&D by Industry

- 33 reports in form 3CL submitted to CCIT under Section 35(2AB) of IT Act for weighted tax deduction on industrial R&D involving a total amount of Rs. 31963.85 lakhs.

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 for the first time in the country through its own R&D efforts and it 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.2712.21 Lakhs during February, 2020.
- Sale of items worth Rs.2983.71 Lakhs was realized during February, 2020.
- Major achievements reported during February, 2020 are – (i) CEL signed the license agreement for Transfer of Technology of 'Divya Nayan' with CSIR-CSIO, (ii) CEL participated in DEF EXPO 2020 held at Lucknow and presented the new product portfolio such as laser fencing system, sintered radome, armour ceramics etc.

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 as well as universities, technical organizations, industries and also individual inventors.

- NRDC has licensed one technology developed by Institute of Life Sciences on 'Curcumin encapsulated chitosan alginate sponge' to M/s Golap Pharmaceuticals. NRDC has collected a royalty of Rs. 44.32 Lakhs and a premia of Rs.8.00 Lakh from licensing of technology during February, 2020.