

No. DSIR/MS/2020/01
Government of India
Ministry of Science & Technology
Department of Scientific & Industrial Research
MONTHLY SUMMARY FOR THE CABINET
(For the month of **January 2020**)
(Part-I Unclassified)

Ministry/Department: Department of Scientific and Industrial Research (DSIR)

Major achievements during the month of JANUARY, 2020 :

1. Council of Scientific & Industrial Research (CSIR)

In a major development involving the **Bio-Jet fuel technology developed by CSIR-IIP**, IAF's AN-32 transport landed at Leh for the first time with the indigenous Bio-Jet fuel. The successful test flight allowed for evaluating the performance of bio-jet fuel under extreme flying conditions. IAF is aiming to cut fuel costs by around \$4 billion by 2024. With the successful landing of the biofuel- blend-powered transport aircraft at a height of around 3,524 metres, the force will gradually move to use the fuel in other aircraft as well.

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In another significant event this month, **Hon'ble Vice President of India**, visited **CSIR-CCMB** and was impressed with some of CCMB's research outcomes like the bacterial blight-resistant improved Samba Mahsuri variety developed in collaboration with the Indian Institute of Rice Research.

Societal Sector

- Manipur CM visited an exhibition organized under the '**CSIR Connect North East**' in Imphal where in food processing and various other technologies of CSIR labs were exhibited. He thanked CSIR for supporting entrepreneurs of the State and requested to extend support to conserve & preserve traditional paddy varieties of State like Moirang Phou, Phoudomba.
- A training program on improved cultivation of low chilling varieties of Apple was conducted in Champhai of Mizoram state by team **CSIR-IHBT** in association with DRDA, Champhai.
- **CSIR-IHBT** organised a Tea Workshop at Chambi Tea Estate in Kangra to educate small tea growers on different aspects of improving tea productivity, quality and profitability.
- **CSIR CIMAP** celebrated its 16th Kisan Mela wherein more than 5000 farmers participated from 23 states and 500 quintals of high yielding menthol mint variety was distributed to farmers, which would cover an area of 1250 acres producing about 75 tons of essential oil.
- To provide a safe, non-toxic and eco-friendly substitute to synthetic colours used in lipsticks, the scientists of **CSIR-IHBT** have extracted natural colours and dyes from the natural occurring vegetables and plants sources. The natural colours were stabilized by natural methods and used for the preparation of Herbal Lipstick

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- A Supreme Court bench has given its nod for the construction of a greenfield airport at Mopa in North Goa, airport and asked **CSIR-NEERI** to oversee the project to ensure that there is no environmental damage.
- Water Testing Lab of **CSIR-CMERI** has now been designated as a recognized laboratory of West Bengal PCB. The lab has the facility to test the Physical, Chemical and Bacteriological parameters and assess the quality of water alterations in the malaria parasite
- **CSIR-CBRI** continued technical support to CPWD Shimla for conservation/ retrofitting of Fire damaged Gorton Castle Building (British Era Civil Secretariat constructed in 1904), Shimla.
- In an effort, to develop flower varieties that can withstand extreme winters scientists at **CSIR-NBRI** have developed and released a new variety of Chrysanthemum that blooms during late December to mid-February.

Technology Transfer and Industry

Patents update

Patents Filed		Patents Granted		Patents Prosecutions	
India	Abroad	India	Abroad	India	Abroad
10	13	28	05	33	27

- **CSIR-NEIST**, Jorhat transferred the technology on "Production of Banana Fibre" to M/s JC Lang Enterprises, Imphal, Manipur
- **CSIR-CSIO**, Chandigarh transferred the Technology of Dynamic Postural Assessment Stability System (DPASS) to M/s Oceanic Fitness Private Limited, Mohali.
- **CSIR-CSIO** has transferred the know-how of "3D Printed Patient-Specific Medical Implants" to the industry. Patient-Specific Implant (PSI) are required when the current commercially available implant for the site is either not available or doesn't fulfill the anatomical requirement.
- Electrostatic Dust Mitigation & Smog Control Device developed by **CSIR-CSIO** was transferred to Cloud Tech Pvt. Ltd. a Haryana based enterprise. The technology that uses an electrostatic field to generate charged spray droplets, which combine with oppositely charged dust & smog particles & settle down onto the ground very efficiently and effectively removing Air Pollution.
- Two agreements were signed, one with M/S Hempstreet Pvt. Ltd. Delhi for cannabis based Ayush formulations & the other with M/s Tierra Agrotech Pvt. Ltd, Hyderabad for transfer of 1000 cotton genotypes to **CSIR-NBRI** for research activities.
- **CSIR-IIIM** has filed an IND Application of IIIM-290, a potent CDK inhibitor, to DCGI for conducting Phase I/Phase II clinical trial of its capsule formulation in patients with locally advanced or metastatic pancreatic cancer.
- DG CSIR inaugurated the pilot plant for continuous flow manufacture of Silver Nanowires at **CSIR-NCL**. CSIR-NCL has developed a technology for

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continuous flow manufacture of Silver Nanowires that can be used in future nano-electronic devices. The technology allows for production of less expensive silver nanowires, which India has been importing and will also help in manufacturing of precision material in large scale.

- **CSIR-NEERI**, Nagpur and SMS Envocare Ltd signed a technology transfer agreement for High Rate Transpiration System (HRTS) to improve waste water management at various industrial clusters in India.

MoU

- **CSIR-NPL** has signed an MoU with M/s Sums Techno Labs Private Limited, Hosapete for the production of BND (Bharatiya Nirdeshak Dravya, Indian Reference Materials).
- MoU signed between **CSIR-IITR** and Great Eastern Medical School & Hospital to jointly work on identifying the cause for the high incidence of 30-45% in Chronic Kidney Disease of unknown etiology (CKDu) cases Uddanam region of Andhra Pradesh as compared to the Indian average of 10-15 per cent
- **CSIR-IITR** signed MoA with Ground Water Department, UP Govt for "Procurement of services for Ground Water Quality Parameters testing & analysis through samples collected from Piezometers, Monitoring wells under Yamuna Basin, Central Ganga Basin & Ram Ganga Basin of UP"
- **CSIR IMMT** Bhubaneshwar and AIIMS Bhubaneshwar have signed an agreement to work in collaboration on biomaterial research.
- CSIR-CIMAP, Lucknow signs MoU with Shri Mata Vaishno Devi Shrine Board for making Agarbattis from flower waste.

Workshops/Skill Development:

- **CSIR-NBRI** Institute organized 2-days Workshop on Bioinfo, Mol Biol & Biotech and 48 students from different Universities attended the workshop.
- **CSIR-IITR** organized 2-day workshop on "Statistics and Software Applications for Air and Water Quality Assessment" for engineers and scientists
- A national workshop on "Need for Indian standards on solid biofuels" was jointly organized by **CSIR – CIMFR**, Dhanbad & BIS
- **CSIR-NEERI** with connect MSPGCL organized one-day Conference on "Technical Feasibility of Flue Gas Desulphurization (FGD) and Selective Catalytic Reduction (SCR) in Indian Coal based Thermal Power Plants". The prime agenda was to brainstorm FGD, SCR, SNCR along with other technologies for power production like super critical power production and its policy implications vis – a vis cost and benefits and way forward.
- A six-day short term course cum workshop on Global Environment and Greenhouse gases from energy systems - estimation and mitigation (GEM 2020) has been organized by **CSIR- CIMFR**, Dhanbad and MGMI Kolkata
- **CSIR-CSMCRI** Bhavnagar had organized a "Water Exhibition" for the students of Class 6-10.
- Theory and Hands-on training program for 4 days, on Environment Biotechnology Lab recently was conducted at **CSIR-IMMT** for M.Sc and Ph.D.

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students from different states and central Universities of Odisha.

- **CSIR-SERC** conducted an Advanced Course on Power Transmission and Communication Structures (PTComS-2020) SERC conducted a Certificate Course on Computer-Aided Analysis and Design of Structures (CAADS - 2020)
- Two-day workshop on Energy Storage Technologies, Systems and Materials got concluded at **CSIR-CMERI**, Durgapur. The focus was on initiative taken for development of a cost-effective Graphene-based Supercapacitor under DRDO project.
- **CSIR-CFTRI** conducted a capacity building and **training programmes on food processing for entrepreneurs from SC/ST communities**. CFTRI in collaboration with NSSH, National SC-ST Hub (NSSH), has designed a host of capacity building and training programmes on food processing not only for existing entrepreneurs but also for aspiring ones from the SC/ST communities. The first training programme on Fruit and Vegetable Technologies for value addition. The second programme on 'Spice processing: business opportunities and future prospects'
- **CSIR-CCMB** conducted a workshop of life scientists from CSIR and others from Hyderabad with delegates from **Pasteur Institute** to explore establishing Pasteur unit/centre in the city. This is a potential leap in global science bringing mutual interests together.
- Five days training course on Multi-Hazard Resistant Housing & Habitat organised for 35 engineers of Uttarakhand has been conducted by **CSIR-CBRI**, Roorkee.
- **CSIR and CII** industries meet for water technologies developed by CSIR Institutes and it's application in India was held.
- **CSIR-CMERI**: A two-day skill development training program on Water Quality Assessment started today
- **CSIR-CCMB**, Hyderabad organized workshop on genome for providing personalized healthcare
- **CSIR-IMTECH**, Chandigarh, conducted a five-day workshop on the fundamentals of Fermentation Process Development
- **CSIR-NEERI-MZC** with Mumbaifirst organised a roundtable conference "Championing Smart & Sustainable Solid Waste Management in MMR". The aim of conference is to discuss issues related SWM & finding possible solution through technologies & change in present policies.

Science Outreach Programs

- Under Jigyasa Programme, 56 students from Govt. Sr. Sec. School Khera, Kangra (H.P.) along with 2 teachers visited **CSIR-IHBT**. They interacted with the scientists, research scholars of the Institute.
- JIGYASA at Kendriya Vidyalaya and Amrutha Vidyalaya, Karwar was organized by **CSIR- SERC**
- Students of 10, 11th and 12th from Telangana State Model School, Palamakula visited **CSIR-IICT**, under the Jigyasa program
- CSIR labs participated in SwadeshiMela2020 at Balia, UP and exhibited its products and technologies. Large no. of students and general public

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- A group of 18 M.Sc. Botany students along with 2 faculty members from Ganpat Sahai P.G. College, Sultanpur (Dr Ram Manohar Lohia Awadh University Faizabad) visited different labs and the state-of-art facilities of **CSIR-IHBT** Palampur (HP)
- **CSIR-NEERI** and CCI, Nagpur organised the Climate change challenge 2020. The program brought together 170 college students. Various themes related to Climate change and it's impacts were discussed.

CSIR-NISCAIR partnered in organising the 5th edition of the ScienceFilm Festival of India, SCI-FFI 2020, which was inaugurated by the Chief Minister of Goa Dr. Pramod Sawant.

- Science Cartoon Workshop & Competition was organised by **CSIR-NISCAIR** during the World Book Fair where they were engaged by giving tips on communicating scientific ideas through cartoons

Accolades

- Dr Rakesh Kumar, Director, **CSIR-NEERI** received Green Excellence Award for Environment Protection by iDAC Expo Mumbai 2020.
- CSIR was adjudged as **Exhibitor of the year** at Pride of India Expo at the **Indian Science Congress 2020** which was presented by Hon'ble Vice President in Presence of Hon'ble Chief Minister of Karnataka.
- Out of total of six awards, three CSIR scientists belonging to CSIR-IGIB, CSIR-NCL and CSIR-IICB bagged **Merck Young Scientist Award** which is given to researchers with less than ten years of experience with expertise in solving some of the toughest problems in life sciences.
- **DG CSIR**, Dr Shekhar C Mande, was selected for the **H K Firodia Vijnan Bhushan Award** for his contribution in the field of Science and Technology

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

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




- 14 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

- 04 SIROs were granted recognition and 03 were granted registration certificates.

Public Funded Research Institution (PFRIs)

Registration and Renewal of PFRIs

- 01 PFRI was granted registration certificate.

PUBLIC SECTOR ENTERPRISES

1. 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.2663.78 Lakhs during January 2020.
- Sale of items worth Rs.3546.73 Lakhs was realized during January 2020.
- Major achievement reported during January 2020 is successful completion of PCM export order.

2. 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 been assigned two (2) technologies by Central Tasar Research and Training Institute, Ranchi, Jharkhand.
- NRDC has licensed one technology to M/s NAS Industries. NRDC has collected a royalty of Rs.33.08 Lakhs and a premia of Rs.15.00 Lakh from licensing of technology during the month.

