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NEWS BULLETIN 21 TO 25 JANUARY 2025



IMTECH celebrates 41st foundation day with focus on BioE3 policy and biotechnology innovations

CSIR-IMTECH

25th January , 2025

CSIR-Institute of Microbial Technology (IMTECH) marked its 41st foundation day on Friday with a series of events, including the much-anticipated foundation day lecture. The highlight of the day was a lecture delivered by Dr Rajesh S Gokhale, secretary of the department of biotechnology (DBT), govt of India. His address centred on the BioE3 policy, which aims to drive biotechnology innovation in India through its focus on economy, environment, and employment.



The BioE3 policy, Dr Gokhale explained, is a strategic initiative designed to promote green growth by transitioning from the current consumptive manufacturing model to one based on regenerative principles. The policy emphasises empowering Indian institutions, universities, startups, and industries to engage in transformative bio-innovations, particularly through the integration of artificial intelligence (AI) and digital technologies.

It also supports the establishment of facilities such as biomanufacturing hubs, biofoundries, and bio-AI centres to enhance domestic bio-manufacturing capabilities, scale up production, and foster a highly skilled workforce. In his welcoming address, Dr Sanjeev Khosla, director of IMTECH, highlighted the institute's significant achievements over the past year.

Reflecting on IMTECH's 41 years of excellence in microbial sciences, Dr Khosla emphasised the institute's ongoing commitment to driving forward biotechnology innovations that align with India's vision for a self-reliant, sustainable future. He urged the scientific community at IMTECH to focus on future research areas that contribute to the goals of Vikasit Bharat.

As part of the celebrations, IMTECH also signed several memoranda of understanding (MOUs) with leading pharmaceutical industries. These partnerships are aimed at utilising the biofoundry at IMTECH for the rapid development of precision biotherapeutics and the early scaling up of proof-of-concept biomolecules.

The day also featured an 'open day' for the general public, where students, researchers, and science enthusiasts from the Tricity region visited the IMTECH campus.

The event provided an opportunity for visitors to interact with scientists and explore the various facets of microbiology and biotechnology through live demonstrations and discussions. This initiative was part of IMTECH's ongoing efforts to engage with the community and inspire the next generation of scientists.

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CSIR-IIIM conducts farmer training, seed distribution programmes in Jammu

CSIR-IIIM

25th January , 2025

The CSIR Indian Institute of Integrative Medicine (IIIM) conducted two farmer training and seed distribution programmes under the CSIR Floriculture Mission, benefiting 255 farmers from Jammu and Samba regions. The programmes were held at CSIR IIIM Jammu and Krishi Vigyan Kendra (KVK) Samba, providing comprehensive training on advanced crop production techniques, nursery management, disease and



pest control, and marketing strategies for marigold and other floricultural crops. Dr Zabeer Ahmed, Director of CSIR IIIM Jammu, explained the mission's goal to capitalize on business opportunities in the floriculture sector by focusing on sustained production of quality flowers suitable to local agro climatic conditions.

Er Abdul Rahim, Chief Scientist, advocated for cluster-based farming and encouraged young entrepreneurs to develop innovative business ideas. Dr Shahid Rasool, Nodal Scientist, emphasised diversifying marketing strategies and proposed involving women through Self-Help Groups in value-added techniques like resin art and floral jewelry. Tajinder Singh Wazir, President, J&K Flower Growers Association, stressed the importance of adopting scientific protocols and understanding market demand. Participants received high-yielding marigold seeds and were exposed to practical demonstrations by experts in floriculture, agronomy, plant pathology, and agricultural extension. The training aimed to enhance farmers' knowledge, improve crop yield and quality, develop market-responsive cultivation strategies, and promote entrepreneurship in the floriculture sector.

Published in:

Greaterkashmir

NEERI Appointed to Oversee Bio-Mining at Phursungi-Uruli Devachi Garbage Depot

CSIR-NEERI

25th January , 2025

In a significant step toward resolving long-standing environmental concerns at the Phursungi-Uruli Devachi garbage depot, the Pune Municipal Corporation (PMC) has appointed the National Environmental Engineering Research Institute (NEERI) to monitor the bio-mining process. This decision, approved by the PMC Standing Committee, will cost ₹1.5 crore over a five-year period.

The Phursungi-Uruli Devachi garbage depot has been a contentious issue for years. Large-scale dumping by PMC caused severe air, water, and soil pollution, leading to protests by local residents in 2007-08.

Following the protests, PMC stopped dumping new waste and capped the landfill. However, pollution concerns persisted, prompting local residents to file a petition with the National Green Tribunal (NGT).

The NGT directed PMC to clear approximately 5.3 million metric tons of legacy waste through bio-mining. Since then, PMC has removed around 2.1 million metric tons of waste in two phases, in 2016 and 2021.

Now, an additional 10 million metric tons of waste will be processed over the next 1.5 years, with a budget of ₹97.9 crore allocated to contractors. A bio-mining facility with a processing capacity of 2,000 metric tons per day has been set up at the site to expedite the process.

By 2026, PMC aims to clear 3.1 million metric tons of waste from the depot. To ensure the bio-mining is conducted scientifically and effectively, NEERI will act as a third-party inspection agency.

The agency will monitor the project and provide regular reports to ensure compliance with environmental standards. The PMC Standing Committee has approved a phased payment of ₹1.5 crore for NEERI's services.

The payment structure includes ₹75 lakh upon issuance of the work order, ₹15 lakh annually for the next four years, and ₹15 lakh upon submission of the final report at the end of the five-year period.

Hyderabad-based LVPEI organises second edition of 'Future is Here' conference

CSIR

23rd January , 2025

The research teams at Hyderabad-based LV Prasad Eye Institute (LVPEI) organized the second edition of the 'Future is Here', attracting participation from top scientists from USA, Germany, Australia, IITs, research laboratories attached to Council of Scientific and Industrial Research (CSIR) and Central Universities from across India.

The conference brought together over 200 participants ranging from basic scientists, graduate students, engineers to ophthalmologists from 31 institutes, marking the confluence of a young and interesting set of teams coalescing around research ideas and practices on the frontiers of ophthalmology, a press release said.

With a focus of the conference was animal models; in vitro diseases models; cell, gene, and stem cell therapies; biomaterials; and diagnostics; the event also discussed funding and collaboration activities for these research areas.

“The conference has brought together some of the brightest minds working on ocular regeneration and ancillary technologies from around the world,” said Dr Vivek Singh, Senior Scientist and Head, Center for Ocular Regeneration, LVPEI.

Published in:

[Telanganatoday](https://www.telanganatoday.com)

India Proposes Draft Legal Metrology (Indian Standard Time) Rules, 2025

CSIR-NPL

23rd January , 2025

The Ministry of Consumer Affairs, Food & Public Distribution, through its Legal Metrology Division, has issued the draft Legal Metrology (Indian Standard Time) Rules, 2025, for public consultation. Stakeholders have been invited to submit their feedback by February 14, 2025. These proposed rules aim to establish a comprehensive legal framework for defining, implementing, and standardizing Indian Standard Time (IST) across the country, ensuring uniformity and synchronization in timekeeping practices.

A Framework for Time Synchronization

The draft rules emphasize the mandatory use of IST, defined as 5 hours and 30 minutes ahead of Coordinated Universal Time (UTC). The CSIR-National Physical Laboratory (CSIR-NPL) is identified as the custodian of IST, responsible for its maintenance and ensuring its traceability to UTC. Additionally, the rules define the second, the base unit of time, using the internationally recognized cesium-133 atomic clock standard.

Key Provisions of the Draft Rules

Mandatory Use of IST: IST is proposed to be the official time reference for all legal, administrative, commercial, and financial transactions across India. This move aims to eliminate inconsistencies in timekeeping and improve coordination nationwide.

Standard Format for Time Representation: The draft specifies standard formats for time:

Time only: HH:MM:SS

Date and time: DD-MM-YYYY-HH:MM:SS

Display of IST: All government offices and public institutions will be required to display IST on their time-keeping devices. Synchronization will be ensured through technologies such as Network Time Protocol (NTP) or Precision Time Protocol (PTP). **Use of Other Time Zones:** While IST will be the mandatory time reference, the display of other time zones is allowed for informational purposes, provided they are accompanied by IST and clearly labelled.

Focus on Cybersecurity and Resilience

Recognizing the growing reliance on digital systems for time synchronization, the rules mandate:

Cybersecurity measures to safeguard time-synchronization systems against threats such as jamming, spoofing, and cyberattacks.

Use of terrestrial-based time distribution systems and NavIC signals as backup mechanisms to ensure accuracy and reliability in the event of disruptions.

Exceptions and Special Cases

The draft allows for authorized deviations from IST for specific purposes, including:

Scientific research

Astronomy

Navigation

These deviations will require prior approval and must comply with government directives.

Compliance and Monitoring

The proposed rules outline strict mechanisms for compliance and periodic audits to ensure adherence to IST standards. Detailed standards for synchronization accuracy and reporting mechanisms will be issued through subsequent advisories.

Penalties for Non-Compliance

Violators of these rules will face penalties, including fines or other actions, as determined by the authorized officials under the Legal Metrology Act.

Guidelines for Implementation

To support the implementation of these rules, the Central Government will issue additional guidelines and advisories as needed. These will address:

Time synchronization procedures

Monitoring mechanisms

Standards for time accuracy

Invitation for Stakeholder Feedback

Stakeholders are encouraged to provide their inputs by February 14, 2025, to refine and finalize the proposed framework.

The draft Legal Metrology (Indian Standard Time) Rules, 2025, represent a significant step towards modernizing and standardizing timekeeping practices in India. By ensuring nationwide adherence to IST, the government seeks to enhance coordination, accuracy, and security in time-sensitive operations across all sectors.

CFTRI signs MoAs with six prestigious institutes

CSIR-CFTRI

23rd January , 2025

The scientists from CSIR-Central Food Technological Research Institute (CFTRI) in Mysuru, led by the Director of the Institute Sridevi Annapurna Singh, took part in the launch of the country's first-of-its-kind CSIR Innovation Complex in Mumbai. On this occasion, six memorandums of association were signed between CSIR and six prestigious institutes such as IIT Bombay, iCreate, and NRDC. Also, 50 technology transfers took



place from CSIR institutes, including the Mysuru-based CFTRI, startups, MSMEs, and institutions.

Dr. Singh said the CSIR-CFTRI transferred three of its technologies to the industries. With people becoming conscious of their diet, the millet-based technologies that the premier food lab has developed will go a long way in helping consumers choose their diets through innovative technologies. The institute's millet-based technologies were transferred during the launch. The technology - millet flour characterisation and product-making properties - for Tata Consumer Products, Mumbai, is the collaboration partner. The product is rich in dietary fibre and calcium, and millet roti can be easily cooked. The rotis are easy to roll and 100 percent millet with whole millet flour, according to the CFTRI.

Partnering with Pitambari Products Ltd, Mumbai, the CSIR-CFTRI transferred its technology of "Convenience Meets Health" such as millet semolina and instant breakfast mixes. In total, ten technologies were transferred. They are rich in dietary fibre and micronutrients and ready to cook. The cooking time is around 5-6 minutes and are 100

percent millet (unpolished millet with a longer shelf life), the scientists said. The CSIR-CFTRI has tied up with McDonald, India, and transferred its technologies – plant protein slices with improved organoleptic and nutritional quality. Protein slice is a nutritious component of burgers. A good quality plant protein slice will be prepared with 5-8 grams/slice of 18-20 grams. It is a convenient on-the-go plant protein option for health-conscious consumers. The salient features of the technology include fortification with minerals, vitamins, and spice. It provides improved colour and texture and good protein quality, a note from the institute said.

Last year, the CSIR-CFTRI and McDonald's India (West & South) came together and launched the multi-millet bun. The Multi-Millet Bun, co-created by CSIR-CFTRI's leading food scientists and McDonald's India (operated by Westlife Foodworld), incorporated the richness of five nutrient-dense millets - Bajra, Ragi, Jowar, Proso, and Kodo, both major and minor millets. Renowned for their nutritional benefits, these 'superfoods' are sourced from diverse parts of the country, including Gujarat, Maharashtra, Karnataka, Rajasthan, Tamil Nadu, Madhya Pradesh, and Chhattisgarh.

The director said that this long-term partnership with McDonald's India (W&S) aims to explore new avenues in nutritional innovation with benefits to the end consumer top of mind. The CFTRI has also launched the Centre of Excellence for Millets and Incubation Centre. The facility has come up with the support from the State government for working on millets and transfer millet technologies.

Set up a cost of ₹20 crore with funding from the Karnataka government, the CFTRI, which has developed over 60 millet-based technologies to date, plans to reach out or transfer its technologies to farmers, entrepreneurs, women SHGs, and others to market the products, focussing on the longer shelf life without compromising on the taste and nutritional value. The CFTRI last year developed 12 new technologies.

Published in:

[The Hindu](#)

Disaster-hit villages to be transformed into model resilient communities

CSIR-CBRI

23rd January , 2025

The nondescript villages of Sunani and Sheel in the Doon Assembly segment, ravaged by the 2023 monsoon, have been included under the Centrally-sponsored Adarsh Resilient Village Programme. This initiative aims to rehabilitate these disaster-stricken communities and rebuild their infrastructure.

The torrential rains that struck the region on August 15, 2023, caused significant destruction, damaging 70 houses and denuding 1.35 km of land. The Council of Scientific and Industrial Research (CSIR) conducted a study revealing that the region experienced record rainfall of 325 mm in July and 308 mm in August. On August 15 alone, the villages recorded 83.20 mm of rainfall, the season's highest, leaving houses unfit for habitation and eroding arable land.

Geo-technical investigations confirmed that the friable rocks in the area contributed to the extensive damage. A detailed risk assessment and evaluation of the net safe bearing capacity of the soil provided a foundation for planning rehabilitation measures. The project incorporates rockfall protection techniques, including retaining walls for uphill slopes and flexible surface drainage systems, to enhance structural resilience.

The rehabilitation plan includes the construction of 11 cluster shelter units, each covering 36 sq m and featuring community amenities such as toilets, temples, and shared shelters. Educational facilities like schools and anganwadi centers are being retrofitted, while sustainable initiatives such as biogas production and solar drying aim to reduce carbon emissions.

Additionally, 15 semi-permanent housing units with steel reinforcement are being developed. Designed by the Central Building Research Institute (CBRI), each unit includes two bedrooms, a living area, a kitchen, and a toilet within a 36 sq m area. Vivek Mahajan, SDM, Paurmahal, has expressed his commitment to ensuring that the rehabilitation efforts are tailored to the specific needs of the community.

On January 20, Dr N Kalaiselvi, Secretary of the Department of Scientific and Industrial Research (DSIR) and Director General of CSIR, performed the bhoomi puja for the rehabilitation in Sunani. Doon MLA Ram Kumar Chaudhary emphasised the state government's swift relief efforts for the affected residents. He also said forest officials had been directed to expedite the issuance of no-objection certificates, as the rehabilitation area falls under their jurisdiction.

Dr Kalaiselvi stressed that the Model Resilient Village Project aims to address both immediate disaster recovery and long-term rural development. The initiative focuses on enhancing education, healthcare, and basic infrastructure to create sustainable and resilient communities.

The project is being implemented collaboratively by CSIR and the NGO Bal Raksha Bharat, with financial assistance from a prominent media organisation. Bal Raksha Bharat, known for its child welfare initiatives in 19 states, is playing a vital role in the rehabilitation.

CBRI Director Prof R Pradeep Kumar provided insights into the infrastructure development under the scheme. He highlighted plans for essential facilities such as roads, drinking water systems, sanitation, health centers, and community buildings in Sunani and Sheel.

This holistic approach to disaster risk reduction aims to transform these villages into model resilient communities, ensuring safety, sustainability and development for their inhabitants.

AMC to decide on survey for flyovers in Jan 24 meeting

CSIR-CRRI

23rd January , 2025

The Ahmedabad Municipal Corporation (AMC) has proposed a comprehensive traffic survey at 25 key junctions, including Shyamal in Jodhpur, Prahladnagar, and IOC Road in Chandkheda. It has placed the proposal before the road and building committee of the AMC for approval. The committee will decide on the proposal during its Jan 24 meeting.

The civic body proposed assigning the survey work to the Central Road Research Institute (CRRI-CSIR) and will invite quotations from the central govt-run institute. It compiled a list of congested junctions based on city traffic data obtained from the police. CRRI-CSIR's survey is expected to establish construction priorities for the 25 junctions. The AMC estimated the cost of the survey to be Rs 64.9 lakh.

An AMC official, requesting anonymity, revealed that after the 2011-12 survey of 34 junctions, flyovers were constructed at IIM and Anjali junctions. The Helmet junction flyover was dropped due to the construction of the metro rail.

Following CRRI-CSIR's survey from 13 years ago, IITRAM recommended flyovers at Panjrapol and Panchvati junctions. The flyover at Delhi Darwaza junction remained pending due to metro rail work and the presence of heritage structures there.

The AMC official noted that the inclusion of areas like Bopal, Ghuma and Kathwada within the AMC limits increased traffic volumes in the city. This necessitated a comprehensive traffic survey for long-term planning. The assessment, conducted with the help of city traffic police, expanded from one junction to 25, with subsequent budget allocations for the construction of flyovers. Ahmedabad presently has 81 flyovers, railway overbridges, and river bridges.

CSIR-IIIM host training programme on Marigold cultivation in Jammu

CSIR-IIIM

23rd January , 2025

A two-day awareness, training and seed distribution programme focusing on marigold production and crop management was inaugurated at the CSIR-Indian Institute of Integrative Medicine (IIIM), Jammu on Wednesday. The event, part of the CSIR Floriculture Mission, brought together 176 farmers from various zones of Jammu district to promote scientific and commercial floriculture practices aimed at enhancing livelihoods and transforming India's agrarian landscape.



Dr. Zabeer Ahmed, Director of CSIR-IIIM, inaugurated the programme as the chief guest. He emphasised the institute's commitment to empowering farmers through innovative technologies, optimal land utilisation, and market-driven cultivation. Highlighting the importance of diversifying crops and adopting modern techniques, Dr. Ahmed encouraged farmers to explore cash crop farming, vertical farming, and secondary processing to boost income and sustainability.

The event was graced by the presence of notable figures, including Er. Abdul Rahim, Chief Scientist at CSIR-IIIM and Vikram Singh, Senior Controller of Administration. They praised the Floriculture Mission's impact in modernising farming practices, improving incomes, and creating sustainable employment opportunities.

Dr. Shahid Rasool, Nodal Scientist for the Floriculture Mission, welcomed the participants and outlined the initiative's transformative goals. He highlighted the mission's potential to

position India as a global leader in floriculture while improving the socio-economic status of farming communities.

Tejindar Wazir, a member of the J&K State Kisan Advisory Board, commended the mission's role in fostering prosperity through floriculture. He emphasised empowering women through skill-based training for creating value-added floral products and advocated for establishing a School of Gardening to further support the sector.

The programme included technical sessions and practical demonstrations led by Dr. Shoaib Mubashir, who provided insights into scientific cultivation, nursery production, and disease and pest management in marigolds and other floricultural crops. The event also featured an overview of mission activities by Dr. Maliqa Majid, who stressed on the verticals under the initiative.

The event concluded with a formal vote of thanks delivered by Dr. Suphla Gupta, Senior Principal Scientist at CSIR-IIIM, who acknowledged the efforts of all participants and stakeholders in making the programme a success.

CSIR-IICT signs pact with pvt. firm to convert farm waste into compostable sanitary pads

CSIR-IICT

23rd January , 2025

CSIR-Indian Institute of Chemical Technology (CSIR-IICT), Hyderabad, has unveiled a ground-breaking 'Wealth out of Waste (WOW)' technology, an innovative initiative jointly developed with its industrial partner, Aakar Innovations Pvt Ltd., to convert agricultural waste into valuable resources like compostable sanitary pads. The collaboration focuses on the commercial production of pulp from agricultural waste,



particularly banana pseudostem, for hygiene applications. The process know-how for this patented technology was successfully demonstrated on a 50-litre pilot scale earlier this month at the institute, said a press release on Wednesday.

The demonstration was led by senior scientist Vineet Aniya and Aakar Innovations managing director Jaydeep Mandal in the presence of CSIR-IICT director D. Srinivas Reddy, senior scientist D. Shailaja and others from the chemical engineering fraternity.

This eco-friendly process employs sustainable methodologies to extract pulp with superior adsorption and retention properties. The pulp provides a cost-effective and environmentally viable alternative to traditional pinewood-based pulp, reducing dependency on conventional raw materials, he said. The technology enables production of affordable, compostable sanitary pads, addressing critical social issues such as menstrual health, especially in rural and underprivileged communities. This innovation represents one of the first successful examples of commercial-level agricultural waste valorisation for hygiene products.

The technology transfer (ToT) agreement was formalised last week in Mumbai in the presence of Union Minister of State for Science & Technology Jitendra Singh, CSIR DG N. Kalaiselvi, and NITI-Aayog member V.K. Saraswat.

Dr. Kalaiselvi lauded CSIR-IICT's contributions to sustainable technology development and its societal impact. The latest initiative exemplifies the success of public-private partnerships between the institute and the private in leveraging science for societal impact.

CSIR-NML Jamshedpur Hosts Training on Metallurgical Failure of Railway Components

CSIR-NML

23rd January , 2025

A three-day training program on “Metallurgical Failure Analysis of Railway Components” began on Wednesday at CSIR-National Metallurgical Laboratory (NML), Jamshedpur. The program aims to equip participants with a comprehensive understanding of metallurgical principles, damage mechanisms, and failure analysis methodologies, with a specific focus on railway components.

Focus Areas of the Training

Participants from the Railway Design and Standards Organization (RDSO) will gain insights into:

The physical metallurgy of materials used in railway components.

Standards for component qualification and damage mechanisms under service conditions.

Testing protocols to reveal failure mechanisms and sequential methodology for failure investigation.

Inaugural Session Highlights

The training program was inaugurated by CSIR-NML Director Dr. Sandeep Ghosh Chaudhary, accompanied by Dr. S. Shivaprasad, Head of the Materials Engineering Division, and Dr. Sanjay Kumar, Head of the Metal Extraction and Recycling Division. Dr. Chaudhary highlighted NML's legacy in component integrity evaluation and failure investigations since 1953. He also discussed NML's role in improving manufacturing techniques, quality control setups, and standardization efforts for railway components.

MoU with RDSO

Dr. Chaudhary also emphasized the significance of the recently signed Memorandum of Understanding (MoU) between CSIR-NML and RDSO, which focuses on:

Collaborative research and development.

Training programs for areas of mutual interest.

Technical exchanges and joint initiatives to improve railway components.

Engagement and Closing Remarks

The inaugural session included an introduction to the participants, a group photography session, and a formal vote of thanks by the program coordinator, Dr. Avnish Chandan. Participants expressed enthusiasm for the hands-on approach and practical insights offered during the sessions.

Ph.D awardees from CFTRI

CSIR-CFTRI

22nd January , 2025

The following students, who carried out their Research at CSIR-CFTRI during Oct. 1 to Dec. 31, 2024, have been awarded Ph.D degrees by the Academy of Scientific and Innovative Research(AcSIR):

J. Sanjana – Thesis: Role of AMP-activated protein kinase modulation on hepatic O-GlcNAcylation in diet-induced hypercholesterolemia; Supervisor: Dr. C.D. Nandini, Sr. Principal Scientist, Department of Molecular Nutrition, CFTRI.

Veena Kumari – Thesis – Thermal treatment effect on finger millet quality characteristics and development of nutrient rich food formulation; Supervisor: Dr. A. Jayadeep, Chief Scientist, Department of Food Safety & Analytical Quality Control Laboratory, CFTRI.

Pawde Subhash Vishwanath – Thesis: Development of active packaging system – oxygen scavenger for bakery product; Supervisor: Dr. P. Prabhasankar, Chief Scientist, Department of Flour Milling, Baking and Confectionery Technology and Co-Supervisor R.S. Matche, Chief Scientist, Food Packaging Technology, CSIR-CFTRI.

Divya Yadav – Thesis: Development of a symbiotic nutraceutical formulation from mushroom waste for post-menopausal osteoporosis prevention; Supervisor: Dr. P.S. Negi, Chief Scientist, Department of Fruit Vegetable Technology, CSIR-CFTRI.

Aishwarya Praveen – Thesis: Understanding structure and profile of curcuminoids present in turmeric and their augmentation ex vitro; Supervisor: Dr. Sachin R. Chaudhari, Sr. Scientist, Department of Plantation Products, Spices & Flavour Technology, CFTRI.

Published in:

[Starofmysore](https://starofmysore.com)

CRRI suggests elevated corridor to decongest Shahberi road link to Ghaziabad

CSIR-CRRI

22nd January , 2025

The Greater Noida authority has decided to build an elevated corridor to connect Greater Noida West area with Ghaziabad's Crossing Republik for smooth connectivity, said officials in the know of the matter.

The elevated road will be built above Shahberi village road that remains congested daily. Thousands of commuters who get caught in jams daily on this road have demanded an elevated road above Shahberi village located on the Greater Noida-Ghaziabad border.

The Greater Noida West is spread across 3,000 hectares and has around 450,000 apartments in dozens of group housing societies. Ghaziabad's Crossing Republik is also a hub of newly built group housing projects. The residents of these two housing hubs use the narrow 12m wide road to commute between the two townships. The road passes through a densely populated commercial area and traffic jams a daily occurrence . The condition goes from bad to worse during peak traffic hours.

The authority had asked state-owned Central Road Research Institute (CRRI) to carry out a survey of this stretch that also through Shahberi village located between Greater Noida West and Ghaziabad's Crossing Republik area, which is a hub of group housing complexes.

The CRRI submitted a draft report after the survey, recommending two designs of elevated road above Shahberi village to offer a seamless commute. "The CRRI, in its draft report, suggested two designs of elevated road above Shahberi village. In the first design, it suggested a 14m wide and 800m long elevated road, while in the second design, CRRI recommended the construction of a 16m wide and 800m long elevated road. We have directed the CRRI to prepare a detailed project report so that we can select one of the designs and start work," said AK Singh, general manager, Greater Noida authority.

The CRRI has assured the Greater Noida authority that it will prepare and submit a detailed project report in one month.

The DPR will have the details about the budget, exact length and the schedule for construction of this crucial project.

“Once the DPR is submitted, the authority will take it to the board for approval and then to the Uttar Pradesh government for final approval. Once the state government approves it, the authority will issue a tender to hire an agency for the construction work,” said Singh.

“The Shahberi road is a major traffic bottleneck that causes problems daily to commuters. We have to waste more than an hour to pass through this 1km long stretch during peak hours. We have been demanding an elevated road for the past several years,” said Dipti Singh, a regular commuter.

Another daily commuter Sarika Tiwari said, “The Greater Noida authority should have built an elevated road at least 10 years ago, when the apartment owners started shifting into newly built housing societies in Greater Noida West. A journey that should have taken five minutes takes more than one hour during peak hours. We hope that the Greater Noida authority will not further delay this project.”

Mizoram's Agricultural Transformation by CSIR – IHBT : New Projects to Boost Farmers' Livelihoods

CSIR-IHBT

22nd January , 2025

In a significant step towards transforming Mizoram's agricultural landscape, the CSIR-Institute of Himalayan Bioresource Technology (CSIR-IHBT), Palampur, in partnership with the Mizoram Science, Technology & Innovation Council (MISTIC) and the College of Horticulture, Thenzawl (CAU, Manipur), is implementing innovative projects aimed at boosting sustainable livelihoods.



The initiative focuses on cultivating high-value aromatic crops and low-chilling apple varieties, unlocking new economic opportunities for the state. Dr. Sudesh Kumar Yadav, Director of CSIR-IHBT, shared that three projects, sanctioned in February 2022 under the Department of Biotechnology's Inter-Institutional Programme Support, are part of a larger effort to utilize Mizoram's bioresources sustainably. The program also promotes the cultivation of Shiitake and Oyster mushrooms, along with other high-value crops and low-chilling apples, to enhance farmers' income.

From January 16 to 18, 2025, a team of experts led by Dr. Rakesh Kumar, Senior Principal Scientist at CSIR-IHBT, and Project Investigator of the project, visited Mizoram to assess the progress of the plantations. Accompanied by Dr. Kiran Saini, Senior Technical Officer, and Co-PI; and Dr. Davy Lalruatlana, Senior Scientific Officer of MISTIC, the team conducted hands-on training sessions at various locations, including the College of Horticulture, Thenzawl, and the villages of Hmuifang, Sihphir, Mualpheng, Tlungvel, and Tawizo. During the visit, the team engaged directly with over 100 tribal farmers, scientists, and students,

equipping them with essential knowledge on apple cultivation practices such as pruning, irrigation, nutrient management, and orchard preparation. The training also highlighted the commercial potential of aromatic plants like lemongrass and citronella, demonstrating their uses in industries such as perfumery, pharmaceuticals, and pest control. The project earmarks approximately 20 acres of land across Mizoram for low-chilling apple cultivation, with pilot plantations already underway.

At the College of Horticulture, Thenzawl, a special program on agro-technologies of aromatic plants showcased their value in creating high-demand products for international markets. Dr. Rakesh Kumar highlighted the significant potential of these initiatives, stating, “Aromatic plants and low-chilling apple varieties have the capacity to establish Mizoram as a hub for high-value horticulture, offering sustainable income opportunities for farmers.”

This collaboration between CSIR-IHBT and MISTIC demonstrates a strong commitment to translating scientific advancements into practical agricultural solutions. By equipping local communities with cutting-edge technologies, the initiative aims to foster sustainable development and drive economic growth in Mizoram.

NIT Jamshedpur hosts training program on advanced composite materials

CSIR-NML, NIIST, AMPRI

22nd January , 2025

The Department of Mechanical Engineering at NIT Jamshedpur is conducting a one-week training program on “Advanced Composite Materials for Next-Gen Technologies” from January 20 to 24, 2025, in a hybrid mode. The program, convened by Prof. Saroj Kumar Sarangi and coordinated by Dr. Vishesh Ranjan Kar, has attracted over 130 participants, including students, faculty members, and industry professionals from across India.



The sessions feature experts from premier institutes like IITs and NITs, as well as government research organizations such as CSIR and DRDO.

The program commenced with an inaugural ceremony graced by Chief Guest Prof. B. S. Murty, Director of IIT Hyderabad. Other dignitaries present included Prof. Goutam Sutradhar, Director of NIT Jamshedpur; Prof. R. V. Sharma, Deputy Director; Prof. Prabha Chand, Dean (FW); and Prof. Sanjay, Head of the Mechanical Engineering Department.

The first session was led by Prof. Goutam Sutradhar, who spoke on “Metal-Matrix Composites for Transportation Systems to Conserve Energy.” He emphasized the use of metal-matrix composites in automotive components to improve fuel efficiency and the power-to-weight ratio. He also discussed advancements in nano-composites and hybrid composites. In the second session, Dr. Vikas Upadhyay from NIT Patna highlighted “Food Waste Filled Polymer-Matrix Composites.”

On the second day, Dr. T. P. D. Rajan, Senior Principal Scientist from CSIR-NIIST, Kerala, discussed innovations in processing and product development of metal-matrix composites. This was followed by a session on advanced composites for defense and aerospace by Dr. Lokesh Srivastava, Scientist F, from DRDO's Advanced System Laboratory in Hyderabad.

The third day featured sessions by Dr. Vikas Chandra Srivastava, Senior Principal Scientist at CSIR-NML, Jamshedpur, and Prof. S. Das, former Director of CSIR-AMPRI, Bhopal, who provided a holistic perspective on metal-matrix composites and their potential applications.

All sessions are being conducted in hybrid mode, engaging participants, faculty, and students in discussions on cutting-edge composite materials for next-generation technologies.

At Baddi In Himachal Pradesh To Promote Sustainable Rural Growth

CSIR-NML, NIIST, AMPRI

22nd January , 2025

A foundation stone laying ceremony was organized recently at Sil/Sunani village in Baddi at Himachal Pradesh's Solan district under the 'Adarsh Sushrut Gaon' project. The project is being implemented by Bal Raksha Bharat and CSIR, New Delhi, and is supported by 'Zee Media Entertainment Limited'. This program is an important step in the government's visionary schemes for rural development and community welfare.



Doon MLA Ram Kumar Chaudhary and CSIR Director General and Department of Science and Technology Secretary N Kalaisevi graced the function as the Chief Guest. Addressing the occasion, Kalaisevi said, "The objective of the Adarsh Sushrut Gaon Project is to develop infrastructure in rural areas, improve education and health services, and promote sustainable development. The scheme seeks to improve the quality of life of rural communities by prioritizing their needs."

During the foundation stone laying ceremony, Manmohan Sharma, Deputy Commissioner and Chairman, District Disaster Management Authority, District Solan, also expressed his views and highlighted the importance of this project. He informed that under this scheme, infrastructure such as roads, drinking water supply, sanitation, health centre, and community hall will be developed in Sil/Sunani village. Prof R Pradeep Kumar, Director, CSIR-CBRI, gave detailed information about the contribution of CBRI in this project and assured CBRI's support in such projects in future as well. On this occasion, CSIR-CBRI Roorkee and BRB have organized an exhibition related to various aspects of building construction. In this

exhibition, many technologies developed by CSIR were showcased. Visitors appreciated the exhibition and showed special interest in it. Officials from the local administration who attended the program assured to contribute in such works. Local residents and panchayat members participated in large numbers on this occasion. They welcomed this initiative of the government and called it a historic step towards the development of rural areas. The program concluded with a vote of thanks, in which all the guests, officials and villagers present were thanked. This scheme will write a new story of development of rural areas in the coming times.

The Model Resilient Village project represents a holistic approach to disaster risk reduction, focusing on rebuilding livelihoods, safeguarding infrastructure, and ensuring community well-being. The initiative aligns with the broader goals of climate resilience and sustainable development, serving as a blueprint for other vulnerable regions in India.

सीरी ने विकसित की IoT-सक्षम पोर्टेबल एंडोस्कोप टेक्नोलॉजी

CSIR-CEERI

21st January , 2025

भारत में चिकित्सा प्रौद्योगिकी के क्षेत्र में एक महत्वपूर्ण कदम उठाते हुए, सीएसआईआर-केंद्रीय इलेक्ट्रॉनिक्स इंजीनियरिंग अनुसंधान संस्थान (CSIR-CEERI) पिलानी के वैज्ञानिकों ने IoT-सक्षम, पोर्टेबल एंडोस्कोप प्रौद्योगिकी का विकास किया है। इस प्रौद्योगिकी के माध्यम से जटिल सर्जरी को सुरक्षित, सुविधाजनक एवं अधिक प्रभावी बनाया जा सकेगा जिसके कारण उच्च स्तरीय स्वास्थ्य सुविधाएँ उच्च सटीकता के साथ कम लागत में भारत के शहरी एवं ग्रामीण क्षेत्रों पहुंच सकेंगी। मेसर्स येलो मेडिप्लस प्राइवेट लिमिटेड, दिल्ली को किया गया है जो कि इस प्रौद्योगिकी के माध्यम से बड़े पैमाने पर उपकरणों का निर्माण कर बाजार में उपलब्ध कराएगा।



पोर्टेबल एन्डोस्कोपी का प्रौद्योगिकी हस्तांतरण को किया गया है जो कि इस प्रौद्योगिकी के माध्यम से बड़े पैमाने पर उपकरणों का निर्माण कर बाजार में उपलब्ध कराएगा।

क्या है यह IoT-सक्षम पोर्टेबल एंडोस्कोप टेक्नोलॉजी

IoT-सक्षम पोर्टेबल एंडोस्कोप एक अत्याधुनिक उपकरण है जिसे मिनिमली इनवेसिव सर्जरी के लिए डिज़ाइन किया गया है। इस प्रकार की सर्जरी से शरीर में कम-से-कम कट या चीरा लगा कर उपचार किया जाता है। इससे रोगी को दर्द या कष्ट कम होता है। ऐसी सर्जरी से रोगी जल्दी स्वास्थ्य लाभ प्राप्त करता है और उसका रिकवरी का समय भी कम होता है। पारंपरिक भारी एंडोस्कोप की तुलना में, यह उपकरण कॉम्पैक्ट और पोर्टेबल है, जिससे यह दूरदराज के क्षेत्रों और छोटे क्लीनिकों में स्वास्थ्य सेवा प्रदाताओं के लिए आदर्श उपकरण है। इस नए उपकरण के साथ, सर्जन इन प्रक्रियाओं को और भी अधिक सटीकता और नियंत्रण के साथ कर पाएंगे।

उपकरण की प्रमुख विशेषताएँ और लाभ :

पोर्टेबिलिटी : यह उपकरण वर्तमान में उपलब्ध उपकरणों के मुकाबले हल्का और परिवहन में आसान है, जो इसे ग्रामीण या अल्पविकसित क्षेत्रों की स्वास्थ्य इकाइयों के लिए आदर्श बनाता है। **IoT कनेक्टिविटी :** इसमें विशेषज्ञ चिकित्सकों के साथ रिमोट कंसल्टेशन के लिए वास्तविक समय की मॉनीटरिंग के साथ-साथ डेटा साझा करने की सुविधा है।

हाई-रिजोल्यूशन इमेजिंग : इस विशेषता के कारण फोटो या वीडियो में उच्च गुणवत्ता वाली छवि-स्पष्टता होती है, जिससे सर्जनों को सटीक शल्य चिकित्सा में मदद मिलती है।

किफायती : इस उपकरण की उत्पादन और प्रचालन लागत कम होगी, जिससे यह अधिक चिकित्सा सुविधाओं के लिए सुलभ हो सकेगा।

मानव त्रुटियों में कमी : यह अन्य जुड़े उपकरणों के की सहायता से रियल टाइम मॉनीटरिंग के साथ-साथ अन्य महत्वपूर्ण जानकारी प्रदान करता है, जिससे सर्जरी सटीक और अधिक प्रभावी होती है और मानव त्रुटियों को कम किया जाता है।

"मेक इन इंडिया" और आत्मनिर्भर भारत के लिए प्रतिबद्धता -

यह प्रौद्योगिकी देश में हेल्थकेयर क्षेत्र में स्वदेशी चिकित्सा उपकरण निर्माण के लिए एक महत्वपूर्ण मील का पत्थर सिद्ध होगी। यह तकनीकी हस्तांतरण "मेक इन इंडिया" को बढ़ावा देने, नवाचार को प्रोत्साहित करने और देश के चिकित्सा उपकरण निर्माण क्षमता को बढ़ाने के लिए CSIR-CEERI की प्रतिबद्धता को प्रमाणित करता है।

"इस IoT-सक्षम पोर्टेबल एंडोस्कोप का M/s येलो मेडिप्लस प्राइवेट लिमिटेड को सफलतापूर्वक स्थानांतरण हमारी स्वदेशी, उच्च गुणवत्ता वाली चिकित्सा प्रौद्योगिकी समाधान बनाने के प्रयासों में एक महत्वपूर्ण कदम है। इस प्रौद्योगिकी के साथ, हम पूरे देश में रोगी देखभाल में सुधार करने में योगदान देने की उम्मीद करते हैं।" - डॉ. पीसी पंचारिया, निदेशक, CSIR-CEERI पिलानी

Indian biobanks must focus on the youth: Experts

CSIR-CCMB

21st January , 2025

The focus of biobanks in India should be on the younger population, unlike the United Kingdom where biobanks primarily target people aged 40-70, said Prof BK Thelma, National Science Chair at the University of Delhi, on Monday. Thelma was speaking at the 49th annual meeting and international conclave on neurogenetics, organised by the Indian Society of Human Genetics (ISHG) at Nimhans.



She explained that the delay in sharing biobank data in India is not only due to the late establishment of biobanks, but also due to challenges such as inadequate funding and ongoing debates about narrowing down their objectives.

A biobank is a repository for biological or medical data and tissue samples from humans. Thelma said India must first determine how sharing this data will serve broader research goals before moving forward.

VK Paul, Member of NITI Aayog, announced the availability of life-saving drugs for thalassemia, Gaucher's disease, Wilson's disease, and sickle cell disease in children, noting that over 40 million people have been screened for sickle cell anemia.

“India's genetic research is driving innovation, positioning us as global leaders,” Paul said. Giriraj Chandak, Sir JC Bose Fellow at the Centre for Cellular and Molecular Biology, Hyderabad, highlighted the gap between clinicians and geneticists in academic research. He

stressed that phenotyping, which involves studying observable characteristics resulting from genetic interactions, plays a critical role in genomic studies. He called for greater collaboration between clinicians and geneticists. The conclave also featured panels discussing topics ranging from neurogenetics and aging to neurodegeneration, brain disorders, trauma, and precision medicine. The event will conclude on January 23.

3-day Hands-on Training on cGMP commenced at IIIM Jammu

CSIR-IIIM

21st January , 2025

A three-day skill development training program under the theme “cGMP Pilot Plant for Extraction of Traditional (ISM) Herbal Plants” commenced at CSIR-Indian Institute of Integrative Medicine here on Monday in which about 30 participants from diverse backgrounds of Chemical Sciences, Pharmaceutical Sciences, Life Sciences, Medicine and AYUSH enrolled for the workshop.



The programme was inaugurated by Dr Zabeer Ahmed, Director CSIR-IIIM Jammu. Dr Ahmed, Chief Guest, during the inaugural session in his address, underscored the significance of merging traditional medicinal knowledge with modern scientific methods and regulatory frameworks. He emphasized that the program aims to advance the herbal medicine industry while preserving the rich heritage of the Indian System of Medicine. Dr Ahmed further said that the extraction process is the cornerstone of any herbal formulation.

However, he said, achieving optimal extraction requires a deep understanding of the plant material, the methods of extraction, quality control, quality assurance and the factors that can influence the stability of bioactive compounds.

He further described extraction, formulation, and packaging of traditional herbal medicinal formulations are crucial steps in ensuring the efficacy, safety, and quality of herbal products. Recognizing the significance of this discipline in the contemporary scientific landscape, CSIR-IIIM, following the NEP guidelines, has taken the initiative to introduce a specialized Skill

Development programme aimed at equipping individuals with the necessary skills and knowledge in Extraction, Formulation and Packaging of Traditional Herbal Medicinal Formulations.

Over the course of three days, distinguished speakers and subject matter experts will lead interactive sessions and hands-on training modules. Topics include advanced extraction technologies for herbal compounds and practical experiments such as extraction, distillation, and evaporation. The program has drawn participants from diverse backgrounds, including pharmaceutical professionals, researchers, academicians, and students, fostering a collaborative environment for knowledge sharing and skill development.

On day 1, after the inauguration, Er Anil Katare, Principal Scientist, gave an overview of the Role of GMP practices in herbal extraction processes. He also gave a lecture on the Introduction of GMP Principles & their application in Ayurvedic drugs.

Later, the participants were made to understand the Extraction Methods and Types of Extraction Processes. Hands-on Experimentation for grinding and sifting of plant material was performed under the guidance of Sumit Roy, Technical Officer and Goutam Dubey, Project Associate-I. Pertinently these hands-on training and skill development series have been launched by CSIR-IIIM Jammu as part of CSIR-Integrated skill initiatives.

The event was conducted under the overall supervision of Er Abdul Rahim, Chief Scientist & Head RMBD & IST. Dr Deepika Singh, Head of QMI Division & Principal Scientist, welcomed all dignitaries and participants. Er Anil Katare, Principal Scientist & Technical Coordinator of this Training program, gave an overview of the whole training program, while Dr Nasir Ul Rasheed, Senior Scientist, gave the formal vote of thanks. The Inaugural session saw the participation of Heads of all scientific divisions and associated technical staff.

Ministry of Mines Secretary visits CSIR-IMMT

CSIR-IMMT

20th January , 2025

V.L.Kantha Rao, Secretary, Ministry of Mines accompanied by B.P.Singh, CMD, NALCO and Dr.K.Balasubramanian, Director, NFTDC Hyderabad visited CSIR-IMMT, Bhubaneswar and explored the R&D facilities, witnessing firsthand the innovative research and advancements in minerals and materials technology. During their visit, several facilities of CSIR-IMMT, Bhubaneswar covering material characterization facility,



advanced mineral processing, PGE processing, iron ore beneficiation pilot plant, sea bed mineral processing pilot plant, metal recycling facilities, activities under Common Research and Technology Development Hub (CRTDH) and functional material development along with environmental aspects were showcased.

Following the visit to different laboratories and pilot plants of CSIR-IMMT, Secretary, Ministry of Mines in his address highlighted about the need for securing critical minerals supply chain for India and strengthening the supply chain through both bilateral and multilateral engagements and advancing critical mineral projects.

He also stated that the efforts taken by the Ministry will reduce dependence on imports and the Ministry is focused on multifaceted approach, including exploration, mining, domestic processing, refining, and partnerships with other countries.

The auction of critical & strategic mineral blocks is a key aspect of Ministry's strategy to achieve this goal. B.P.Singh, CMD, NALCO asserted that securing reliable, sustainable access

to critical minerals is essential for the future of technology and green energy. Dr.K.Balasubramanian, Director, NFTDC Hyderabad in his address suggested that it is essential for us to recognize the importance of building a robust, diversified supply chain for the country.

Our efforts will help ensure that we are prepared to meet both current and future demands while supporting global sustainability goals. Dr.Ramanuj Narayan, Director of CSIR-IMMT Bhubaneswar also provided an insight into the cutting-edge research and development in the areas of minerals and materials technology being carried out at CSIR-IMMT, Bhubaneswar and the roadmap in response to the growing demand for clean energy, electric vehicles (EVs), and high-tech products in the country.

With the global transition to a low-carbon economy accelerating, the need for these minerals is at an all-time high.

Moreover, V.L.Kantha Rao, Secretary, Ministry of Mines, in his address mentioned that the demand for critical minerals is projected to increase significantly in the next decade, driven by innovations in energy storage, solar, wind power, and electric vehicles.

Under such circumstances, Ministry of Mines is committed to the responsible sourcing of critical minerals, prioritizing environmental sustainability and ethical practices throughout the supply chain.

Thus the role of CSIR-IMMT will be vital in developing new technologies that will increase the efficiency of mineral extraction and processing, minimize waste, and reduce environmental impact.

Forensic genetic detectives of Hyderabad crack Tamil Nadu monitor lizard case

CSIR-CCMB

20th January , 2025

The forensic genetic detectives of Hyderabad have uncovered a wildlife crime involving the mystery of occult and how the gullible can be taken for a ride by poachers. The DNA investigators in Hyderabad received small pieces of plant material for analysis. It turned out that the plant materials were, in reality, the gonads of male Bengal monitor lizard, which was killed by the poachers in Tamil Nadu.

Published as a case study in Springer Nature (September, 2024), the group of researchers from Hyderabad-based Centre for Cellular and Molecular Biology (CCMB), through their DNA analysis, helped investigators from Tamil Nadu to unravel the mystery and prosecute the poachers.

The poachers harvested the forked penises of monitor lizards and fraudulently sold them to individuals as the roots of a very rare plant *Martynia annua*, which are used in occult practices by believers. The poachers modified the penises of monitor lizards to resemble the plant roots, (which look like folded hands), and made it even more complex for investigators to make an accurate identification.

The CCMB researchers said that forensic genetic evidence is a powerful tool to secure convictions in wildlife crimes. “The bifurcated hemipenes (gonads) of any of the four species of Monitor lizards found in India are illegally traded under the name ‘Hatha Jodi’ (a plant root from *Martynia annua*). A rare plant root is misrepresented as a powerful charm capable of bringing property and good fortune to its possessor. As a result, there is a suspected large-scale poaching of monitors in India to fuel the trade of ‘Hatha Jodi’,” the CCMB researchers in the paper said.

Monitor lizards are copiously poached for their meat, which is considered a delicacy and

assumed to have medicinal properties. Studies have documented that the products prepared from the monitor lizards are used to treat various diseases, i.e., asthma, haemorrhoids, rheumatism, and arthritis. The genital organs from Monitor lizards are traded in the name of 'Hatha Jodi', the root of the Tiger's Claw plant and used for human welfare, the researchers said.

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