

# CSIR IN MEDIA



सीएसआईआर  
**CSIR**  
भारत का नवाचार इंजन  
*The Innovation Engine of India*

## NEWS BULLETIN 26 TO 31 JANUARY 2025





## CSIR-IIIM Unveils Institutional Calendar 2025

CSIR-IIIM, NIScPR

31<sup>st</sup> January , 2025

The CSIR-Indian Institute of Integrative Medicine (CSIR-IIIM) on Friday unveiled its much-anticipated Calendar 2025 that showcases a year of remarkable achievements, ground-breaking research, and impactful societal initiatives. In a statement issued to Kashmir Convener, an official spokesperson said the calendar is a visual journey through 2024, highlighting the institute's



contributions to research and development, skill development, entrepreneurship, and international collaborations, alongside its commitment to societal welfare.

The calendar was unveiled by Dr Zabeer Ahmed, Director CSIR-IIIM Jammu, who, in his address, gave a narration of important Research and Development Milestones.

The Calendar unveiling was attended by Scientists, researchers, staff and students. Prominent among them were Er. Abdul Rahim, Chief Scientist and Head Srinagar Branch, Vikram Singh, Sr. Controller of Administration, Ajay Kumar, Controller of Finance, Dilip Gehlot, Stores & Purchase Officer, Dr Manish Mohan Gore, Sr. Scientist CSIR-NIScPR, Dr Nasir Ul Rasheed, Sr. Scientist and Dr Kancherla Prasad, Senior Scientist.

Spokesperson said the calendar captures the institute's pioneering work in ethnopharmacology and the development of phytopharmaceutical drugs, showcased during the International Conference on Ethnopharmacology. He said event brought together global experts to explore the potential of traditional medicine in modern drug development. "The Calendar also highlights the commitment to societal welfare reflected in its numerous outreach programs,



including skill development initiatives aimed at empowering local communities”. The calendar also commemorates the visits of several VIPs, including Vice President of India, Mr Jagdeep Dhankhar, Union Minister of S&T and Vice-President, CSIR, Dr Jitendra Singh and other scientific luminaries, underscoring the institute’s national and international significance.

Dr Ahmed further said that Calendar 2025 serves as a visual narrative of the institute’s accomplishments in 2024, capturing moments of scientific breakthroughs, societal impact, and collaborative excellence. “It stands as a testament to CSIR-IIIM’s unwavering commitment to advancing science and technology for the betterment of society”.

Dr Ahmed, in his address, said that IIIM Calendar 2025 is more than just a record of events; it is a celebration of the institute’s journey towards excellence in science, technology, and societal impact.

“As we turn the pages of this calendar, we are reminded of the power of innovation and collaboration in shaping a better tomorrow”, said Dr Zabeer.



## PMC Proposes NEERI Appointment for Environmental Monitoring of Bio-CNG Plant Following Supreme Court Directive

CSIR-NEERI

31<sup>st</sup> January , 2025

In compliance with the Supreme Court's directive, the Pune Municipal Corporation (PMC) has proposed appointing the National Environmental Engineering Research Institute (NEERI) for environmental monitoring of the 200 metric ton per day wet waste processing plant at Sus road, Baner. The PMC's Standing Committee has been approached for approval of this appointment under Section 5.2.2 of the Maharashtra Municipal Corporation Act.

The Bio-CNG plant was developed to process wet waste and generate biofuel, contributing to sustainable waste management in the city. The project was executed by Mail Exchange Environment Solutions LLP and is considered one of PMC's key initiatives to address urban waste management challenges.

However, the project faced legal hurdles after residents and environmental activists raised concerns over its location and operational impact. As a result, a petition was filed in the National Green Tribunal (NGT) against the PMC. The NGT ruled against the municipal body, prompting the PMC to challenge the decision in the Supreme Court.

Following the Supreme Court's ruling, the court directed various compliance measures, including mandatory environmental monitoring of the Bio-CNG plant at Sus Road. Under Clause 56 of the court's directive, NEERI, Nagpur, a government research institute specialising in environmental assessments, has been assigned to conduct biannual inspections of the project.

Upon PMC's inquiry, NEERI submitted a proposal amounting to Rs.20 for a five-year monitoring period. As the Solid Waste Management Department of PMC is currently exempt from GST, the terms of NEERI's proposal require an advance payment of 50%. The PMC has allocated a budget of Rs.107 crore for solid waste management under budget head



RE19A148A for the financial year 2024-25. The Financial Committee has sanctioned Rs.17 crore under the tipping fee category for waste management projects developed under the BOT (Build-Operate-Transfer) and BOOT (Build-Own-Operate-Transfer) models.

The appointment of NEERI is expected to enhance transparency and ensure that the Bio-CNG plant operates in accordance with environmental norms. The biannual environmental audits will assess the project's impact on air and water quality, waste management efficiency, and compliance with pollution control regulations.

Environmental experts have emphasised the importance of such monitoring, considering the growing concerns over urban waste management and its impact on public health. The PMC's move to appoint NEERI aligns with broader efforts to enhance environmental accountability and mitigate risks associated with large-scale waste processing projects.

With the proposal submitted for Standing Committee approval, the PMC awaits the necessary clearances to proceed with the NEERI appointment. Once approved, the environmental assessments will commence as per the Supreme Court's directive, ensuring compliance with legal and environmental regulations.



## Airtel Foundation organized exposure visit of Govt teachers to CSIR, IIIM Jammu

CSIR-IIIM

31<sup>st</sup> January , 2025

An exposure visit organized by Bharti Airtel Foundation in collaboration with the Directorate of School Education Jammu, under the CSIR Jigyasa programme, concluded today at the Indian Institute of Integrative Medicine (IIIM), Jammu.

The event saw the participation of 81 science teachers from government schools across Jammu, Samba, and Rajouri districts, supported by Bharti Airtel Foundation under its Quality Support Program. The workshop aimed to provide teachers with hands-on training in cutting-edge science and research facilities, enhancing their understanding of practical science and research methods.

The initiative focused on equipping science teachers with skills that will enable them to inspire and engage students more effectively in their classrooms. Dr. Zabeer Ahmed, Director of CSIR-IIIM Jammu, addressed the participants and encouraged them to take full advantage of such opportunities. He highlighted the importance of initiatives like the CSIR Jigyasa program, in fostering awareness about science and technology, which plays a crucial role in addressing the challenges faced by society.

Anil Bhat, Regional Head of Bharti Airtel Foundation, provided insights into the Foundation's ongoing efforts to support schools across Jammu and Kashmir and Ladakh UTs in collaboration with the Directorate of School Education. Abdul Rahim, Chief Scientist and Head of RMBD & IST at CSIR-IIIM, spoke about the Skill India Initiative, which focuses on upgrading the skills of teachers to improve the quality of education at the school level.

The workshop kicked off with technical lectures and practical sessions led by Dr. Asha Chaubey, Senior Principal Scientist and Head of the Fermentation and Microbial Biotechnology Department, who is also the Nodal Scientist for the Jigyasa program. Teachers



had the opportunity to conduct basic science experiments aligned with school curricula, offering them valuable hands-on experience that they can take back to their classrooms. The exposure visit marked a significant step in bridging the gap between scientific research and classroom teaching, further strengthening the connection between the scientific community and educators.



## Rainwater Detector model secures first prize at KPS Kadma Physics Exhibition

CSIR-NML

31<sup>st</sup> January , 2025

Kerala Public School (KPS) Kadma organized Physics Exhibition, where Class XI students showcased their creativity and scientific understanding through innovative models and experiments. The event began with a lamp-lighting ceremony, setting the stage for an engaging and educational experience. Principal Sharmila Mukherjee addressed the audience, highlighting the significance of such exhibitions in fostering curiosity and scientific inquiry among students. “These exhibitions ignite a passion for scientific inquiry, encouraging young minds to question, experiment, and dream,” she said. Chief Guest Dr. Manish Kumar Jha, Chief Scientist at the Metal Extraction & Recycling Division of CSIR-NML, lauded the efforts of the students and faculty, stating, “Such activities take students on an exciting journey into the world of scientific wonders, where curiosity meets exploration, and imagination fuels innovation.” Special guest Mohit Das, an alumnus of KPS Kadma and a PhD scholar in Biochemistry in the United States, expressed admiration for the engaging and interactive displays. The exhibition was guided by Dr. Sweta Sharma, whose mentorship, along with the dedication of students, brought together an inspiring collection of exhibits. The winners of the event were announced, with Megha Munduiya, Mridula, Muskan Kumari, and Neha Kumari securing first place for their Rainwater Detector. The second position was awarded to Ayush Kumar Chaudhary, Arnav Mishra, Debjit Karmakar, P. Yashasvi, and M. Jivitesh for their Blind Stick project. The third position was shared by Sonali Kumari, Shristy Kumari, Aakanksha Tudu, Abhishek Tiwari, and Shreya for their Hydra-guard model, along with Gungun Kumari, Shreya Kumari, Kanak Janghel, and Somyashree Mishra, who presented a Gravity Battery. The event concluded with a vote of thanks delivered by Senior Coordinator T. Veena, who expressed gratitude to the teachers and students for their hard work and dedication in making the exhibition a success.

**Published in:**

[Avenuemail](mailto:avenue@mail.com)



## Farmers share success stories of CIMAP innovation at Kisan Mela

### CSIR-CIMAP

31<sup>st</sup> January , 2025

When Ram Singh, a farmer from Ghursara village, Mohanlalganj, narrated how he found ways to increase his income with the help of scientists at the Central Institute of Medicinal and Aromatic Plants (CIMAP) during the Kisan Mela, he was grinning like a child. The two-day farmers' fest began at the Council of Scientific and Industrial Research (CSIR)-CIMAP on Thursday.



“After completing my graduation from Lucknow University, I began helping my father with conventional farming on our 1-hectare farm. We used to grow opium, wheat, mustard, paddy, and lentils. In 1992, when I began looking for alternatives to opium, I heard about the institute from one of my neighbors, and visiting it turned out to be a life-changer. I began growing menthol-mint for a few years, followed by learning the need for crop diversification. I started growing khus on the wasteland of the farm near the canal, along with geranium, paddy, wheat, and mustard,” said Singh.

He shared that he also learned methods of menthol oil extraction, vermicomposting, and beekeeping through various training programmes, which helped multiply his income.

“My children used to study in village schools when I began, and through these practices, I was able to send them to reputable universities across the country. One of my sons studied at IIM and has already received a placement in a multinational company, while another is working with ITI in Rae Bareli,” said Singh. However, he was not the only one—several farmers testified to their growth with the support of the institution.



Pramod Kumar (48), a farmer from a village in Barabanki, said that about 10 years ago, he could extract only 6-7 kg of menthol oil from the variety of menthol mint he was growing. However, since he began cultivating the variety provided by CSIR-CIMAP, he has been able to extract about 20-22 kg of menthol oil. He has also generated income by selling saplings to other farmers.

“I grow potatoes after mint every year. The potato yield looks good in terms of quality as they are organic in nature, and their shiny appearance fetches about ₹200 more per quintal. Besides, I make vermicompost, engage in beekeeping, sell honey, and make fragrant candles, all of which have increased my income and improved my standard of living,” said Kumar.

On day one, Vijay Bahadur Dwivedi, director, horticulture and food processing department, and GN Singh, advisor to the chief minister, were the special guest and chief guest, respectively, during the inaugural session. A demonstration of drone technology in cultivation and distillery units was also part of the event.



## Workshop for Govt science teachers concludes at IIIM

CSIR-IIIM

31<sup>st</sup> January , 2025

A two-day workshop for science teachers of Government schools concluded here today at CSIR-Indian Institute of Integrative Medicine (IIIM), Jammu, which was organized by IIIM, in collaboration with the Bharti Airtel Foundation, under the flagship of the CSIR Jigyasa programme. 81 Science teachers drawn from various schools of Jammu, Samba, and Rajouri districts got the opportunity to learn various Scientific knowledge. During the workshop,



lectures on Lab safety, antimicrobial assistance, and cyber security were delivered by Dr Ravi Shankar, Principal Scientist, Er Shaghaf Ansari, Principal Scientist and Dr Avisek Mahapa, Senior Scientist, respectively. In addition to this, they have also acquired the knowledge of basic Lab experiments and demonstration of various scientific divisions viz. Natural Products Medicinal Chemistry, Plant Sciences and Agrotechnology, Fermentation Microbial Biotechnology, Pharmacology and Quality Management and Instrumentation. In the valedictory function, Dr Zabeer Ahmed, Director, CSIR-IIIM, Jammu, congratulated all the teachers for their successfully completion of two-day workshop under CSIR Jigyasa programme and also encouraged them to take part in the future workshops. Dr Ahmed also appreciated the Bharti Airtel Foundation for their help and support being extended to the Government schools. The participants were also given certificates by the Director and others. The event was coordinated by Dr Asha Chaubey, Senior Principal Scientist/HoD, Fermentation and Microbial Biotechnology & Nodal Scientist, Jigyasa Programme. The formal vote of thanks was presented by Er Abdul Rahim, Chief Scientist and Head, RMBD & IST. Anil Bhat, Regional Head, Bharti Airtel Foundation and his team also attended the programme.

**Published in:**

[Dailymailindia](https://www.dailymailindia.com)



## Hyderabad to get Science City soon

CSIR-IICT

31<sup>st</sup> January , 2025

Hyderabad is set to become a hub for scientific innovation with the upcoming Science City at CSIR-IICT. The government of India is developing a Science Experience Centre with a budget of Rs 232.7 crore.

World-class science hub

The Science City will feature interactive and immersive exhibits designed to ignite curiosity and inspire young minds.

**Key attractions include:**

Astronomy & Space Science

Robotics & innovation hub

3D digital dome theatre

Walk-through aquarium

Motion simulator

Student activity zones

Hyderabad's Science City to boost scientific awareness

The ambitious project aims to foster scientific temperament among students and researchers in Telangana.

By offering hands-on experiences, Science City will provide an ideal platform for learning, creativity, and innovation. With Hyderabad rapidly emerging as a center for technology and research, the Science City will further strengthen its reputation.

**Published in:**

[Siasat](https://www.siasat.com)



## IIIM organizes workshop for Govt Science teachers

CSIR-IIIM

30<sup>th</sup> January , 2025

A two-day workshop for Science teachers of Government schools commenced today at CSIR-Indian Institute of Integrative Medicine (IIIM), Jammu, in collaboration with the Bharti Airtel Foundation, under the flagship of the CSIR Jigyasa programme.



In the workshop, 81 Science teachers drawn from districts Jammu, Samba, and Rajouri have got the opportunity to acquire knowledge of high-quality science and state-of-the-art facilities here. The workshop aims to provide Science teachers with hands-on training in research labs, guided by the expert scientists. This initiative aims to provide teachers with practical research experience to better inspire students in their schools.

On this occasion, Dr Zabeer Ahmed, Director, CSIR-IIIM, Jammu, encouraged the participants for their active participation in the workshop and to get themselves benefitted from such types of initiatives of IIIM under the CSIR Jigyasa Mission. Further, Dr Ahmed said that under the CSIR Jigyasa Mission, they are trying their utmost to disseminate and make the students, teachers, and others aware of the science and technology, which is very significant in this era to mitigate the sufferings and problems of the common masses.

Anil Bhat, Regional Head, Bharti Airtel Foundation, briefed about various kinds of activities and support being provided by the foundation for schools. Abdul Rahim, Chief Scientist & Head RMBD & IST, emphasized that Skill India Initiative is the special program that enables the teachers to upgrade their skills while they are teaching the students at school levels.



Earlier, Dr Asha Chaubey, Sr Principal Scientist/HoD, Fermentation and Microbial Biotechnology & Nodal Scientist, Jigyasa Programme, began the workshop with technical lectures and practical sessions. During the event various heads of the divisions, scientists and others were also present.



## CSIR-CIMAP to launch new tulsi, geranium varieties at Kisan Mela

### CSIR-CIMAP

25<sup>th</sup> January , 2025

The CSIR-Central Institute of Medicinal and Aromatic Plants (CSIR-CIMAP), Lucknow, will launch new high-yielding varieties of tulsi (basil) and rose-scented geranium at the two-day Kisan Mela 2025, starting Thursday. "Our new tulsi variety, Sim Saraswati, is a high-yielding cultivar rich in linalool (a colourless or yellowish liquid that is a natural component of many essential oils and plant flavors). It is cold-tolerant and can be harvested twice a year, yielding 180 litres of essential oil per hectare," said CIMAP director Prabodh K Trivedi.



He further said that another new variety, CIM-Sangam, a high-yielding rose-scented geranium, will also be introduced at the fair. This variety is highly resilient, tolerant to fungal infections, and offers a high oil yield of 60-65 kg per hectare in a single harvest. Its low citronellol-to-geraniol ratio makes it ideal for the perfumery industry. Additionally, it is well-suited for cultivation in the North Indian plains.

Around 5,000 farmers and entrepreneurs from various states, including Uttar Pradesh, Bihar, Punjab, Haryana, Madhya Pradesh, Gujarat, Rajasthan, Jharkhand, Chhattisgarh, and Tamil Nadu, are expected to participate in the mela. Speaking about the event, Trivedi said, "The two-day Kisan Mela will focus on sharing advanced cultivation methods with farmers and entrepreneurs, along with marketing strategies for medicinal and aromatic plants. It will also feature a scientist-industry-farmer dialogue and the sale of improved planting materials."



He added that there will be live demonstrations of modern distillation units, training sessions on making incense sticks, rose water, and cutlery from floral and aromatic crop waste, as well as showcases of farmer-oriented technologies developed by CSIR institutes.



## PH gains access to India's traditional knowledge

CSIR-TKDL

30<sup>th</sup> January , 2025

THE Intellectual Property Office of the Philippines (Ipophl) on Wednesday said the country has gained free access to India's traditional knowledge digital library (TKDL), following an agreement with India's Council of Scientific and Industrial Research (CSIR).

This will provide a blueprint for the Philippines to establish its own TK database to protect cultural heritage and enhance Ipophl's patent examination process.

Established in 2001, the TKDL contains over 515,000 formulations and practices from India's traditional medicinal and healing systems.

The database includes information on agricultural and metallurgical practices, with translations in English, Japanese, Spanish, French and German.

Patent offices and institutions with signed agreements with CSIR can access the database for free. Ipophl Officer-in-Charge Nathaniel Arevalo said the agreement will help prevent biopiracy and protect traditional systems of Indigenous Filipino communities. "By learning from India's experience in creating, growing and maintaining its database, the Philippines can create a robust mechanism to protect its traditional knowledge and preserve its cultural heritage while fostering scientific progress," Arevalo pointed out. The deal was signed during CSIR's Silver Jubilee celebration of the TKDL on Jan. 24 in New Delhi.

Ambassador Josel Francisco Ignacio and Third Secretary/Vice Consul Melissa Anne Telan represented Ipophl and met with TKDL unit head Viswajanani Sattigeri. The Philippines is the 17th country to gain access to the TKDL and joins the respective patent offices of the European Union, Japan and the United States.



Bureau of Patents Director Ann Edillon said, "This will allow research institutions to access and utilize valuable information, combining old knowledge to develop new medicines, therapies and innovations." The Philippines is also working to formalize its status as a Contracting Party in the World Intellectual Property Organization's Treaty on IP, Genetic Resources (GR) and Associated TK.



## **NML Jamshedpur To Organize A Conference – ICMCS 2025 – in Kolkata on Jan 30-31**

CSIR-NML

29<sup>th</sup> January , 2025

National Metallurgical Laboratory (NML), Jamshedpur will organise a conference – ICMCS 2025 at New Town Kolkata in January 30-31.

Conducted as a part of Platinum Jubilee celebrations of CSIR-NML, the purpose of this conference is to promote knowledge sharing, innovation and cooperation for the sustainable use of resources.

Manoj Kumar, Chairman and Managing Director of CMPDI, Ranchi will be the chief guest and Biplab Chatterjee, CEO and Director of Giovell Services, Kolkata will be the special guest.

Sandeep Ghosh Chaudhary, Director, CSIR-NML, Jamshedpur, Chairman of ICMCS-2025, Sanchita Chakraborty and ICMCS-2025 convenor Rajen Kundu will be present at the inaugural function of the conference.

Achyut Ghatak, Director (Technical) Coal India Limited, M Sundar Ramam, Vice President (Raw Materials), Tata Steel and Joy Gopal Ghosh, Associate Principal (Geology and Investigation), Giovell Services would be the chief speakers.

Around 100 representatives and speakers from 30 institutions from different parts of the country will participate and the two – day conference and about 37 technical letters will be presented in six technical sessions.

The national seminar aims to provide a common platform to experts, researchers, industry leaders and policy makers to consider challenges and opportunities in coal and minerals.



The two- day conference will focus on advanced technologies and functions in coal and mineral research, which will emphasize resource exploration, analytical techniques, and certified reference materials.

This will serve as a center to discuss practical solutions to ensure exchange of ideas, highlighting of research findings and to ensure optimal resource usage, environmental protection and industrial development.

ICMCS-2025 presents a diverse program, including technical sessions, oral presentations and posters covering various aspects of coal and mineral symptoms.

This conference offers outstanding opportunities for representatives to create network, discover new cooperation and contribute to the development of sustainable practices for a better future.



## NIO-industry pact to boost marine biotech

CSIR-NIO

29<sup>th</sup> January , 2025

The Goa-based National Institute of Oceanography (CSIR-NIO) has signed non-disclosure agreements (NDAs) and memorandums of understanding (MoUs) with leading industry players to drive innovation in marine bioprospecting.

As part of these collaborations, CSIR-NIO has signed an NDA with Shaivaa Algaetech LLP, based in Surat, to scale up the fucoxanthin production, a high-value bioactive pigment extracted from marine microalgae.

In addition to the NDA, two MoUs were signed. The first, with HiMedia Laboratories Pvt Ltd, aims to develop specialised media for culturing marine extremophiles—microorganisms that thrive in extreme environments like deep-sea hydrothermal vents or highly saline waters. The second MoU, with □Organica Biotech Pvt Ltd, focuses on developing sustainable bioremediation solutions using marine microorganisms.

**Published in:**

[Times of India](#)



## Undertake research on issues that impact society: Minister to IITR

### CSIR-IITR

29<sup>th</sup> January , 2025

Union minister for science and technology Jitendra Singh on Tuesday exhorted the scientists, research scholars, and staff at the Indian Institute of Toxicology Research (IITR) to work on issues that impact society at large and find solutions to critical problems related to the environment and health. Singh inaugurated facilities like NaMo-ATAL: Central Analytical Research Hub, VV Sansa: Referral Material Facility and the operation



hub of BioNEST at the institute as the part of the diamond jubilee celebrations.

"I am hopeful that the CSIR-IITR will handhold and support all sections of the society and will play a critical role in fulfilling the vision of Atmanirbhar and Saksham Bharat," said the union minister. He emphasized that a 'Viksit Bharat' is possible in a Swasth Bharat and therefore, the critical role of research institutions like the CSIR-IITR come into play.

He released a stamp on CSIR-IITR, CSIR-IITR's Annual Report and the first volume of Vish-Vigyan Sandesh Sankalan, which is a collection of articles in Hindi published by the institute since 1995. IITR transferred the technology of VVSansa (Certified Reference Material) to the Gurugram based FARE Labs Private Limited. Also, the Letter of Interest (LoI) on Oneer: Water Disinfection Device was received from Coimbatore-based Conway Water Purifier Private Limited. CSIR-IITR also launched two new products, Senze Scan and Aapatkaleen Aabar, which are ready for commercial deployment.



## Projects set to be launched to boost farmers' income, transform state's agri landscape

CSIR-IHBT

29<sup>th</sup> January , 2025

In a significant move to transform Mizoram's agricultural sector, the CSIR-Institute of Himalayan Bio-resource Technology (CSIR-IHBT), Palampur, in collaboration with the Mizoram Science, Technology and Innovation Council (MISTIC) and the College of Horticulture, Thenzawl (CAU, Manipur), is launching innovative projects to promote sustainable livelihoods. The initiative focuses on cultivating high-value aromatic crops and low-chilling apple varieties, creating new economic opportunities for the state.



CSIR-IHBT Director Dr Sudesh Kumar Yadav told The Tribune three projects, approved in February 2022 under the Department of Biotechnology's Inter-Institutional Programme Support, are part of a broader effort to sustainably utilise Mizoram's bio-resources. He said the programme also encourages the cultivation of Shiitake and Oyster mushrooms, alongside aromatic crops and low-chilling apples, to improve farmers' incomes.

Last week, a team of experts, led by Dr Rakesh Kumar, Senior Principal Scientist at CSIR-IHBT and Project Investigator, visited Mizoram to evaluate the progress of the plantations. Along with 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 in various locations, including the College of Horticulture, Thenzawl and the villages of Hmuifang, Sihphir, Mualpheng, Tlungvel and Tawizo. They engaged with over 100 tribal farmers, scientists and students, providing valuable training on apple cultivation techniques such as pruning, irrigation, nutrient management and orchard preparation.



The training also focused on the commercial potential of aromatic plants such as lemongrass and citronella, demonstrating their applications in industries such as perfumery, pharmaceuticals and pest control. The project has set aside approximately 20 acres of land across Mizoram for low-chilling apple cultivation, with pilot plantations already in progress. At the College of Horticulture, Thenzawl, a special programme on the agro-technologies of aromatic plants showcased their potential for creating high-demand products for international markets.

Dr Rakesh Kumar emphasised the significant potential of these initiatives, saying, “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.” The collaboration between CSIR-IHBT and MISTIC underscores a strong commitment to translating scientific advancements into practical agricultural solutions. By equipping local communities with modern technologies, the initiative aims to promote sustainable development and foster economic growth in Mizoram.



## IICT Scientist Dr. S. Venkata Mohan appointed as NEERI Director

CSIR-IICT, NEERI

28<sup>th</sup> January , 2025

Chief scientist from Hyderabad-based Indian Institute of Chemical Technology (IICT), Dr. S. Venkata Mohan, has been appointed as the Director of National Environmental Engineering Research Institute (CSIR-NEERI), Nagpur on Tuesday. Dr. Mohan, who has served as Chief Scientist at CSIR-IICT since 1998, earned his B.Tech in Civil Engineering, M.Tech in Environmental Engineering, and a Ph.D. from Sri Venkateswara University, Tirupati.



His global academic experience includes positions as a Visiting Professor at Kyoto University and an Alexander von Humboldt Fellow at the Technical University of Munich, Germany.

With a research focus on sustainability and circular bioeconomy, he has advanced technologies in bioenergy, decarbonization, microbial electrochemical systems, biorefineries, and waste valorization.

Dr. Mohan has authored over 450 research articles, 64 book chapters, and 5 books, with 16 patents to his credit and Mohan is globally recognized among the world's top 2 percent researchers, as per Stanford University.

**Published in:**

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



## Dr. Jitendra Singh Commemorates CSIR-IITR's Diamond Jubilee: A Commitment to a Toxin-Free India

CSIR-IITR

28<sup>th</sup> January , 2025

Marking its 60th anniversary, the CSIR-Indian Institute of Toxicology Research (CSIR-IITR) showcased its contributions and future ambitions at a celebratory event addressed by Dr. Jitendra Singh, Union Minister of State (Independent Charge) for Science and Technology; Earth Sciences and Minister of State for PMO, Department of Atomic Energy, Department of Space, Personnel, Public Grievances and Pensions, wherein he lauded some of the institute's milestone achievements which have established its credibility and trustworthiness across the country as possibly the only institution of its kind in India and perhaps one of the few of its kind in the world.



Dr Jitendra Singh also placed on record the institute's appreciable contribution in investigating the cause of the mysterious disease currently making news from the Rajouri district of Jammu & Kashmir.

The Minister lauded the institute's pivotal role in addressing public health challenges and called for its expanded reach to ensure a "toxin-free India" by 2047, aligning with the vision of Viksit Bharat.

The Minister emphasized the institute's support for startups and MSMEs through initiatives like the DSIR-CRTDH Environmental Monitoring Hub and BIRAC-BioNEST. With more than 30 startups and 55 MSMEs receiving support, CSIR-IITR is fostering innovation and entrepreneurship in sectors like environmental monitoring and pollution abatement.



The Minister stressed the need for wider visibility of the institute's work, urging modern outreach strategies, including leveraging social media, to connect with stakeholders and the public. "Institutes like these don't often make headlines unless linked to a crisis. It's time for a proactive approach to showcase their contributions," he remarked. Underlining the significance of synergy, Dr. Jitendra Singh proposed greater collaboration between CSIR-IITR and like-minded institutions, including IITs and medical research centres, to foster a holistic approach to science and innovation. He also celebrated the institute's support for over 30 startups and 50 MSMEs, highlighting its contribution to India's bio-economy.

As part of the Diamond Jubilee Celebrations, Dr. Jitendra Singh inaugurated several key facilities at CSIR-IITR, strengthening its research and innovation capabilities. These included the Diamond Jubilee Arches, the new Diamond Jubilee Block, the NaMo-ATAL facility, and VV Sansa—an advanced reference material facility. Additionally, the Minister inaugurated the third-floor TDIC, the operational hub of the BioNEST initiative, aimed at fostering biotech startups and research collaborations. The Minister toured the CSIR-IITR Exhibition, which showcased the institute's latest research breakthroughs and technological innovations.

Dr. Jitendra Singh also unveiled a commemorative stamp highlighting the institute's remarkable journey. Among the major product launches were Apatkaleen AHAAR, a shelf-stable, high-nutrition food solution for disaster relief and emergency preparedness, and NFit: Nutritious Food in Tablets, a compact superfood designed for endurance and cognitive performance in extreme environments, including space travel. Another innovation, MIL-FiT: Millet-enriched All-in-One Tablets, offers a high-fibre, protein-rich food solution for trekkers, adventurers, and field personnel operating in remote locations. Additionally, SenzSCAN: Point-of-Care Chromogenic Sensor for Sick Cell Anaemia was introduced—a cost-effective and portable diagnostic tool enabling rapid detection of sickle cell anaemia, particularly in underserved regions.

In a boost to translational research, major technology transfers—VV Sansa's TT, and Oneer—were also formalized, underscoring CSIR-IITR's commitment to transforming lab



innovations into real-world applications. Further strengthening its knowledge-sharing efforts, the Minister released the CSIR-IITR Annual Report and Vish-Vigyan Sandesh Sankalan (Volume 1), documenting the institute's recent achievements and scientific contributions. The event also witnessed the launch of the WARMEST and EARTH-25 conferences, aimed at fostering research collaboration on environmental and health challenges, along with the Diamond Jubilee Internship and the E-PARAM initiative, promoting skill development and digital transformation.

Dr. Jitendra Singh highlighted the institute's evolution over six decades, transitioning from its original focus on industrial toxicology to tackling contemporary issues like environmental hazards, food safety, and health crises. He emphasized the institute's critical role during national emergencies, such as the Odisha cyclone and the epidemic dropsy outbreak, and its integration into flagship government missions like NamamiGange and air quality monitoring.

Dr. Jitendra Singh commended the institute's innovations in developing cost-effective tools, such as on-field detection kits for haemoglobin content and sickle cell anaemia, which hold great potential for improving healthcare accessibility. He also lauded its role as the only CSIR laboratory with both NABL accreditation and GLP certification, ensuring adherence to international quality standards.

Dr. Jitendra Singh also appreciated the institute's efforts in promoting scientific temper among students through its Jigyasa programs and skill development initiatives. He encouraged the institute to continue its focus on creating affordable, accessible technologies, such as strip-based tests for food adulteration, which directly benefit citizens in their daily lives.

The Minister's address underscored a broader commitment to safeguarding public health as a cornerstone of India's developmental goals. By focusing on reducing toxins—both chemical and social—CSIR-IITR aims to play a crucial role in achieving a healthy and prosperous India by its centenary in 2047.

**Published in:**

[Pib](https://pib.gov.in)



## CSIR-IITR diamond jubileecelebrations begin today

CSIR-IITR

28<sup>th</sup> January , 2025

CSIR-Indian Institute of Toxicology Research (IITR) will start its diamond jubilee celebrations from Tuesday.

Union minister for science and technology Jitendra Singh will inaugurate various new facilities at the institute, including the Diamond Jubilee Block, NaMo-ATAL: Central Analytical Research Hub, VV Sansa: Referral Material Facility, and the operation hub of BioNEST at the Technology Development and Incubation Centre of the institute.

He will also release a stamp on CSIR-IITR, a calendar of diamond jubilee events planned by the institute, IITR's Annual Report, and the first volume of Vish-Vigyan Sandesh Sankalan, a collation of articles in Hindi published by the institute since 1995.

Two products, namely Senze SCAn and MilFiT, the emergency food helpful during disaster management, will also be launched, while two technologies, viz. Oneer (water disinfection device) and VVSansa (Reference Material), will be transferred to the industry.



## Unlocking Secrets of Ganga: NEERI Scientists Reveal Natural Purification Mechanisms

CSIR-NEERI

28<sup>th</sup> January , 2025

'Ganga ko aviral behne do, Ganga ko nirmal rahene do', thus goes a popular adage. Now, groundbreaking research by CSIR-NEERI scientists has unveiled fascinating insights into the Ganga's self-purifying mechanisms. The study, spanning various stretches of the river, reveals multiple natural cleaning agents working in harmony to maintain the river's purity.

The bacteriophages discovered in the river sediments play a crucial role in controlling harmful bacteria. These natural virus particles specifically target and eliminate bacteria, including pathogenic bacteria, creating a biological defence system within the river ecosystem. The presence of phytochemicals, particularly terpenes, adds another layer of natural purification.

The dissolved oxygen levels, especially in the upper reaches, contribute significantly to the river's self-cleansing ability. The high oxygen content, reaching up to 20mg/l in some areas, helps break down organic pollutants and supports aquatic life. The cold temperatures in the mountainous regions maintain these optimal oxygen levels.

The study by CSIR-NEERI Dr Krishna Khairnar, under the National Mission for Clean Ganga, divided the river into three distinct zones, each displaying unique characteristics. The upper stretch, from Gaumukh to Haridwar, maintains its pristine quality due to uninterrupted flow and natural purifying agents. However, the middle and lower stretches face increasing challenges from pollution and human interference.

Dr Khairnar, NEERI principal scientist and head of environmental epidemiology, said during religious gatherings like Kumbh Mela, despite crores of people bathing in the river, the bacterial population shows interesting patterns. While surface bacteria increase during mass bathing events, their numbers decrease significantly downstream, demonstrating the river's natural cleaning mechanism.



The comparative analysis with Yamuna and Narmada rivers highlights Ganga's superior bacteriophage presence, making it more effective in controlling pathogenic bacteria. This finding offers potential solutions for addressing antimicrobial resistance (AMR) issues, which is going to be the next pandemic.

The research also confirms historical observations from the 1800s regarding the river's ability to control disease spread. The presence of vibriophages effectively controlling cholera-causing bacteria downstream validates these earlier findings.

However, the study emphasises that human interventions, particularly dams and barrages, hamper the river's natural purification system. The researchers suggest that maintaining uninterrupted flow is crucial for preserving Ganga's self-cleansing properties.

The findings indicate that with proper pollution control measures and minimal interference in its natural flow, Ganga can maintain its legendary purity. The study recommends following successful river restoration models, such as the River Thames cleanup in the UK (famously known as the return of the salmons), while considering local socio-economic factors. These discoveries not only explain the river's historical significance but also provide scientific backing for conservation efforts under the National Mission for Clean Ganga.

"The mountainous region from where Ganga originates has special properties while the rest of the stretches are not the same for which the river is famously known. Sediments and water samples collected from different spots have shown these properties, which help the river stay pure. Bacteriophages were found homing in sediments. We also discovered trace metals in some stretches," he said. Dr Khairnar explained that during Kumbh, the municipal waste flow is decreased in the wake of Shahi Snan. "Surface bacteria of human beings like *Pseudomonas aeruginosa*, *E-coli* etc increase during this time. Our study found that this bacteria population decreases downstream due to bacteriophages," he said.



## A Convergence of Flagship Initiatives Driving Regional Growth, says Dr. Jitendra Singh at North East Aroma Conclave 2025

CSIR-NEIST

27<sup>th</sup> January , 2025

Union Minister of State (Independent Charge) for Science and Technology; Earth Sciences and Minister of State for PMO, Department of Atomic Energy, Department of Space, Personnel, Public Grievances and Pensions, Dr. Jitendra Singh said that both the Northeast region as well as Jammu & Kashmir have been on the priority of Prime Minister Narendra Modi and the Aroma Mission launched by the government headed by him in J&K is now picking up in the Northeast.



Both these regions have abundant natural resources which have in the past remained unexplored but can be a vital value addition to India's economy, said the Minister. Speaking virtually at the inauguration of the Incubation & Innovation Complex (IICON) of CSIR-NEIST, Dr Jitendra Singh underscored the transformative potential of the Aroma Mission at the north East Aroma Conclave 2025, highlighting how the initiative integrates multiple flagship schemes of the Government to empower the region. The Minister called It a model of the “whole-of-government” approach, aligning programs such as StartUp India, MSME support, agricultural advancements, and rural development.

“This single initiative represents the spirit of convergence that the Modi Government has championed,” Dr. Jitendra Singh said. He noted that the Aroma Mission is not just an agricultural or scientific initiative but a platform fostering startups, self-help groups, and micro, small, and medium enterprises (MSMEs) while simultaneously contributing to farmers' income and promoting employment. The event witnessed the distribution of agreements to 25



startups, entrepreneurs, NGOs, and self-help groups, empowering them to utilize the advanced facilities at IICON and contribute to the region's economic growth and innovation. Dr. Jitendra Singh further elaborated that this mission has drawn strength from the Prime Minister's vision of inclusive development of regions like the North East and Jammu & Kashmir. "Through the Aroma Mission, we are addressing the untapped potential of these biodiverse regions, enabling them to contribute significantly to India's economy," he said.

The mission's outcomes have been promising. Over 27 facilities established at CSIR-NEIST are being utilized by entrepreneurs, self-help groups, and startups. These efforts are creating new opportunities for employment and innovation in sectors such as essential oils and medicinal plants, with North East India poised to replicate the success of lavender cultivation in Jammu & Kashmir.

Dr. Jitendra Singh highlighted how the initiative ties into broader priorities such as doubling farmers' income and fostering women's empowerment. He praised the Rural Women Technology Park developed under the mission, describing it as a template for replication in other parts of the country.

The Minister also pointed to the broader vision of transforming the North East into a hub of connectivity, innovation, and collaboration. "From being regions with minimal connectivity, states in the North East now boast robust rail, air, and water networks, opening avenues for industrial partnerships and exports," he remarked.

Dr. Jitendra Singh expressed confidence that the Aroma Mission will not only bring prosperity to the North East but also bolster India's bio-economy and biotechnology sectors. With the recently launched Bio-E3 policy and new collaborations in place, the region is set to emerge as a key contributor to India's growth story, paving the way for achieving the vision of India@2047. The North East Aroma Conclave 2025, with its blend of innovation, entrepreneurship, and sustainable development, stands as a beacon of how integrated government initiatives can drive regional progress and national aspirations.



Dr. Jitendra Singh underscored the significance of IICON, calling it a “one-stop solution” for entrepreneurs, farmers, and artisans. The state-of-the-art facility offers 27 advanced technologies to support startups and MSMEs, fostering innovation and skill development while reducing business risks. Selected entrepreneurs and self-help groups will have access to the incubation facilities for up to two years, allowing them to refine production and marketing strategies before launching their independent ventures.

The Minister commended the CSIR-North East Institute of Science and Technology (CSIR-NEIST) for translating research into impactful solutions for rural communities. Through the Aroma Mission and Floriculture Mission, CSIR-NEIST has successfully introduced aromatic crops like citronella, lemongrass, patchouli, and chamomile across more than 5,000 hectares in the North East, benefiting over 10,000 farmers. Additionally, the institute has established 39 essential oil distillation units and plans to distribute 1 lakh agarwood saplings in the coming year, paving the way for the region to emerge as a major player in the aromatic plants industry.

Dr. Jitendra Singh concluded by stressing the importance of leveraging the North East’s natural and human resources to achieve the vision of India@2047. With initiatives like the Aroma Mission, IICON, and the Government’s Act East Policy, the North East is poised to become a gateway for trade and innovation, fostering regional prosperity and strengthening India’s position on the global stage.



## Department of Consumer Affairs, Government of India notifies Draft Legal Metrology (Indian Standard Time) Rules, 2025 to Synchronize Time across India

CSIR-NPL

27<sup>th</sup> January , 2025

Aiming towards 'One Nation, One Time' and achieving precision in Indian Standard Time (IST), the Department of Consumer Affairs, Government of India has undertaken a project in association with National Physical Laboratory (NPL) and India Space Research Organisation (ISRO) to disseminate IST with millisecond to microsecond accuracy. The project aims to create technology and infrastructure to disseminate IST from five Legal Metrology laboratories across India. This precision is vital for sectors such as navigation, telecommunications, power grid synchronization, banking, digital governance, and cutting-edge scientific research, including deep space navigation and gravitational wave detection. Despite its importance, IST is not mandatorily adopted by all Telecom Service Providers (TSPs) and Internet Service Providers (ISPs), many of whom rely on foreign time sources like GPS. Synchronizing all networks and systems to IST is essential for national security, real-time applications and the smooth operation of critical infrastructure.

To address these challenges, a high-power inter-ministerial committee was constituted to develop a policy framework, regulation, and legislation for the adoption of IST under the Legal Metrology Act, 2009. Chaired by the Secretary (Consumer Affairs), the committee includes representatives from NPL, ISRO, IIT Kanpur, NIC, CERT-In, SEBI and key government departments like Railways, Telecom, and Financial Services, etc. Various meetings of the committee were held for drafting the rules to mandate IST adoption, establish synchronization guidelines for networks, prepare regulatory frameworks for time-stamping and cybersecurity and monitor the progress of the IST dissemination project through advanced technologies and infrastructure. The Draft Legal Metrology (Indian Standard Time) Rules, 2025 are published by the Legal Metrology Division, Department of Consumer Affairs as a comprehensive rule standardizing and mandating the use of Indian Standard Time (IST) across India. The draft Legal Metrology (Indian Standard Time) Rules are published on the website of the Department for public consultation on 15.01.2025. The comments may be



submitted by 14.02.2025. The website link for the draft Rules is as follows:

<https://consumeraffairs.nic.in/sites/default/files/file-uploads/latestnews/Draft%20Rules%20Time%20Dissemination.pdf>

These landmark rules aim to standardize and mandate the use of Indian Standard Time (IST) across all sectors in India, providing a unified and precise timekeeping framework for strategic, non-strategic, industrial and societal applications. The Legal Metrology (Indian Standard Time) Rules will provide substantial benefits to consumers by creating a comprehensive framework for precise and uniform timekeeping across the country. These rules synchronize communication networks, technological infrastructure, and public services, enabling seamless interactions and enhancing economic efficiency.

The proposed Legal Metrology (Indian Standard Time) Rules, 2024, aim to establish Indian Standard Time (IST) as the mandatory time reference across all sectors, ensuring uniformity and precision. IST, based on UTC with a +5:30-hour offset, is maintained by the CSIR-National Physical Laboratory (CSIR-NPL). These rules mandate the synchronization of legal, administrative, and commercial activities with IST, prohibiting the use of alternative time references unless explicitly permitted. The adoption of reliable synchronization protocols such as Network Time Protocol (NTP) and Precision Time Protocol (PTP) by government offices and public institutions is required. To ensure resilience, cybersecurity measures and alternative reference mechanisms are prescribed, enhancing reliability during cyber-attacks or disruptions.

Exceptions are granted for scientific, astronomical and navigational purposes under prior government approval. Compliance will be periodically monitored through audits, with penalties imposed for violations. The rules also prescribe the procedure for synchronization, guidelines for implementation and standards for accuracy, ensuring nationwide alignment with IST and facilitating improved governance, cybersecurity and operational efficiency. The rules will facilitate accurate financial transactions, support emergency response coordination and



ensure consistent scheduling of public transportation. Moreover, they provide legal and regulatory compliance by creating uniform time standards for documentation and record-keeping. These rules optimize industrial operations by enabling synchronized manufacturing processes, enhancing technological integration, and improving global competitiveness.

The rules will facilitate accurate record-keeping and provide a critical mechanism for synchronizing national infrastructure and communication networks. This comprehensive approach to time management enhances the government's ability to conduct efficient, accurate, and coordinated enforcement activities and administrative effectiveness. The rules will enhance precision in critical sectors like navigation, telecommunications, internet, banking, power grid synchronization, 5G technologies, artificial intelligence, and IoT. The rules will provide reliable synchronization of digital devices, navigation systems, and public services to consumers. Rules will facilitate industries for accurate financial transactions, efficient manufacturing, and global business interactions.

By implementing these rules, the Government of India is taking a decisive step toward ensuring precise and uniform timekeeping across the country, paving the way for technological advancement, economic efficiency, and strategic security.



## 40 potential sites identified for seaweed cultivation

CSIR-CSMCRI

27<sup>th</sup> January , 2025

A total of 40 potential seaweed cultivation sites have been identified covering nearly 1,350 hectares across various districts in Andhra Pradesh. Of these, 37 locations were detected by the Central Marine Fisheries Research Institute, while the Central Salt and Marine Chemicals Research Institute identified an additional three. Notable locations include Bheemunipatnam, Kapuluppada, Chepalauppada, Pudimadaka,



Kancheru, Uppada, Perupalem, Nidamaruru, Mypadu, and others. Andhra Pradesh has already witnessed successful trials integrating seaweed cultivation with sea cage farming of marine finfish and shellfish in several areas.

The tube-net technique is considered well-suited for Andhra Pradesh. When combined with open sea cage farming, as in integrated multi-trophic aquaculture systems, seaweed grows at a faster rate compared to a tube-net monoculture. This approach offers significant socio-economic advantages, as it integrates resources for maximum utilisation, benefiting local fisherfolk.

As part of an experimental initiative, three species of seaweed were successfully cultivated using tube nets in challenging sea conditions, with the first successful harvests occurring in the coastal waters of Visakhapatnam last year. This breakthrough has dispelled earlier doubts about the region's potential for seaweed farming. Researchers are hopeful that, with careful adjustments to raft positioning and consistent monitoring, Andhra Pradesh's coastal waters could become a major centre for large-scale seaweed cultivation.



According to a recent report from NITI Aayog on the seaweed value chain, India remains largely untapped in terms of seaweed production and trade, accounting for less than one percent of the global market. Hence, there is an urgent need for a targeted strategy to develop the seaweed value chain.



## सेमीकंडक्टर विनिर्माण क्षेत्र में सीएसआईआर-सीरी की बड़ी छलांग, स्वदेशी LED चिप का किया निर्माण - SEMICONDUCTOR CHIP

CSIR-CEERI

27<sup>th</sup> January , 2025

छोटी और सस्ती एलईडी चिप के साथ भारत सेमीकंडक्टर विनिर्माण क्षेत्र में आगे बढ़ रहा है. केन्द्र सरकार के विकसित भारत 2047 के विजन पर काम करते हुए सीएसआईआर-सीरी पिलानी के वैज्ञानिकों ने सेमीकंडक्टर चिप पर दूसरे देशों पर निर्भरता को खत्म करने की दिशा में महत्वपूर्ण सफलता हासिल की है. यहां के वैज्ञानिकों ने स्वदेशी एलईडी चिप का निर्माण करके देश को नई और बड़ी तकनीकी उपलब्धि दिलाई है. यह चिप लाल, नीली, हरी और सफेद रंग की लाइट देने में सक्षम है.

वैज्ञानिकों ने बताया कि अब तक भारत में उपयोग होने वाली एलईडी लाइट्स के लिए चिप्स का आयात करना पड़ता था, लेकिन अब यह चिप देश में ही निर्मित होगी. सीएसआईआर सीरी के निदेशक डॉ. पीसी पंचारिया ने बताया कि इस परियोजना को सफल बनाने में वैज्ञानिकों को कई तकनीकी चुनौतियों का सामना करना पड़ा, जिनमें सामग्री का चयन, फैब्रिकेशन प्रक्रिया, पैकेजिंग, एकीकरण और गुणवत्ता नियंत्रण शामिल थे. इसके बावजूद, वैज्ञानिकों ने इन चुनौतियों पर विजय प्राप्त करके स्वदेशी एलईडी का विकास किया. संस्थान अब इस प्रोजेक्ट के प्रौद्योगिकी हस्तांतरण की दिशा में आगे बढ़ रहा है.

प्रोजेक्ट से जुड़े संस्थान के सीनियर साइंटिस्ट डॉ. कुलदीप सिंह ने बताया कि देश में अब तक एलईडी चिप को आयात किया जाता था और इसके लिए हम चीन, ताइवान, जापान और साउथ कोरिया जैसे देशों पर निर्भर थे. अब चिप का निर्माण देश में ही संभव हो पाएगा, जिससे आने वाले समय में कई क्षेत्रों में क्रांतिकारी बदलाव देखने को मिलेंगे.

सिलिकॉन से बनता है सेमीकंडक्टर चिप: सीनियर साइंटिस्ट ने बताया कि सेमीकंडक्टर चिप्स सिलिकॉन से बनाया जाता है जो इलेक्ट्रिसिटी का अच्छा कंडक्टर होता है. इन चिप्स को माइक्रोसर्किट्स में फिट किया जाता है, जिनसे कई आधुनिक इलेक्ट्रॉनिक गुड्स और कंपोनेंट्स को पावर मिलती है. सभी एक्टिव कंपोनेंट्स, इंटीग्रेटेड सर्किट्स, माइक्रोचिप्स, ट्रांजिस्टर्स और इलेक्ट्रॉनिक सेंसर्स सेमीकंडक्टर मटीरियल्स से बनाए जाते हैं. ये हाई एंड कम्प्यूटिंग, ऑपरेशन कंट्रोल, डेटा प्रोसेसिंग, स्टोरेज, इनपुट और आउटपुट मैनेजमेंट, सेंसिंग, वायरलेस कनेक्टिविटी



जैसे काम करते हैं. डॉ. कुलदीप सिंह ने बताया कि सेमी कंडक्टर चिप से एलईडी लाइट बना कर हमने अपनी क्षमता साबित कर दी है, लेकिन अभी इस क्षेत्र में वर्ल्ड लीडर बनने के लिए बहुत अधिक काम करना होगा. इसके लिए बहुत बड़े इन्वेस्टमेंट की जरूरत भी है. इसमें थोड़ा समय भी लगेगा, जिसके बाद भारत सेमीकंडक्टर चिप की वैश्विक आपूर्ति भी कर सकेगा. उन्होंने कहा कि बीते कुछ सालों में दुनिया ने काफी तेजी से तकनीकी विकास किया है. हमारे इस तकनीकी विकास के पीछे सेमीकंडक्टर ने एक बहुत बड़ी भूमिका निभाई है. ऐसे में भविष्य को जीतने के लिए भारत को सबसे पहले सेमीकंडक्टर के क्षेत्र में महारत हासिल करनी होगी.



## India to standardise time using atomic clocks

CSIR-NPL

27<sup>th</sup> January , 2025

In a push to standardise timekeeping practices nationwide, the Union government is deploying atomic clocks to ensure the time shown on your digital watch, smartphone and laptop is based on Indian Standard Time (IST)-an effort launched more than two decades after the Kargil war. The Ministry of Consumer Affairs has proposed comprehensive norms for standardising timekeeping practices including mandating the Indian Standard Time (IST) as the sole temporal reference for legal, administrative, commercial and official documents. This has been proposed through the Legal Metrology (Indian Standard Time) Rules, 2024. The draft, released by the consumer affairs ministry, is open for public feedback until February 14. Currently, most software operating modules in India are rely on US-based Network Time Protocol server.

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 Coordinated Universal Time (UTC) provided by the International Bureau of Weights and Measures (BIPM) located in Sevres, France. Additionally, the rules define the second, the base unit of time, using the internationally recognised cesium-133 atomic clock standard. The initiative aims to enhance time precision in critical infrastructure such as telecommunications, banking, defence, and emerging technologies like 5G and artificial intelligence.

The proposed rules require IST to be the mandatory time reference for all sectors, including commerce, transport, legal contracts, public administration, and financial operations. Public institutions and government offices will be required to display IST prominently, with time-synchronization systems ensuring accuracy, reliability, and cybersecurity. The Legal Metrology (Indian Standard Time) Rules, 2024, aims to establish a legal framework for



standardising timekeeping practices, mandating IST as the sole time reference for legal, administrative, commercial, and official documents. “Indian Standard Time shall be the mandatory time reference across all sectors, including commerce, transport, public administration, legal contracts, and financial operations,” as per the draft rule.

Key provisions include, prohibition of time references other than IST for official and commercial purposes, mandatory display of IST in government offices and public institutions and requirement for time-synchronization systems to ensure reliability, availability, and cybersecurity.

“All government offices and public institutions shall display Indian Standard Time (IST) on all time-keeping devices, ensuring synchronization through reliable sources like Network Time Protocol (NTP) or Precision Time Protocol (PTP) or any other source. Necessary guidelines or advisories for the implementation shall be issued by the Central Government from time to time”, the draft rule said.

Exceptions will be allowed for specialised fields such as astronomy, navigation, and scientific research, subject to prior government approval.

“Indian Standard Time (IST) shall be the mandatory time reference across all sectors, including commerce, transport, public administration, legal contracts, and financial operations. No person or entity shall use, display, or record time other than Indian Standard Time (IST) for official or commercial purposes. Provided that any law in force or order or government direction or guidelines permits the same. Provided further display of time of other countries or zones mentioning clearly the name of country or zone with display of IST is permitted which is not used for any legal, administrative and official purposes’, the draft rule said.

The Department of Consumer Affairs is collaborating with the National Physical Laboratory and Indian Space Research Organisation (ISRO) to develop a robust time generation and dissemination mechanism.



The use of alternative timescales (GMT, etc.) is permitted for specific purposes such as astronomy, navigation, scientific research, etc. subject to prior permission and compliance with government directives. The timescales shall be periodically audited to ensure compliance across sectors. Specific standards for synchronization accuracy, implementation and reporting mechanisms shall be outlined in subsequent advisories or guidelines.

Violations of the provisions of the Act or Rules shall attract penalties including fines or other actions as determined by the authorised persons.

Public stakeholders have been invited to submit comments and suggestions on the draft rules by February 14.



## CSIR-NIO strengthens industry collaborations with MoU with leading companies for innovation in marine biotechnology

CSIR-NIO

26<sup>th</sup> January , 2025

During the inaugural function of the Innovation Complex of Council of Scientific & Industrial Research (CSIR), Mumbai, the CSIR-National Institute of Oceanography (NIO), Goa, signed Non-Disclosure Agreement (NDA) and Memorandums of Understanding (MoU) with leading companies to drive innovation in the field of marine biotechnology. The event was attended by the Guests of Honour — Dr. V. K.



Saraswat and Dr. V. K. Paul, who are members of NITI Aayog. The MoU and NDA were exchanged in the presence of Dr. N. Kalaiselvi, Director General of CSIR, and Secretary, Department of Scientific and Industrial Research (DSIR).

The NIO signed an NDA with Shaivaa Algaetech LLP, Surat, to scale up the production of the high-value bioactive pigment fucoxanthin from marine microalgae. An MoU was signed with HiMedia Laboratories Pvt. Ltd., Mumbai, for the development of specialised media to culture marine extremophiles. Another MoU was signed with Organica Biotech Pvt. Ltd., Mumbai, to develop sustainable bioremediation solutions using marine microorganisms for eco-friendly pollution control and waste treatment.

The agreements were exchanged by Prof. Sunil Kumar Singh, Director, NIO, and representatives of the collaborating companies, including Yashraj M. Jariwala, CEO – Shaivaa Algaetech LLP; Dr. Girish Mahajan, Senior Vice President, HiMedia Laboratories; and Dr. Prafull Ranadive, Head of Research and Development, Organica Biotech.



Dr. Narsinh Thakur, Coordinator, Patent & Technology Cell, C NIO, and Dr. Jagadish Patil, MoU Desk, NIO, were instrumental in facilitating the collaborations. The ceremony showcased the NIO's focus on building strong industry collaborations for the sustainable use of marine living resources in bioprospecting.



## Please Follow/Subscribe CSIR Social Media Handles



[CSIR INDIA](#)



[CSIR\\_IND](#)



[CSIR India](#)



[CSIR India](#)



[csirindia](#)



[CSIR India](#)