

No. DSIR/MS/2021/11
Government of India
Ministry of Science & Technology
Department of Scientific & Industrial Research
MONTHLY SUMMARY FOR THE CABINET
(For the month of **November, 2021**)
(Part-I Unclassified)

Major achievements during the month of October, 2021:

Council of Scientific & Industrial Research (CSIR)

New Technologies/Processes Developed/Transferred

- CSIR-NCL has submitted a new disclosure on “High-throughput micro bioreactor process for efficient production of Levan from marine Bacillus sp. SGD-03”.
- CSIR-CFTRI transferred the process for making ‘Pulse based pappads’ to M/s JMD Food Products, Aurangabad, Maharashtra.

Collaborations/Agreements/MoUs Signed (National)

- CSIR-CCMB and WILDLIFE SOS, New Delhi MoU: Research strategies and protocols to monitor gut microbiome profile and metabolome profiles of captive animals in comparison to wild.
- CSIR-CCMB and Mahatme Eye Bank Eye Hospital, Nagpur: Genetic screening, carrier detection, clinical and genetic counselling for Sickle Cell Anaemia and also towards developing better genetic markers, predict clinical course and response to hydroxyurea therapy in patients.
- CSIR-CFTRI:
 - MoU was signed with Karnataka Agriculture Produce Processing & Export Council (KAPPEC), Bengaluru on 18th November, 2021 for the implementation of PMFME Incubation Centre as per One District One Product (ODOP) at CSIR-CFTRI.
 - MoU was signed with National Sugar Institute, Kanpur on 30th November, 2021 for collaborative R&D project on fortification and by-product utilization.
- CSIR-CIMFR Tripartite Agreements signed:
 - Northern Coalfields Limited, At + PO – Singrauli, M. P.; M/s. MejaUrja Nigam Pvt. Ltd., New Delhi and CSIR-CIMFR, Dhanbad for Coal Sampling Work
 - South Eastern Coalfields Limited (SECL), SECL Bhawan, Seepat Road, Bilaspur, Chhattisgarh ; M/s. R.K.M Powergen Private Limited, Chennai and CSIR-CIMFR, Dhanbad for Coal Sampling Work
 - South Eastern Coalfields Limited (SECL), SECL Bhawan, Seepat Road, Bilaspur, Chhattisgarh; M/s. Jindal Power Limited, Raigarh, Chhattisgarh and CSIR-CIMFR, Dhanbad for Coal Sampling Work

- South Eastern Coalfields Limited (SECL), SECL Bhawan, Seepat Road, Bilaspur, Chhattisgarh; MB Power (Madhya Pradesh) Limited, Anuppur and CSIR-CIMFR, Dhanbad for Coal Sampling Work
- Central Coalfields Limited, Darbhanga House, Ranchi; Nabha Power Limited, Patiala, Punjab and CSIR-CIMFR, Dhanbad for Coal Sampling Work
- Mahanadi Coalfields Limited, JagritiVihar, Burla, Sambalpur, Odisha; MB Power (Madhya Pradesh) Limited, Anuppur and CSIR-CIMFR, Dhanbad for Coal Sampling Work
- South Eastern Coalfields Limited (SECL), SECL Bhawan, Seepat Road, Bilaspur, Chhattisgarh; M/s. R.K.M Powergen Private Limited, Chennai and CSIR-CIMFR, Dhanbad for Coal Sampling Work
- Mahanadi Coalfields Limited, JagritiVihar, Burla, Sambalpur, Odisha; M/s. R.K.M Powergen Private Limited, Chennai and CSIR-CIMFR, Dhanbad for Coal Sampling Work
- CSIR-IHBT signed an MoU with Hemvati Nandan Bahuguna Garhwal University (Central University), Srinagar, Distt. Garhwal (Uttarakhand) for Academic and R&D collaboration.
- CSIR-IICT signed an MoU with Sai Lifesciences, Hyderabad for the Synthesis of urethane acrylates; an MoU with Laxmi Organics Ltd, Mumbai Process Development for 40% glyoxal and 50% glyoxalic acid and BDR for commercial plant capacities for 20,000 TPA of glyoxal and 10,000 TPA of glyoxal acid
- CSIR-NCL signed project agreement with ArchPharma Ltd. for the development of process for statin class of drugs Atorvastatin and Rousvastatin.
- CSIR-NCL signed agreements for Consultancy and Technical Services with Prism Johnson Ltd.
- CSIR-NGRI: MoU Signed with Geological Survey of India for precise identification of subtle seismic features and delineating the fine-scale velocity structures in some parts of the Indian offshore region.

Collaborations/Agreements/MoUs Signed (International)

- CSIR-CCMB has been sanctioned a multi-national collaborative grant under RCUK Grants (MRC, UK), titled 'OPTIMISE: Optimal preconception nutrition to offset inflammation and non-communicable disease risk in pregnant women and their children.

Patents Update:

Patents Filed		Patents Granted		Patent Prosecutions	
India	Abroad*	India	Abroad*	Indian	Foreign
22	07	10	06	26	112

*Data reported to IPU during the said period and may increase later during national phase entries

High impact S&T services offered

- CSIR-CCMB provided Molecular Diagnostics Services for 97 families comprising of 112 samples.
- CSIR-CRRI:
 - Trial Section and Performance Evaluation of High Volume Traffic Pavement constructed with Ferro Chrome Slag as alternative to Natural Aggregate for Tata Steel Limited, Jamshedpur.
 - Structural Evaluation and remedial measures of the Bridges/Flyovers of National Highway from Raisinghnagar to Poogal (from design Ch.101.00 to Ch.263.460) under Phase-I of Bharatmala Pariyojna, along the International Border at Rajasthan for GR Infra Projects Ltd..
 - Feasibility study of red mud waste material in the construction of Road and as a structural fill for Vedanta Limited.
 - Strengthening/Rehabilitation of Airport Parking Stand/Apron at Keshod Airport for Airport Authority of India (AAI).
 - Technical solution for making cross Drainage structure (stone/rockfill embankment) over part of HaramiNala, Gujarat for Central Public Works Department (CPWD).
- CSIR-IIP:
 - Design of a Demonstration Plant-based on a Hybrid Process for the Production of Grade 'A' Helium from Natural Gas : TIP Development for the Pilot Plant - ONGC Energy
 - Development of an Indigenous Catalyst for Hydrogenation of CO₂ to Methanol – NTPC NETRA.
 - Experimental, simulation-cum-troubleshooting job for processing of PWD & HWD Streams in SDU at Digboi Refinery of IOCL (AOD) for Production of Type-I Wax on sustained basis while achieving design throughput.
- CSIR-NCL: Supplied around 1000 microbial cultures to various industries and academia and allied services like genotypic, phenotypic identification
CSIR-NCL: Analysis of Overprint Varnish for identification of type of varnish for Bharatiya Reserve Bank Note MudranPvt. Ltd.
- CSIR-NGRI: Ongoing heliborne geophysical survey operations
 - AEM survey started on 5th october and so far acquired AEM data along ~9000 line km in Jodhpur-Pokharan survey block
 - Started AEM survey for rail tunnel project running between Thallseri (Kerala) and Mysuru (Karnataka)
 - Began ground geophysical (ERT and TEM) survey in parts of ganga-Yamuna Doab between Kaushambi and Kanpur, UP

Outreach Activities (Jigyasa, Skill Development, and others)

- Dr. Jitendra Singh, Hon'ble MOS(IC), Ministry of S&T launched India's first Virtual Science Lab for children under CSIR Jigyasa programme. The CSIR Virtual Lab will not only take science to all segments of students in every corner of the country, but it is also in tune with the National Education Policy (NEP), where students are allowed to choose any subject and the concept of streams has been disbanded. The new facility will immensely benefit students from Kendriya Vidyalayas, Navodaya Vidyalayas and Government Schools.

- CSIR-4PI: A Preview to the Festival of Games & Toys India International Science Festival (IISF) 2021 was given at the CSIR-National Metallurgical Laboratory (CSIR-NML) Outreach Programme of Jigyasa Platform.
- CSIR-CBRI Webinar Series 16.0 on 'Energy Efficient Building Technologies for Hot & Cold Climate' was successfully organized under the aegis of CSIR Integrated Skill Initiative.
- CSIR-CBRI organised Two-days' workshop-cum-training program on "Earthquake Resistant Construction in Chamba" at Chamba (H.P.) in collaboration with HIMCOSTE .
- During the World Antimicrobials Awareness Week 2021, CSIR-CCMB through 'Superheroes against Superbugs', released a set of interview series with experts working to fight antimicrobial resistance in India.
- Milo CCMB - Scientist interaction session on Nov 23 was organized between Dr G Umapathy, LaCONES-CCMB and Telangana Social Welfare Residential Educational Institutions Society students.
- CSIR-CDRI: Student outreach program was held as part of IISF (India International Science Festival) 2021. The program was held in collaboration with JIGYASA and VIBHA (Vigyan Bharathi).
- CSIR-CECRI organized Connect with Scientists Webinar Series under JIGYASA.
- A one week online Skill Development Training Programme Organized by CSIR-CECRI on "Electrochemical Power Sources: Lead acid Battery- Care & Maintenance"
- CSIR-CFTRI: Under Jigyasa, a Scientist-Student connect programme for students of Jawahar Navodaya Vidyalaya was launched
- A virtual training programme on Sustainable Rural Food Processing Enterprises for Livelihood Generation was organised by CSIR-CFTRI.
- CSIR-CGCRI: In the 5th Webinar of CSIR Jigyasa Programme, a lecture on India's Independence Movement and Science was delivered by Dr. Arvind C Ranade.
- CSIR-CSIO organized a webinar on "Introduction to CSIR Jigyasa Virtual Lab".
- CSIR-IHBT:
 - Nine students and two teachers of Viveka Foundations School, Mansimbal, Tehsil Palampur, (H.P.) visited CSIR-IHBT, Palampur under "JIGYASA" Programme.
 - Team CSIR-IHBT organized an interactive session with 46 students of 8th Class and 4 teachers of Jawahar Navodaya Vidyalaya (JNV), Paprola, HP on the topic "Benefit of Gardening" under CSIR Floriculture Mission & JIGYASA program.
 - Under CSIR-Integrated Skill Initiative, an eight days skill development programme on "Protected cultivation of flower crops" was conducted at CSIR-IHBT. Nine B.Sc. Agriculture students of Sant Baba Bhag Singh University, Khiala, Jalandhar, Punjab attended this programme.
- CSIR-IICT:
 - Under CSIR Integrated Skill Initiative, a Five week training course on Analytical techniques in Spectroscopy and Chromatography for 6th batch of CRCL officers was organized.

- Under CSIR Integrated Skill Initiative, a skill development training program on "Process Plant Drafting using AUTOCAD" was organized.
- During the launch of Virtual Lab Platform, Dr. Jitendra Singh, Hon'ble MOS(IC) for Minister for S&T, ES and VP CSIR interacted with CSIR-IICT ZM School Students under CSIR Jigyasa initiative

Conferences, Seminars/Webinars organized

- CSIR-Central Building Research Institute, Roorkee in association with The University of Sydney, Australia organized One-week lecture series on "Recent Trends and Practices of Geo Engineering" on 15 to 19 November 2021.
- ADVETCON 2021: International Conference on Recent Advances in Reproductive Technologies in Wildlife Conservation was organised by CSIR-CCMB.
- CSIR-CFTRI: Two-days National Workshop on Antimicrobial Resistance in Food Chain was organised on 25th and 26th November, 2021
- National Conference on "NexGen Technologies For Mining and Energy Sectors" was organized on 18th November 2021, at CSIR-CIMFR, Dhanbad
- In association with Rex Fuels, CSIR-CRRI organised a National Conference on Bitumen & Road Sector with the theme 'New Technologies for Better Roads' on 25th November 2021 at Taj Palace, New Delhi

COVID related developments

- Dr Jitendra Singh, Hon'ble MOS(IC), Ministry of Science and Technology launched the first-of-its-kind Drone driven aerial delivery facility to transport COVID vaccine as well as Emergency Medicines to inaccessible and difficult areas in a short span of time. The first consignment of 50 vials of COVID vaccine was delivered near the International Border (IB) in Marh area. The "Octacopter" Drone has been developed indigenously by CSIR-National Aerospace Laboratories.
- CSIR-CCMB: Covid Samples- 3000 RT-PCR Tests & Sequencing 3500 samples
- CSIR-IIP:
 - Equilibrium based evaluation of N₂ adsorbent for efficient air separation to medical grade Oxygen is going on
 - Total 964 samples received for Covid-19 testing. All 964 samples tested and data uploaded on ICMR portal.
- CSIR-NCL: Pilot scale project on sustainable and safe recycling of COVID-19 plastic PPE suits successfully completed in Pune. Demonstrated that a range of plastic products can be successfully processed.

Visit of high level dignitaries to the Institute/Laboratory

- Shri Ramesh Bais, Hon'ble Governor of Jharkhand graced the occasion as a Chief Guest on Valedictory Function of Platinum Jubilee Year Celebrations of CSIR-CIMFR. Hon'ble Shri P. N. Singh, MP, Dhanbad was the Guest of Honour of Valedictory Function of Platinum Jubilee Year Celebrations of CSIR-CIMFR. Padma Bhushan Dr. V. K. Saraswat,

Member NITI Aayog as a Guest of Honour of Valedictory Function of Platinum Jubilee Year Celebrations of CSIR-CIMFR.

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 (under section 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

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

Public Funded Research Institution (PFRIs)

Registration and Renewal of PFRIs .

- 01 PFRI was granted registration certificate.
- 10 PFRIs were granted renewal of registration certificates.

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

Successfully completed the project on 'Development of Bi-Gender Electromagnetic Machine'.

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. 2416.99 Lakhs during November, 2021.
- Sale of items worth Rs. 2391.37 Lakhs was realized during November, 2021.

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 technology to manufacture Ayush-64 to nine industries for commercial exploitation. These companies have been licensed the technology to manufacture Ayush-64 an ayurvedic drug which has been repurposed for use against mild to moderate cases of covid-19. NRDC has been assigned 3 technologies by three organisations /institutes during November, 2021 .
- NRDC has collected premia of Rs.33.00 Lakhs and royalty of Rs.6.4 Lakhs from respective technologies during November, 2021.
