

# CSIR IN MEDIA



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CSIR

भारत का नवाचार इंजन

*The Innovation Engine of India*

## NEWS BULLETIN

11 TO 15 SEPTEMBER 2023





## CSIR seeks industry needs first before developing technology, says Director General N Kalaiselvi

CSIR

15<sup>th</sup> September , 2023

The Council of Scientific & Industrial Research (CSIR), India's largest R&D organisation, has tweaked the way it develops technology for the industry. Instead of first developing a technology and then looking for a company to take it up, it now first seeks the industry's needs and then works on the technology. This is a win-win for both, said N Kalaiselvi, Director General, Council of Scientific & Industrial Research, the first woman to hold the post.



Working with the industry will give lots of synergy. It is high time that the Council of Scientific & Industrial Research works closely with the industry and vice versa to solve various problems and on R&D, she told businessline on the sidelines of the 11th Convocation of the Indian Institute of Technology Design and Manufacturing, Kancheepuram, on Thursday.

CSIR comes up with many industry-specific projects like fast commercialisation projects where it makes the industry an indispensable partner from day one of the project. Working with the industry will give a lot of synergy, she said.

In the past, CSIR would make a technology on its own and wait for the industry to take it up. However, now it first talks with the industry to get their wishlist of their critical challenges and throw these challenges across CSIR and make people submit projects accordingly. Through this from day one, the project person also understands what industry he/she is working for. The industry also will know that he/she is working for them, she said. "This kind of an understanding between the CSIR and industry we try to have from day one. This kind



of working culture is taking a new shape. This is really beneficial to both of us, gives synergy and we are able to meet the industry's requirement," she added.

## Revenue

When asked if the new model will help CSIR get more revenue, Kalaiselvi said, "Being a non-profit organisation - CSIR was established by the Government of India in 1942 as an autonomous body - we are not worried about the revenue. However, whatever small financial support that is funded from our end and we ask the industry to support it many times in kind rather than in cash. Whatever facilities we have and they have, we make use of it as common facilities. We become the knowledge partner and they become the implementing agency," she said.

## Green technology

CSIR is working on many things in green technology. It has been working on the Green Hydrogen mission for the last two years on projects like hydrogen generation, application and storage. Similarly, for renewable energy also, it has been working on renewable energy generation, application and storage. Whether it is green hydrogen or any other form of renewable energy including wind and solar, CSIR addresses all the three verticals, she said.

Talking on the latest R&D, Kalaiselvi said CSIR demonstrated a fuel cell-powered car and bus where it worked with private industries. Similarly, for lithium, it created a 1,000-cell-making facility, which has been given to a private company called Godi India Private Limited of Hyderabad. "This is how we are now working very closely with the industry. Due to these technological advancements, the industry has also started coming to us," she said.



## CIMAP Lucknow hosts awareness seminar on Lemongrass cultivation in Chepoketa Village

CSIR-CIMAP

15<sup>th</sup> September , 2023

The Central Institute of Medicinal and Aromatic Plants (CIMAP) Lucknow recently organized a seminar on Lemongrass cultivation at Chepoketa Village, aimed at empowering local farmers with knowledge and skills to harness the potential of this versatile herb.

Lemongrass (*Cymbopogon citratus*) is an aromatic herb known for its numerous culinary, medicinal, and industrial applications. Recognizing its significant economic and health benefits, CIMAP Lucknow took the initiative to educate and create awareness among the farming community in Chepoketa Village.

The seminar, held on September 8, saw participation from farmers supported by the Village Council. The event featured experts such as Manoj Kumar Yadav, Technical Officer of CIMAP Lucknow and Research Associates from CIMAP Lucknow - Vipin Kumar and Ravi Prakash Verma, who shared their extensive knowledge and practical insights on Lemongrass cultivation.

Key topics covered during the seminar included 'Introduction to Lemongrass: Understanding the botanical characteristics and various varieties of Lemongrass;' 'Cultivation Techniques: In-depth guidance on soil preparation, planting, spacing, and irrigation practices for optimal Lemongrass growth;' 'Pest and Disease Management: Effective strategies to safeguard Lemongrass crops from common pests and diseases;' 'Harvesting and Post-Harvest Handling: Techniques for harvesting Lemongrass at the right maturity and preserving its essential oils for maximum value;' and 'Market Opportunities: Insights into local and global market trends, value addition, and the potential for income generation through Lemongrass farming.'

Manoj Kumar Yadav expressed his enthusiasm for the event, stating, "CIMAP is committed to supporting sustainable agricultural practices and empowering local communities through



knowledge dissemination. Lemongrass cultivation offers tremendous economic potential, and we are pleased to have shared valuable insights with the farmers of Chepoketa Village.”

The seminar concluded with a pledge by CIMAP Lucknow to continue supporting the local farming community in their Lemongrass cultivation journey. Participants were encouraged to apply the knowledge gained to enhance their agricultural practices and improve their livelihoods.



## Dr Jitendra Singh to Inaugurate Two Days Youth Conclave

CSIR-IIIM

14<sup>th</sup> September , 2023

CSIR-Indian Institute of Integrative Medicine, Jammu is organizing a two days Youth Conclave at Police Auditorium, Gulshan Ground, Jammu from 16th to 17th September, 2023, which will be inaugurated by Dr. Jitendra Singh, Union Minister of State (Independent Charge) Science & Technology; MoS PMO, Personnel, Public Grievances, Pensions, Atomic Energy and Space and Vice President CSIR.

While giving the detail of this two days event, Dr. Zabeer Ahmed, Director, CSIR-IIIM, Jammu, said that during this Youth Conclave in which it is expected that more than 25 startups would demonstrate their innovations and business ideas to the youth drawn from colleges, universities and other research and academic institutions. The main objective of organizing the youth conclave is to ignite the entrepreneurial spirit among the local youth and to bring together the researchers, startup, innovators, entrepreneurs under one roof.

Further, Dr. Zabeer informed that during the event, the two breakout sessions are also planned during which the deliberations on various schemes related to startups, entrepreneur development, innovation and ideas incubation would be held, besides interactions of youth with the Union Minister. The young achievers from Jammu region who excelled in various fields would also be felicitated during the Conclave, he added.

Pertinently, CSIR-IIIM, Jammu, a premier institution under the aegis of Council of Scientific and Industrial Research, Union Ministry of Science and Technology has been running three Incubation Centres viz. Technology Business Incubator (TBI), BioNEST Incubator and Atal Incubation Centre and has good track record of the promotion of Startup ecosystem in the region as so far 85 Startup registered and 15 have been graduated from these Incubators.

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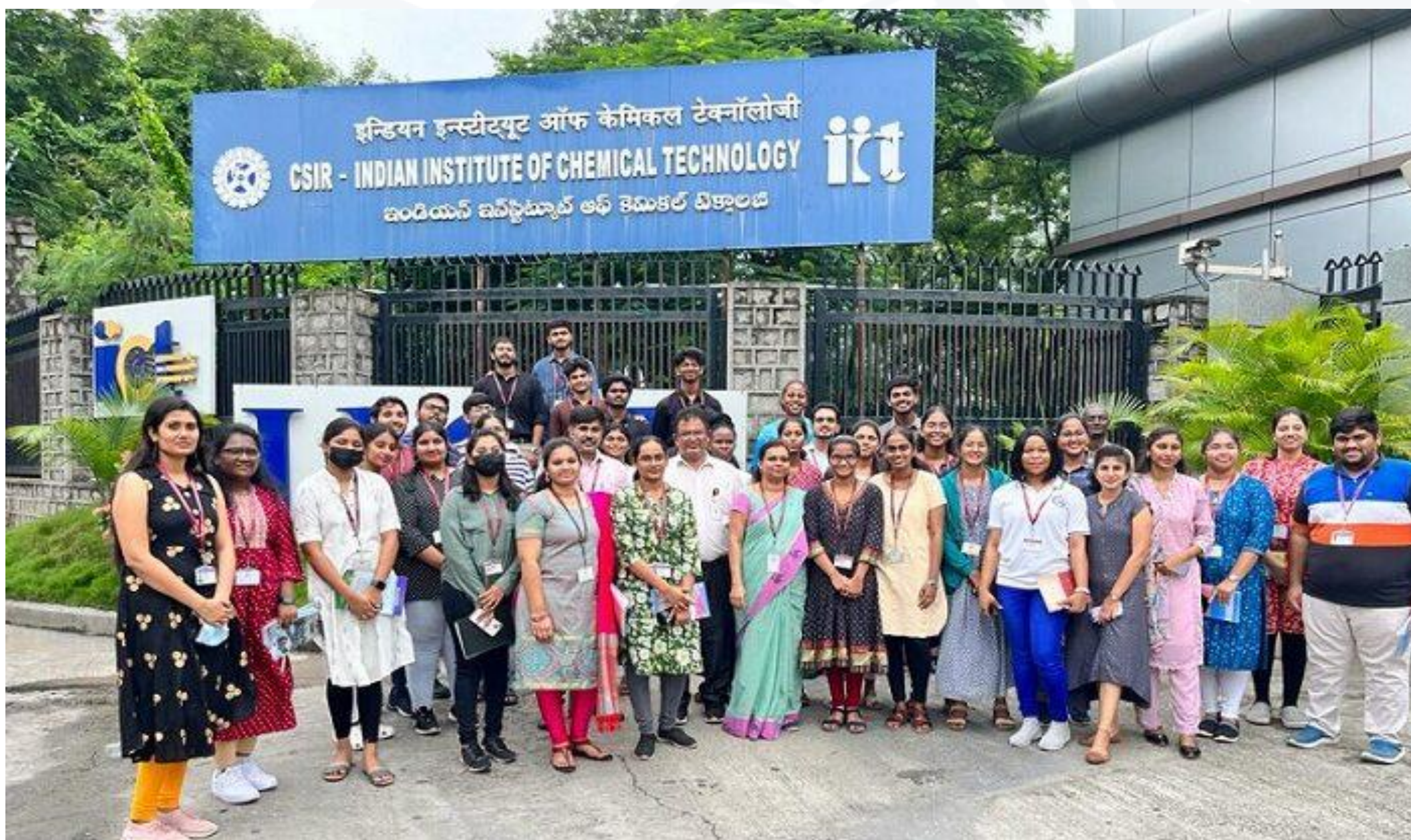
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## Hyderabad: Gitam Pharmacy Students Visits CSIR-IICT

CSIR-IICT

14<sup>th</sup> September , 2023



GITAM School of Pharmacy is pleased to announce that a group of M.Pharmacy and B.Pharmacy students recently visited CSIR-IICT (Indian Institute of Chemical Technology) in Tarnaka, Uppal Road. This educational visit was initiated and coordinated by Dr. P.Hyma, Assistant Professor, GSP, and supported by Dr. P. Gopinath, Assistant Professor, GSP.

CSIR-IICT is renowned as the first institute in India and South Asia to possess the National Mol Bank, a facility capable of storing up to 16 million molecules in solid and liquid forms at a temperature of  $-20^{\circ}\text{C}$ , using cryogenic conditions with no entry of oxygen. The institute has made significant contributions during the coronavirus pandemic, including the formulation of COVAXIN, as well as the development of drugs for conditions such as misoprostol, pregabalin, and AIDS treatment.

During their visit, the students had the opportunity to interact with esteemed scientists, Dr. Sistla Ramakrishna and Dr. Naveen. They also explored various laboratories equipped with state-of-the-art technology, including a sea-horse machine, confocal microscope, flow cytometer, cell culture lab, wet lab, and analytical laboratories. These facilities are equipped



with advanced equipment such as PCR, centrifuge, SDS apparatus, 2D gel electrophoresis, gel dock instrument, gel dryer, air dryer, HPTLC, and X-ray crystallography cabin. The visit to CSIR-IICT proved to be highly resourceful, informative, and motivating for the students' career prospects. They gained firsthand knowledge and experience in cutting-edge research and technology, inspiring them to pursue excellence in their pharmaceutical studies.

GITAM extends its gratitude to CSIR-IICT for providing this invaluable opportunity to its pharmacy students. Such visits contribute significantly to the practical learning and professional development of budding pharmacists, preparing them for successful careers in the pharmaceutical industry.

### Field visit to ICRISAT

Another batch of Pharmacy students had a unique opportunity (Learning beyond the classroom) to visit the prestigious UN organization, The International Crop Research Institute for Semi-Arid Tropics (ICRISAT), Hyderabad.

The session started with an introduction about ICRISAT and its avant-garde research and development programs taken up to improve food production around the world. The officials took the students on a field trip to observe various strategies applied by ICRISAT to improve the yield of plants such as millet and rice. It was quite an exciting trip and the students gained first-hand knowledge of the functioning of the sustainable farming models.



## Hyderabad: Gitam Pharmacy Students Visits CSIR-IICT

CSIR-NIScPR

14<sup>th</sup> September , 2023



In the Day 3 of One Week One Lab program of CSIR-NIScPR. A workshop on science communication was organised where more than 50 teachers joined the event and received the training of various facets of science communication by the experts. In the workshop, Shri C. B. Singh, Head, Jigyasa, Training and HR Division of CSIR-NIScPR delivered a welcome address. In her keynote address in the workshop addressing the science teachers Chief Guest Prof. Sharmishtha Banerjee, University of Hyderabad, emphasized teaching interdisciplinary science to the students. She said that all the subjects including biology, chemistry, physics and mathematics are inter-related and we have to tell this to our students in an effective manner.

Ms. Arika Mathur, Head - Operations and Assessments, KAMP captivated the audience with her in-depth presentation on the Knowledge and Awareness Mapping Platform (KAMP) - an initiative of CSIR-NIScPR and NCPL. KAMP aims to unearth the innate talents and skills in our students, and the teachers were visibly enthusiastic about this endeavor.

Explaining Science Communication and Citizen Responsibility at the workshop, Shri Hasan Jawaaid Khan, Chief Scientist, CSIR-NIScPR and Editor of 'Science Reporter' magazine, said,



“It’s a responsibility of every citizen of the country to create more awareness about misinformation and fake news about science.

Ms. Sonali Nagar, Associate Editor, Science Reporter magazine showed a presentation to the teachers training them in the nuances of Popular Science Writing. The workshop ended with the Popular Science Writing assignment given by Shri Hasan Jawaaid Khan.

About CSIR-NIScPR and KAMP:

CSIR-National Institute of Science Communication and Policy Research (CSIR-NIScPR) is one of the constituent laboratories of the Council of Scientific and Industrial Research (CSIR) under the Ministry of Science & Technology, Government of India. It specializes in the fields of science communication, Science, Technology, and Innovation (STI) focused on evidence-based policy research and studies.

KAMP is an Initiative and Knowledge Alliance of the Council of Scientific & Industrial Research (CSIR) - National Institute of Science Communication and Policy Research (NIScPR) and industrial partner M/S Nysa Communications Pvt. Ltd. (NCPL), it intends to develop creativity, meaningful learning, critical reading and thinking skills that brings out the inherent abilities of the students.



## One Week One Lab Program At CSIR-IMMT, Day 4 Is Dedicated To The Theme “Blue Economy”

CSIR-IMMT, NIO, CGCRI, CRRI, CECRI

14<sup>th</sup> September , 2023

Bhubaneswar : As per the Ministry of Earth Sciences, Govt. of India, the Blue Economy is defined as a “subset of the national economy comprising the entire system of oceanic resources and man-made economic infrastructure in marine, maritime, and onshore coastal zones within India’s legal jurisdiction. These resources aid in the production of goods and services and are closely linked to economic growth, environmental sustainability, and national security.”

In India, significant activities within the Blue Economy include fisheries and aquaculture, ports and shipping, marine and coastal tourism, marine biotechnology, IT-driven marine innovation, and deep-seabed mining of polymetallic nodules for strategic metals such as Nickel and Cobalt, among others. CSIR Institute of Minerals & Materials Technology (CSIR-IMMT) has actively engaged in developing technologies for processing Polymetallic Nodules and has successfully demonstrated the technology for extracting essential commodity metals like Copper, battery metals Nickel and Cobalt, and Electrolytic Manganese Dioxide (EMD). Currently, CSIR IMMT is advancing these technologies to expand the product portfolio, with a specific focus on battery applications and their impact on energy and emissions.

As part of the One Week One Lab program at CSIR-IMMT, Day 4 is dedicated to the theme “Blue Economy” – a one-day conclave designed to promote sustainable approaches and technology development efforts aimed at harnessing oceanic resources primarily on deep sea minerals exploration and processing. The conclave will be attended by representatives from key sectors of the blue economy, including deep-sea mining and extractive metallurgy of seabed minerals, energy resources, and fisheries. The program includes keynote addresses, invited talks, and panel discussions featuring special invitees and prominent personalities. Directors from National laboratories, including CSIR-NIO in Goa, NIOT in Chennai, CSIR-CGCRI in Kolkata, CSIR-CRRI in New Delhi, and CSIR-CECRI in Karaikudi, participated in



the event. Dr. Sandip Kumar Mukhopadhyay from the MoES, distinguished experts in seabed minerals, ocean energy, and various industry and academia leaders, was a part of the Blue Economy event. The event is spearheaded by Dr. Ramanuj Narayan, Director CSIR IMMT, with Dr. Kali Sanjay, Chief Scientist & Head, Hydro & Electrometallurgy and project leader of the polymetallic nodules metallurgy program, acting as the chairperson. The conclave is open to all registered delegates, including an opportunity to visit the poster exhibition and the seabed minerals extractive metallurgy pilot plant facilities at CSIR-IMMT.

Chief Guest Prof. Sunil Kumar Singh, Director, CSIR-NIO, Goa, said, “We all know the importance of the ocean. Our important eco system depends on the ocean. We should use sustainable resources that come from the ocean. The blue economy is not only related to the ocean. The government is also accounting for the blue economy”.

Guest of Honour Dr. G. A. Ramadass, Director, NIOT, Chennai said “ I am deeply honored and privileged to be present here today. As our population continues to expand, the available resources are not keeping pace. In such a situation to ensure sustainability we essentially have two options: one is to obtain more resources from the land and utilize them efficiently, and the other is to explore the resources within our oceans. It’s worth noting that approximately 70% of the Earth’s surface is covered by water, while the remaining 30% of the land has provided for us for thousands of years. Just imagine the potential of what that vast 70% of the world’s oceans can offer us.”

Guest of Honour Prof. M. Parida, Director, CSIR-CRRI, New Delhi placed his words, “We maintain a close collaboration with IMMT, particularly in two projects: one involving red marl-aluminum waste and the other focusing on ferro. These projects are centered on finding ways to utilize mineral waste for the betterment of the road sector. Presently, we have successfully incorporated mineral waste into our CRRI projects, which are scattered across various regions of the country. I extend my gratitude to IMMT and offer my congratulations for the invaluable platform they have established in support of the blue economy”



Guest of Honour Dr. (Mrs) Suman K. Mishra, Director, CSIR-CGCRI, Kolkata said, “The blue economy represents a significantly vital sector. Globally, around 75% of trade relies on maritime routes, and there is still ample room for its growth and enhancement. Our nation is uniquely positioned as it is surrounded by oceans, which not only provide livelihoods but also boosts the country’s economy. Trade and tourism associated with the oceans generate employment opportunities. Moreover, the oceans also offer food, as well as a wealth of resources and minerals that contribute to the pharmaceutical industry. Extensive research and development efforts are being undertaken to ensure sustainability. Hence, it is of utmost importance to utilize these resources wisely and responsibly”.

Guest of Honour, Dr. K. Ramesha, Director, CSIR-CECRI, Karaikudi said, “IMMT has been dedicatedly conducting extensive research on minerals and materials, both basic and application oriented, encompassing mineral processing to metal extraction. Recognizing the significance of the blue economy for India, I am hopeful that we can responsibly explore our oceans, thereby contributing to the Indian economy and fostering self-reliance. While the other countries have made commendable strides in this field, the key distinction lies in our capacity for scalability. I suggest research institutions to collaborate and collectively address this challenge”.

Dr. Ramanuj Narayan, Director CSIR IMMT elaborated, “Orissa, a state abundant in natural resources and minerals, plays a crucial role in meeting the increasing demand for minerals due to growing population. The Ministry of Earth Science has been instrumental in this endeavor. As a mineral institute, our most valuable resource will be derived from the ocean. The collaboration between the Ministry of Earth Science and CSIR-IMMT, along with the planned project, is destined to make history. “One Week One Lab” serves as a platform where all ministries and industry partners can unite to explore the vast resources found in our oceans. I extend my gratitude to all the visionaries who are dedicated to advancing the blue economy, which is precisely what our country needs. Thank you all”.

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## CSIR-CFTRI celebrates 'National Nutrition Week 2023' at government schools and colleges in Mysuru

CSIR-CFTRI

14<sup>th</sup> September , 2023

For a week, CSIR-CFTRI celebrated the National Nutrition Week-2023 at government schools and colleges of Mysuru, spreading the importance of nutrition for leading a healthy life. The theme of this year's Nutrition Week is "Healthy diet going affordable for all" and various activities were organised for government school and colleges to create awareness on the importance of nutrition and its role in leading a healthy and disease-free life.



National Nutrition Week is an annual event observed in India that focuses on raising awareness about the importance of nutrition. It is commemorated every year in the first week of September. The week-long event is an initiative of the Ministry of Women and Child Development, Government of India for educating the people on the significance of balanced diets, adequate nutrition, and the impact of the right food choices on improving overall physical and mental health.

National Nutrition Week accelerates its action towards promoting the nutritional status of women and children. The government is keenly focussing on the primary life stages in women — pregnancy, infancy, childhood, and adolescence, thus going with the theme "Suposhit Bharat, Sakshar Bharat, Sashakt Bharat", a release said here. The event took off with a lecture on importance of micronutrients in growth and development for schoolchildren of Government High School Hootagalli followed by a quiz competition. A talk on general nutrition and benefits of millets was organised for students of Government Junior College, Vontikoppal, Mysuru, and a 'pick and speak' competition on various concepts of nutrition was



conducted, the release said. A debate competition was organised on 'Benefits of traditional vs modern foods' for high schoolchildren in CFTRI School and the importance of good nutritional practices was emphasised. Essay writing competitions were conducted for CFTRI students and employees on lifecycle nutrition.

The week was concluded by the valedictory function where Dr. Praveen Kulkarni, Professor in Community Medicine and Vice-Principal, JSS Medical College, Mysuru addressed the gathering and he touched upon the current nutrition scenario, dietary practices and corrective measures from the medical perspective.

He elaborated the actions needed to make healthy diets more available and accessible for all Indians and sustainable diet recommendations.

The session was presided by Dr. Vijayanand, Chief Scientist and Head, Fruit and Vegetable Technology, CSIR-CFTRI who emphasised on the dietary approaches as solutions for correcting malnutrition and mentioned about the malnutrition alleviation programmes undertaken by CSIR-CFTRI in his remarks.

Winners of various competitions were awarded with certificates and mementos during the event. The awareness programme covering more than 300 students was very well received and was appreciated by the children and teachers, the release said.



## NDMC to procure 200,000 tulip bulbs, most ever

CSIR-IHBT

13<sup>th</sup> September , 2023

The annual tulip bloom in New Delhi will cover a much larger area during the coming winter season, as the New Delhi Municipal Council (NDMC) plans to plant 200,000 tulip bulbs, up from 123,000 bulbs this winter and 40,000 last year, officials familiar with the matter said on Wednesday, adding that tenders worth ₹87 lakh have been issued to purchase tulip bulbs from the Netherlands.

According to an NDMC official, the civic body prepares for tulip plantation in August-September by inviting open tenders. “The horticulture department is going to purchase 200,000 tulips, and the work will be awarded to those bidders who qualify the bids,” said NDMC member Kuljeet Chahal on Wednesday.

“The bulbs are planted in the second week of December, and it takes 30-40 days to bloom. The flowers bloom fully in February and remain for 25 to 40 days, sometimes lasting until mid-March,” said an NDMC official who declined to be identified.

Delhi’s lieutenant governor VK Saxena had previously announced plans to transform Delhi into a “city of flowers” by planting 500,000 bulbs in NDMC and MCD (Municipal Corporation of Delhi) areas next year.

Every year since 2016, NDMC has imported tulip bulbs from the Netherlands at a cost of ₹30-40 per unit and planted them in areas such as Shanti Path, Talkatora Garden, Windsor Place, Central Park, Mandi House, Chanakyapuri, Lodhi Garden, Nehru Park, and AIIMS flyover. Shanti Path hosted the first-ever G-20 Tulip festival from February 14 to 26 this year.

However, NDMC plans to stop importing tulips from the Netherlands, and instead grow them in India itself. Earlier this year, it sent more than 52,000 tulip bulbs from last year’s batch to



Himachal Pradesh in an attempt to replant them there.

“This year’s early rise in temperatures resulted in early wilting. The flowers were harvested after the stem dried up. The bulbs were carefully picked after the maturation cycle in March, kept in cold storage, and transported to the CSIR-Institute of Himalayan Bioresource Technology (CSIR-IHBT) in Palampur, Himachal Pradesh, where trials are being held to indigenise the bulbs and reuse them the following winter,” said a second NDMC official.

Later, trials were conducted to re-pot these bulbs in the high-tech nursery in Lodhi Garden, which has temperature and weather control facilities, but the survival rate was low, said the official. “The survival rate influences the cost-effectiveness of the reutilisation process,” the official added.



## Day 3 of One Week One Lab Programme of CSIR-NIScPR

CSIR-NIScPR, NPL, IHBT

13<sup>th</sup> September , 2023



New Delhi, 13 Sept. 2023, CSIR-National Institute of Science Communication and Policy Research (CSIR-NIScPR) organized the day 3 of its One Week One Lab (OWOL) programme on 13th September 2023 at CSIR-NPL Auditorium, Pusa, New Delhi. ‘Grassroot Innovations & Skill Development Conclave for Rural Development’ event was dedicated to our farmers. The event commenced with great enthusiasm with the inauguration of exhibition by the Chief Guest, Dr. Shekhar C. Mande, Former DG, CSIR and Guest of Honour, Dr. Sanjay Kumar, Chairman, Agricultural Scientists Recruitment Board (ASRB).

In the welcome address, Dr. Ranjana Aggarwal, Director, CSIR-NIScPR said, “Today’s event for rural development is one of the links of the one week one lab week-long event, from 11th to 16th September 2023. This idea of sowing seed at the time of COVID-19 has been sown by Dr. Shekhar C. Mande, Former DG, CSIR.”

The Guest of Honour, Dr. Sanjay Kumar in his speech mentioned that the “cost of the production of technology must be acceptable and affordable to the stakeholders and the technology should make a country powerful.”



The Special Invitee Shri Praveen Ramadas, Secretary, Vijnana Bharati (VIBHA) addressed the audience, and talked about “Bharat Ke Liye Vigyaan,” and remembered former VIBHA National Organising Secretary, Late Shri Jayant Sahasrabuddhe. Shri Praveen Ramadas stated “Until our villages are not self-reliant, our farmers are not self-reliant; our India will not be self-reliant”. He also emphasised on the use of CSIR relevant technologies in villages.

Chief Guest Dr. Shekhar C Mande reiterated PM Shri Narendra Modi’s dream, “In 2047, we want to see India one of the most developed countries, development of rural people is most important for realizing this dream”.

During the Technical Session of the Scientist-Farmer Interaction, Dr. Yogesh Suman, the Coordinator of OWOL, served as the moderator for a panel discussion centered on CSIR technologies and laboratories. The esteemed panelists included Dr. Vivek Kumar, a Professor from CRDT at IIT Delhi, and Dr. Mahendra P. Darokar, the Chief Scientist from TMD at CSIR-HQ. Additionally, several other scientists from various CSIR labs participated in the discussion, emphasizing the crucial role of bridging the gap between laboratory experiments and society. They highlighted the significance of technology appropriateness, rather than solely focusing on technology readiness level. The scientists shared insights into their respective experiments conducted in their labs, and afterwards, the session was opened up to the general public for further discussions.

Dr. Sanjeev Kumar Majumdar, Senior Manager, NRDC (New Delhi) shared his personal experience, revealing that even the pulses we consume, is a result of the research conducted in one of the CSIR laboratories. He emphasized that all the research carried out by CSIR scientists is ultimately aimed at serving the public interest. In the Training Session on the Kisan Sabha App, Dr. Vinayak, Senior Scientist from CSIR-NIScPR, introduced the app and explained how it can greatly benefit farmers. Dr. Shiv Narayan Nishad, Senior Scientist from NIScPR and a co-developer of the app, expressed his gratitude towards NIScPR for their contribution in shaping the Kisan Sabha App. He further informed the audience that currently, around 10 lakh clients, including farmers and consumers, are actively using this app. The app



provides access to real-time market information and various agricultural services. For instance, farmers can easily check Mandi prices through the app. An exhibition on CSIR technologies for rural livelihood was also organised in which more than 10 CSIR labs participated. This exhibition was inaugurated by Dr. Shekhar C. Mande, Former DG, CSIR.

In the workshop on science communication, more than 50 teachers joined the event and received the training of various facets of science communication by the experts. In the workshop, Shri C B Singh, Head, Jigyasa, Training and HR Division of CSIR-NIScPR delivered welcome address. In her keynote address in the workshop addressing to the science teachers honourable Chief Guest Prof. Sharmishtha Banerjee, University of Hyderabad, emphasized on teaching interdisciplinary science to the students. She said that all the subjects of including biology, chemistry, physics and mathematics are inter-related and we have to tell this to our students in effective manner.

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### Student Science Connect Programme

Under the 'Jigyasa' initiative of CSIR, 'Student-Science Connect' programme was organized in Vivekananda Hall of CSIR-NIScPR campus. In his welcome address, Shri C.B. Singh, Head, Jigyasa programme, CSIR-NIScPR said how NIScPR is reaching out to the common people through science communication. On this occasion, Director of CSIR-NIScPR, Dr. Ranjana Aggarwal said that NIScPR is working like a bridge. Keeping in mind the vision of the Hon'ble Prime Minister on 'International Year of Millets', he gave information about millets. PM also told how CSIR- NIScPR initiative 'SVASTIK' is providing a scientific approach to



traditional knowledge. During this programme, Dr. Shekhar C. Mande, Former Director General, CSIR also graced the occasion. He said that questions like when, where, how, why should come in your mind. Science develops only when we think and discuss about it. Dr. Sanjay Kumar, Former Director, CSIR-IHBT, Palampur, said that we need to adopt scientific thinking through stories how mathematics and science can be read and understood in an interesting manner.

Dr. Suman Ray, Principal Scientist, CSIR-NIScPR, gave information about millets. Dr. Charu Lata, Principal Scientist, CSIR-NIScPR and Coordinator of SVASTIK said that India has a rich heritage of science and technology. Traditional knowledge develops our three-dimensional personality.

The program received participation of Kendriya Vidyalaya, Vikaspuri and Sector-8, Dwarka, M.M. Public School, Shakurpur. During this programme, students participated in the quiz competition. On this occasion, a puppet show was performed by Dr. Vikas Mishra and his team.

### About CSIR-NIScPR

CSIR-National Institute of Science Communication and Policy Research (CSIR-NIScPR) is one of the constituent laboratories of Council of Scientific and Industrial Research (CSIR) under the Ministry of Science & Technology, Government of India. It specializes in the fields of science communication, Science, Technology, and Innovation (STI) focused on evidence-based policy research and studies. It publishes various journals, books, magazines, newsletters, and reports on science and technology. It also conducts research on science communication, science policy, innovation systems, science-society interface, and science diplomacy.



## CSIR-IMMT Collaborates with Nexus Power to Advance Battery Technology

CSIR-IMMT

13<sup>th</sup> September , 2023

The Institute of Minerals and Materials Technology (CSIR-IMMT) in Bhubaneswar has entered into a partnership with Nexus Power, a city-based startup, to drive advancements in battery technology, particularly for electric vehicles (EVs). The memorandum of understanding (MoU) was signed during the commencement of the 'One Week One Lab' program at the IMMT premises, which will run until September 16.

Nexus Power is focusing on the development of bio-organic fast charge batteries, and the collaboration with CSIR-IMMT aims to jointly work on the synthesis, testing, and characterization of advanced battery materials. By combining these materials with battery technology, the partnership aims to accelerate the development of more efficient battery solutions, potentially serving as a substitute for existing technologies in EVs and other industries.

CSIR-IMMT has been actively involved in battery material development through urban mining and primary resources. They have established a battery testing lab where coin cell batteries can be analyzed and evaluated. In addition to the collaboration with Nexus Power, CSIR-IMMT has also signed MoUs with Sri Sri University and BOSE, Cuttack to facilitate research and academic collaborations as well as internships for students.

This collaboration represents a significant step towards advancing battery technology in India, particularly in the context of electric vehicles. By leveraging the expertise of CSIR-IMMT and the innovative approach of Nexus Power, the partnership aims to contribute to the development of sustainable and efficient energy storage solutions.

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[Energyportal](https://energyportal.in)



## CSIR scientist's work focuses on TB diagnosis, effective treatment

CSIR-IMMT

12<sup>th</sup> September , 2023

Dr Ashwani Kumar, a distinguished microbiologist from the CSIR-Institute of Microbial Technology, Chandigarh, has been awarded with the Shanti Swarup Bhatnagar Prize for 2022. The award acknowledges the outstanding achievements of young scientists under 45 and includes a cash prize of Rs 5 lakh along with a citation.

Dr Kumar is a senior principal scientist. His expertise lies in the complex realm of tuberculosis pathogenesis and infectious diseases. His laboratory is dedicated to unraveling the intricate mechanisms employed by mycobacterium, the bacterium responsible for TB, to manifest phenotypic drug resistance.

His research endeavours are concentrated on understanding the physiology of biofilm-resident mycobacteria and their behaviour during non-replicating persistence. He delves into the nature of extracellular polysaccharides found in mycobacterial biofilms, shedding light on their critical role in bacterium's drug resistance.

His research extends beyond theoretical understanding, as he is involved in developing cutting-edge tools for measuring the metabolic and redox states of mycobacteria during infection. This approach promises valuable insights into the bacterium's behaviour within the host.

His work helps understanding of TB and holds the promise in the development of innovative strategies for diagnosis and treatment.

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## CSIR-NIScPR organised a workshop on “India’s Startup Revolution – An Exciting Journey from an Idea to Market” under its One Week One Lab programme

CSIR-NIScPR

12<sup>th</sup> September , 2023



A workshop on “India’s Startup Revolution – An Exciting Journey from an Idea to Market” was organised on 12<sup>th</sup> September 2023, the second day of the One Week One Lab (OWOL) programme of CSIR-National Institute of Science Communication and Policy Research (CSIR-NIScPR), at CSIR-National Physical Laboratory Auditorium, New Delhi. The workshop aimed to expose students to exciting possibilities and pathways that can help them translate their ideas into a commercial product/process and provide a platform for emerging startups to enhance visibility and promote networking.

The workshop had wide representation from industry, startups, industry associates, research institutes, universities and major government bodies and technology business incubators involved in promoting startups. It included sessions on exposing the students to different facets of the startups, experience sharing by successful startups and a dedicated venue for showcasing innovative solutions (products) by startups. Prof. Ranjana Aggarwal, Director, CSIR- NIScPR, in her welcome address in the inaugural session, gave a brief overview of the activities by CSIR-NIScPR, including the TRL and socio-economic impact assessment of CSIR technologies. Prof. Aggarwal expressed hope that the participation of the stakeholders,



especially the youngsters in such workshops will provide exposure on the exciting possibilities that the startup ecosystem in the country holds for them. Dr. Sujit Bhattacharya, Chief Scientist, CSIR-NIScPR and coordinator of the startup workshop, briefed the participants on the event and its objectives. He mentioned that the main purpose of this event is to connect with every stakeholder and to lay a future roadmap. The Chief Guest of the inaugural session, Dr. Omkar Rai, Executive Chairman of Startup Odisha, gave glimpses of how India's digitisation is revolutionising technology accessibility to the remotest part of the country, helping new startups booming from the Tier-2&3 cities. The Guest of Honour, Mr. Punnet Kaura, Chairman, CII Delhi State Council and Managing Director & CEO, Samtel Avionics Ltd, talked about realising one's vision to grow the business by building a growth mindset and learning from experiences. He also stressed on assessing and analysing the competitive landscape to keep tweaking the business strategies. His suggestions for scaling up and finding pathways to growth included continuous learning and growth, networking as well as connecting with mentors, peers and potential partners.

Three books were released by the dignitaries during the inaugural program: Tech Readiness: Evaluating CSIR Innovations Under Agricultural and Environmental Themes; AcSIR Academic Handbook for PhD Programme; and Synthesis Report: Study of Life Sciences Cluster in the context of COVID-19, A case study of Genome Valley. Dr. Naresh Kumar, Chief Scientist & Workshop Co-Coordinator, CSIR-NIScPR proposed the vote of thanks. The day-long programme focused on startups which consisted of technical sessions on "Building up Startup Ecosystem" & "Models for Successful Startup", interactive sessions and panel discussions on different aspects of startup ecosystem. One of the most exciting parts of this startup workshop was the exhibition by over 30 startups ranging from high technology to those who hold the promise to impact rural development in a major way. Startups focusing on hydrogen-driven car, toy maker who uses artificial intelligence and a seed startup were some of the highlights of this exhibition. Industry experts and the heads of the university-driven incubation centers also deliberated on the different facets of augmenting the startup ecosystem in the country.

**Published in:**

[Pib](#)



## Corporate Training Programme at CSIR-NML

### CSIR-NML

12<sup>th</sup> September , 2023

A five-day 'Exposure Training Program on Metallic Pipes,' ETMP'23, commenced today at CSIR-National Metallurgical Laboratory (NML). The program, which will run until September 15, 2023, has drawn participants from ten different centers of the Central Institute of Plastics Engineering & Technology (CIPET) across the country. This training initiative aims to provide these officials with an in-depth understanding of metallurgical research, particularly concerning metallic pipes.



The program offers a comprehensive insight into various aspects of metallic pipes, including the fundamentals of physical metallurgy, mechanical and corrosion behavior, and welding metallurgy. Participants will also receive valuable insights into relevant industry standards, which will aid them in assessing the quality of metallic pipes on-site.

The inaugural function of ETMP'23 was inaugurated by Dr. Sandip Ghosh Chowdhury, Chief Scientist, and Head of the Materials Engineering Division at CSIR-NML. During his welcome address, Dr. Chowdhury highlighted the significance of the program in the context of new product development, quality assessment, and plant site improvements. The event proceeded with an introductory session to familiarize the participants with the program's objectives and expectations.

Dr. Snehashish Tripathy, Senior Scientist at the Materials Engineering Division and Technical Coordinator of the program, delivered a formal vote of thanks, concluding the inaugural



function on a positive note. The training program will encompass a wide range of activities over its duration, including the exploration of basic theories, detailed case studies, and practical demonstrations. It is anticipated that this training will equip CIPET officials with valuable knowledge and skills to contribute effectively to their respective roles in the field of metallurgy and quality assessment.

ETMP'23 at CSIR-NML represents a collaborative effort between academia and industry, fostering a culture of continuous learning and development in the field of metallurgical research and its practical applications in the context of metallic pipes.



## PES college signs MoU with CSIR-NIO

CSIR-NIO

11<sup>th</sup> September , 2023

PANAJI: PES's RSN College of Arts and Science signed Memorandum of Understanding(MoU) with CSIR-National Institute of Oceanography (NIO), Goa recently.



A brief presentation about PES college was made by Dr Ranjita Sawaiker highlighting the vision, mission, academic programmes, achievements, availability of infrastructure for research, ongoing/completed funded research projects, research centres and recognised research guides, whereas Dr Firoz Badesab (Alumnus of PES college and Senior Scientist CSIR-NIO) made a presentation highlighting areas like capacity building, resources, internship, dissertation programmes, joint research programmes where in NIO can contribute after establishing MoU.

Principal Prof VJ Pissurlekar spoke about the journey of PES college from 1986 to 2023 highlighting the progress made by the institution in various fields over a period of 37 years.



## **Chintan Shivir on “CRTDHs Empowering MSMEs” will be inaugurated tomorrow at CRTDH-Central Mechanical Engineering Research Institute (CMERI), Durgapur supported by DSIR**

CSIR-CMERI

11<sup>th</sup> September , 2023

Department of Scientific and Industrial Research (DSIR) has initiated to organize "Chintan Shivir-CRTDHs Empowering MSMEs" at all 18 CRTDHs across the country with an aim to improve linkages between CRTDHs and MSMEs, startups, and innovators. Two Chintan Shivirs in this series have been successfully conducted at the DSIR-CRTDH facility at the Indian Institute of Technology, Kharagpur (IIT Kharagpur) and Indian Institute of Toxicology Research (IITR), Lucknow. In continuation to this, the third "Chintan Shivir" will be hosted at Central Mechanical Engineering Research Institute (CMERI), Durgapur along with DSIR.

The event will start with a remark of Dr. Naresh Chandra Murmu, Director, CMERI, Durgapur and an overview of Chintan Shivir by Dr. Sujata Chaklanobis, Scientist-G & Head-CRTDH, DSIR. Dr. Sujata Chaklanobis and Dr. Naresh Chandra Murmu will release a video during the ceremony featuring the infrastructure created at DSIR-CRTDH-CMERI, Durgapur. Senior officers from DSIR, Dr. Ranjeet Bairwa and Dr. Suman Mazumdar, as well as Dr. Sudip Samanta, PI-CRTDH, Shri S. Y. Pujar, Coordinator, CRTDH-CMERI, and their team will attend the event. Participants during this significant event will also include delegates from Chambers of Commerce and Industry Associations, as well as representatives from Micro, Small and Medium-Sized Enterprises (MSMEs).

The thematic sessions of the event on an overview of futuristic technology interventions at CRTDH-CMERI, Durgapur will be delivered by Dr. Sudip Samanta followed by summary of activities undertaken at CRTDH-CMERI, Durgapur to strengthen MSME Connect & Opportunities by Shri S. Y. Pujar. The thematic session will continue to a “Samvad” for outlining the major problems faced by MSMEs, startups, and innovators as well as discussing potential solutions from the CRTDH. These sessions will primarily focus on the role of CRTDH in supporting MSMEs to achieve their R & D goals. Representatives from industry



organizations, MSMEs will also provide their perspectives on the challenges and role of CRTDH in meeting their R&D goals. The programme will conclude with a brief tour of the CRTDH facilities, which will be led by the guests and delegates.

This Chintan Shivir will be an interactive session with the attendees from MSMEs/Startups/Innovators, representatives from industry associations and the team of DSIR-CRTDH-CMERI to identify potential solutions for the problems faced by them. This will be a step towards making India a significant industrial R&D and manufacturing hub.



## Following the success of 'One Week One Lab' (OWOL) programme, Dr Jitendra Singh proposes the observance of 'One Month One Theme' programme towards integrating the efforts of the various CSIR laboratories

CSIR-NIScPR, NAL, NPL

11<sup>th</sup> September, 2023



Union Minister of State (Independent Charge) Science & Technology; MoS PMO, Personnel, Public Grievances, Pensions, Space and Atomic Energy, Dr Jitendra Singh has said, the G20 India Summit, that concluded yesterday, showcased Bharat's technological capabilities as well as economic strength.

“Under Prime Minister Narendra Modi, this Government has institutionalised fusion between the traditional knowledge and the cutting edge of modern technology. We had the traditional knowledge library which is now known as the TKDL (Tradition Under Primal Knowledge Digital Library). Even the Bharat Mandapam or some of the latest monuments constructed by this government represent the best fusion of the latest scientific acumen, technology and architecture with the traditional heritage that we have inherited over the generations,” he said, addressing the inauguration of the 'One Week One Lab' (OWOL) programme of CSIR- - National Institute of Science Communication and Policy Research (CSIR-NIScPR), New Delhi today.

The New Delhi Declaration adopted at the G20 Summit committed itself to implement India's



initiative of 'Lifestyle for Environment Mission' (LiFE) and promote Artificial Intelligence towards achieving the United Nations' Sustainable Development Goals (SDG). By adopting the 'Green Development Pact,' G-20 has also reaffirmed its commitments to sustainable and green growth. The G20 Summit supported India's plan to build and maintain a Global Digital Public Infrastructure Repository (GDPIR) and welcomed the establishment of the Global Initiative on Digital Health (GIDH) within a WHO-managed framework.

A landmark achievement was the launch of Global Biofuel Alliance (GBA) by the leaders of Singapore, Bangladesh, Italy, USA, Brazil, Argentina, Mauritius and UAE, at the initiative of PM Modi on the sidelines of the G20 Summit. GBA aims to serve as a catalytic platform, fostering global collaboration for the advancement and widespread adoption of biofuels.

"I am glad that India, under Prime Minister Modi, has taken a lead in doing so. This is also an occasion when we are making a transition from the kind of work approach that we have followed over the years," said Dr Jitendra Singh, referring to the Anusandhan National Research Foundation which will have up to 70% funding from non-governmental sources.

Following the success of 'One Week One Lab' (OWOL) programme, Dr Jitendra Singh proposed the observance of 'One Month One Theme' programme towards integrating the efforts of the various CSIR laboratories.

"Even though each of the (CSIR) labs has a different USP, but many of have common theme... therefore, later on, in the next stage, we could have a wider integration based on themes," he said, stating that the Aditya Mission illustrates the 'Whole of Science' approach where all Departments pooled resources including ISRO, DST, CSIR's National Aerospace Laboratories, Tata Institute etc.

Dr Jitendra Singh said that the idea behind OWOL is Integration within the scientific community and integration within the larger society. OWOL helps research labs, reach out to society and show to the public that what they are doing is actually for public good.



Stating that the NIScPR can be a torchbearer, Dr Jitendra Singh said the CSIR labs can publicise 10 success stories each.

“The idea is to reach out to the potential beneficiaries. However much and however valuable an experiment is, it ceases to actually achieve its purpose if it doesn’t reach out to those for whom it is meant to be,” he said.

On the occasion, Dr Jitendra Singh inaugurated the Science Media Communication Cell and released a number of NIScPR publications and journal. Among the dignitaries who addressed the gathering included Dr. N. Kalaiselvi, Secretary, DSIR and DG, CSIR, Prof. Venu Gopal Achanta, Director CSIR-NPL and Prof. Ranjana Aggarwal, Director, CSIR-NIScPR.



## Hyderabad-based CCMB digs into evolution of centipedes

CSIR-CCMB

11<sup>th</sup> September , 2023

The mere sight of a centipede, with multiple legs that range from 16 to nearly 190 pairs, triggers fear and makes people uncomfortable! However, these creepy crawlies, which are always misunderstood, could well hold the key to understanding the rules of ecology and evolution of the Western and Eastern Ghats of India.

To better understand the 400 million years of evolution of centipedes, their body size, other physical features and the overall evolution of their habitat, PhD scholars and researchers led by Jahnvi Joshi from Hyderabad-based Centre for Cellular and Molecular Biology (CCMB) are in the forests of the Agasthyamalai Biosphere Reserve at Peppara Wildlife Sanctuary, Kerala, on the lookout for the multi-legged arthropods.

Unlike most research groups that focus on taxonomy and their classification, according to senior scientists from CCMB, Joshi, who leads the only research group in India that is involved in the study of centipedes, has taken the study to the next level by using centipedes to understand the rules of ecology and evolution.

Moreover, instead of using lab-grown animal models, the CCMB research team studies invertebrates such as centipedes and millipedes found in the wild, the senior genetic scientists from CCMB said. In June, the group investigated the genetic diversity of centipedes and concluded the prevalence of high genetic biodiversity among the species.

“A wide variation in genetic diversity across centipede species falls towards the higher end of values among arthropods. Overall, 27.57 per cent of the variation in mitochondrial COI genetic diversity in centipedes was explained by a combination of predictors related to life history and biogeography. Genetic diversity decreased with body size and latitudinal position of sampled localities, was greater in species showing maternal care and increased with



geographic distance,” their study, published in A Journal of Macroecology in June concluded. The team active in the Western Ghats is expected to capture the centipedes, store them in special boxes and bring them back to their research laboratory for further study at CCMB. The researchers will also bring samples of other rare arthropods in the same ecosystem, back to the laboratories for further genetic research.



## CSIR announces Shanti Swarup Bhatnagar Prizes for Science & Technology

CSIR-IMMT, IICB, NIScPR

11<sup>th</sup> September , 2023

Dr. N Kalaiselvi, Director General, CSIR Monday announced the winners of the Shanti Swarup Bhatnagar Prize for the year 2022.

According to a statement issued by CSIR the prestigious SSB Prize for the year 2022 has been awarded to twelve leading scientists in the seven disciplines. Two scientists each have been awarded the prize Biological, Chemical, Engineering, Mathematical and Physical Sciences respectively.

In Earth, Atmosphere, Ocean & Planetary Sciences and Medical Sciences, one scientist each has been selected for the award. The winners were announced during the inaugural event of One Week One Lab program, of CSIR-NIScPR, announced by in the presence of Dr. Jitendra Singh, the Hon'ble Minister of State for Science & Technology and Vice President, CSIR.

.The Recipients of Shanti Swarup Bhatnagar Prize (SSB) for Science and Technology 2022 include Dr Ashwani Kumar from Molecular Mycobacteriology Laboratory CSIR Institute of Microbial Technology Chandigarh, Dr Maddika Subba Reddy from Laboratory of Cell Death and Cell Survival , Centre for DNA Fingerprinting Diagnostics Hyderabad, Dr Akkattu T Biju, Department of Organic Chemistry , Indian Institute of Science Bengaluru Dr Debabrata Maiti Department of Chemistry Indian Institute of Technology Bombay Mumbai , Dr Vimal Mishra Water and Climate Laboratory Indian Institute of Technology Gandhinaga, Dr Dipti Ranjan Sahoo, Department of Civil Engineering Indian Institute of Technology Delhi, Dr Rajnish Kumar Department of Chemical Engineering Indian Institute of Technology Madras , Chennai , Dr Apoorva Khare Department of Mathematics Indian Institute of Science Bengaluru , Dr Neeraj Kayal Department of Mathematics and Computing Microsoft Research Lab India Bengaluru, Dr Dipyaman Ganguli Translational Research Unit CSIR- Indian Institute of Chemical Biology Kolkata, Dr Anindya Das Department of Physics Indian



Institute of Science Bengaluru and Dr Basudeb Dasgupta Department of Theoretical Physics  
Tata Institute of Fundamental Research Mumbai.

The Shanti Swarup Bhatnagar Prize for Science & Technology was instituted in the year 1957. It is named after the founder Director General of the Council of Scientific & Industrial Research (CSIR) India, the late Dr (Sir) Shanti Swarup Bhatnagar. The Prize is given each year for scientists below the age of 45 years who have made conspicuously important and outstanding contributions to human knowledge and progress through work done primarily in India during the five years preceding the year of the Prize



## Experts call for innovation, sustainability in coconut industry

CSIR-NIIST

11<sup>th</sup> September , 2023

The coconut industry needs to adopt innovation and sustainability with the support of a comprehensive strategy to promote cultivation, scientific crop management and value-addition aimed at tapping the huge national and global market for the crop cultivated in many parts of the country, according to experts at a meet here on Tuesday.

They were speaking at an industry stakeholders meet on cultivation, crop management and value-addition of coconut, organised by the CSIR-National Institute for Interdisciplinary Science and Technology (CSIR-NIIST).

Executive Director of the International Coconut Community, Indonesia, Dr. Jelfina C. Alouw, said quality, sustainability and competitiveness in coconut industry are vital. “We have to leverage innovation to improve the market potential of coconut, which can be used as bio-fuel and for culinary needs”, she said.

Dr. C. Anandharamakrishnan, Director, CSIR-NIIST, Thiruvananthapuram, said coconut production had dwindled due to global warming. “Promoting research, studies and awareness on scientific cultivation and management of principal crops is an area of prime focus for CSIR-NIIST”.

Dr. B. Hanumanthe Gowda, Chief Coconut Development Officer, Coconut Development Board, highlighted the challenges faced by farmers due to price fluctuations and lack of comprehensive strategy for processing.

A technical seminar on ‘Sustainable Coconut Processing Strategies for Global Market’ was also held, followed by technical sessions and panel discussions on Research and development interventions for the cultivation, crop management and value addition of coconut.



The major focus of the sessions was on building up of strategies for the cultivation, post harvest value-addition, ensuring a sustainable global market for coconut and allied products.

The meet was organized in association with International Coconut Community (ICC) and Coconut Development Board (CDB), close on the heels of the World Coconut Day, celebrated on September 2 to promote the importance of coconut and its contributions to the economy, agriculture, and health, besides raising awareness about the benefits of coconut cultivation and consumption. The theme for the World Coconut Day this year is “Sustaining Coconut Sector for the Present and Future Generation.”

International Coconut Community (ICC) officials, industry representatives, Farmer Producer Organisations (FPOs), policy makers, officials from Central and State Governments agencies, agri business experts, research and academic experts attended the event.



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