



NEWS BULLETIN

11 TO 15 DECEMBER 2024







Compiled by Science Communication and Dissemination Directorate (SCDD), CSIR, Anusandhan Bhawan, New Delhi



Winter blooms with NBRI's annual flower show





Cotton Ball, Topaz and Velvet Queen were among the exhibits, in hues of white, dark maroon and orange, at the two-day annual Chrysanthemum and Coleus Show at CSIR-NBRI Central Lawns, on Saturday.

Chief scientist and convener S K Tiwari 86 participants put up on show as many 267 varieties, including over 20 varieties in each shade of chrysanthemum and 150 varieties of coleus. 'Kelvin Victory' was tinted with a beautiful shade of pink, fading to a lighter tinge, while 'Raja' was splendid white turning light yellow towards the center.

When asked about their favourite chrysanthemum on the lawn, a visitor, Rama, said, "I like large chrysanthemums, but it is difficult to pick one variety as they are all so beautiful and unique in their own way."

Another visitor Arun Sinha said, "We wait for this event every year and have never missed it." J P Tripathi said, "I love the 'Khushboo' as its colour is as fiery as it looks."

'Perfecta' chrysanthemum shone with its majestic colour, while a variety of coleus presented a leafy foliage. Each coleus, in magenta purple, radiused with lush greens and enveloped with dark shades, was one of its kind.

The prize distribution ceremony will be at 4 pm on Sunday. The show is open to public from 2 pm to 5:30 pm.

Published in:

Times of India





CSIR-Structural Engineering Research Centre signs MoU with NTPC limited





A Memorandum of Understanding (MoU) was signed between CSIR-Structural Engineering Research Centre (CSIR-SERC), Chennai, and NTPC Limited, New Delhi, at CSIR-SERC, Chennai on 13 December 2024. This MoU will govern all the projects to be taken up between CSIR-SERC and NTPC Limited.



The MoU was signed by Dr. N. Anandavalli, Director, CSIR-SERC and Shri K. Nagesh, AGM & HOD (Station Engineering), NTPC Limited, Raipur. The MoU function was attended by Shri Akilesh Poddar, DGM (Station Engineering), NTPC Limited, Raipur, Shri K Shanmuga Sundaram, DGM, NTPC Limited, Chennai, Dr. K. Sathish Kumar, Head, BKMD, CSIR-SERC, Heads of all laboratories of CSIR-SERC, Administrative Officer, Finance & Accounts Officer and Stores & Purchase officer of CSIR-SERC.

Dr. Anandavalli, welcomed the guests from NTPC Limited and said that CSIR-SERC and

NTPC Limited share three decades of long association. She also made a brief presentation on CSIR-SERC and highlighted on the vision and mission of CSIR-SERC, its thrust areas, legacy, a glance at the infrastructure, research focus, industry research & consultancy services, work towards societal development, technology portfolio and technology transfers, recent projects being under taken by CSIR-SERC, etc. Shri Nagesh appreciated the expertise of CSIR-SERC and said that this expertise shall greatly benefit NTPC Limited.

Published in:







Sanjay Ghodawat International School Young Innovators Secure First Place at IISF 2024





Young innovators of Grade 8 from Sanjay Ghodawat International School (SGIS), Atigre Campus, Priyanshu Garai, Digambar Mohite, and Chirag Yargoppa, bagged the first position at the "Ideas for a Developed India" Science and Technology Hackathon. Held at IIT Guwahati during the India International Science Festival (IISF) 2024, the team "The Rock Innovators", showcased their innovative

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"Pulse Pilot: Next-Gen Driver Health Monitor" project, which aims to enhance road safety by monitoring drivers' health to prevent accidents due to drowsiness or alcohol consumption.

The team's victory came in a fiercely competitive national category, reflecting their creativity, determination, and commitment to innovation, with students participating from Grades 1-12. Their groundbreaking project, which addresses critical road safety issues, was praised by leading scientific minds, including ISRO Chairman Shri S. Somnath, DRDO Chairman Dr. Sameer V. Kamat, CSIR-NIIST Principal Scientist Dr. K. V. Ramesh, and others. The students received invaluable guidance from Shri. Harshit Sukdeve, Dr. Sabir Hussain, Ms. Bina Inamdar, Vice Principal, Ms. Shobha Naveen, and Principal Dr. Naveen H. M. Founder-President Sanjay Ghodawat expressed immense pride in their accomplishment, stating – "Our students have once again demonstrated the potential to innovate and make a difference at a global level." Trustee. Vinayak Bhosale, SGU and SGIS, and Director Sasmita Mohanty, SGIS, congratulated the students and their mentors, recognizing their dedication and hard work. This victory highlights the school's commitment to nurturing talent and fostering excellence. **Published in:**









सीएसआईआर-राष्ट्रीय धातुकर्म प्रयोगशाला (एनएमएल) जमशेदपुर ने कॉलेज के छात्रों और श्रीनाथ विश्वविद्यालय जमशेदपुर के फैकल्टी के लिए सामग्री और धातुकर्म प्रक्रिया पर एक दिवसीय एक्सपोजर प्रशिक्षण का आयोजन किया। इसका उद्देश्य कॉलेज के छात्रों के बीच वैज्ञानिक जागरूकता को बढ़ावा देना और उन्हें वैज्ञानिक अनुसंधान और नवाचार की दुनिया से परिचित कराना था। यह कार्यक्रम सीएसआईआर-एकीकृत कौशल पहल कार्यक्रम के तहत आयोजित किया गया था। श्रीनाथ विश्वविद्यालय के 30 छात्र और 17 छात्राओं ने सीएसआईआर-एनएमएल का दौरा किया। उनके साथ कुल 3 फैकल्टी भी थे। उद्घाटन कार्यक्रम की शुरुआत सीएसआईआर-एनएमएल के निदेशक डॉ. संदीप घोष चौधरी द्वारा दिए गए स्वागत भाषण से हुई। उन्होंने कार्यक्रम में शामिल होने वाले सभी उपस्थित लोगों का स्वागत किया और विभिन्न तकनीकी विकास और अग्रणी कार्यों के माध्यम से पिछले 82 वर्षों के गौरव में हमारे राष्ट्र के विकास में सीएसआईआर के योगदान के बारे में संक्षेप में उल्लेख किया। कार्यक्रम में छात्रों में शहरी अयस्क पुनर्चक्रण और कार्यशाला जैसी कुछ अनुसंधान प्रयोगशालाओं का दौरा किया।



Livehindustan





Transforming Indian Science: A conversation with **Tata Transformation Prize winners**





Two distinguished scientists, Professor Raghavan Varadarajan from the Indian Institute of Science (IISc), Bangalore, and Professor C Anandharamakrishnan, director of CSIR-National Institute for Interdisciplinary Science and Technology, were recently honoured with the prestigious Tata Transformation Prize. In these conversations with Niraj Pandit, they discuss



their groundbreaking research, challenges, and visions for the future.

How has winning the Tata Transformation Prize impacted your work? Varadarajan: I am very grateful for this recognition. The grant associated with the prize gives us a three-year window to focus intensely on advancing our RSV vaccine research. It also allows us to connect with industry partners to accelerate the transition from lab-scale research to real-world applications. This support will significantly expedite our work toward creating an affordable RSV vaccine.

Could you each explain the focus of your research? Varadarajan: Our research at IISc focuses on designing vaccines for respiratory viruses, particularly RSV, which causes severe respiratory illnesses, especially in infants, young children, and the elderly. Over 97% of RSV-related deaths occur in developing countries, including India. Despite new RSV vaccines being developed in the U.S., they are currently unaffordable for populations here. We aim to create a similarly effective but cost-effective vaccine.

Anandharamakrishnan: I've been working on developing fortified rice enriched with essential nutrients and a low glycaemic index to combat malnutrition and diabetes. This research considers that a large fraction of the Indian population has a rice-based daily diet, and glycemic responses are often overlooked by the population at large.

What significant challenges have you faced in your research? Varadarajan: Vaccine development is inherently complex, especially when balancing effectiveness and affordability. RSV has been particularly challenging because of its shapeshifting surface protein, which is difficult to produce in the correct shape in stable form at high yield. We're tackling these challenges using cutting-edge protein design and screening techniques.

Anandharamakrishnan: Nature and the human body are incredibly complex and cannot be

easily mimicked. This was particularly evident in developing Asia's first artificial gastrointestinal system. The development, optimization, and validation of this system required extensive work, and many research initiatives were extremely challenging during their early stages due to their uniqueness and high risks.

What drew you to your respective fields? Varadarajan: I grew up in a family that deeply valued education. My mother was a historian, and my father was a scientist. Since high school, I was interested in a career in science. After completing my undergraduate studies at IIT Kanpur and Ph.D. at Stanford University, I chose

to return to India to work here.

Anandharamakrishnan: My path was less direct. My undergraduate and master's degrees are in Chemical engineering. During my Ph.D. at Loughborough University, UK, my research focused on spray drying, which drew me to the fascinating field of food engineering. Since then, I've been working on multiple interdisciplinary aspects in this field.

What are your future plans and ongoing projects?

Anandharamakrishnan: My ongoing work focuses on micro and nanoencapsulation, strategies for reducing salt, sugar and fat in foods, food 3D printing, development of customized/personalized foods, computational modelling of food processing systems, and the involvement of advanced sensory systems for innovative approaches to new product

development.

How do you ensure your research benefits developing countries? Varadarajan: Our goal is to create solutions that are not only scientifically sound but also practical for large-scale implementation in resource-constrained settings. For RSV, this means developing a vaccine that can withstand logistical challenges while remaining affordable.

What are your thoughts on research funding in India? Varadarajan: Funding for research, particularly in life sciences, has been challenging, especially post-Covid. While government funds are available, the regularity and volume remain concerns. Private funding in life sciences is limited in India, with organisations like the Tata Trusts, Infosys Foundation, and Ignite Life Science Foundation being exceptions. We need more private players to support early-stage life science research in academia.

Hindustantimes

Participate in NBRI's show in Lucknow with just single pot of blooms

It is your chance to shine at the annual Chrysanthemum and Coleus flower show. You need not have half-a-dozen Chrysanthemum and Coleus flower pots but even one pot, grown out of love for gardening, can help you win trophies and awards in the show this time.

The show is a calendar event at the Council of Scientific and Industrial Research – National Botanical Research Institute (CSIR-NBRI) and this year the two-day event begins on Saturday. The entry fee for the event will be ₹10. The timing of the event for Saturday is from 2pm – 6pm and 10am-6pm on Sunday, shared CSIR-NBRI spokesperson Rajat Raj Rastogi.

He also said that exhibitors interested in participating in the show are required to fill the entry form and submit their potted plants latest by 4pm on Friday, while those interested in submitting their entries for flower arrangement and photography are required to submit their entries by 9 am on Saturday.

"This year, the show has been divided into four broad categories – Chrysanthemum, Coleus, flower arrangement and photography. Under Chrysanthemum – the competition is open to individuals and institutions, as part of which, they must display a group of 6 or 12 small and large Chrysanthemum and Coleus potted plants. The same and different varieties of Chrysanthemum and Coleus can be exhibited in different categories. Best exhibitor in each category will be awarded," said Rastogi.

The mount of Chrysanthemum and Coleus is open only for institutions. This time, anybody can participate with their pot of large chrysanthemum bearing single bloom and the best of all will win 'King of the Show' award. A small, flowered chrysanthemum and spider bearing single bloom of chrysanthemum can win 'Queen of the Show' and 'Prince of the Show' awards, respectively.

Director, CSIR-NBRI Ajit Kumar Shashnay said that the changes in the guidelines of the flower show are an initiative to connect residents to the institution. "We are trying to create awareness among people about gardening," said Shashnay.

<u>Hindustantimes</u>

Civic body mulls 25 new flyovers, to carry out survey

In response to increasing traffic woes, the Ahmedabad Municipal Corporation (AMC) has launched a comprehensive initiative to address the city's congestion problems.

The civic body plans to conduct an extensive traffic survey covering at least 25 key junctions across the city in collaboration with traffic police. The AMC has approached the Central Road Research Institute (CRRI-CSIR), a central govt agency, for quotations to carry out the study.

Initially, the AMC will gather details of the most congested junctions from city traffic police and then add on to the list. Later, a traffic survey will be conducted by the CRRI-CSIR following which flyovers will be constructed at high-priority junctions over the next decade.

An AMC official, speaking on condition of anonymity, said that in 2011-12, a traffic survey was conducted at 34 city junctions by CRRI-CSIR.

Over the past 13 years, flyovers have been constructed at more than a dozen junctions — IIM-A, Dinesh Chambers, Income Tax and Anjali. Due to metro construction, the planned flyover at Helmet Junction on Drive-In Road was scrapped as a metro corridor was being developed

At present, flyovers are being built at Vadaj and four other junctions. The CRRI-CSIR conducted a survey 13 years ago after which IITRAM was consulted for surveys at two junctions. This resulted in the approval for a flyover at Panjrapol junction, while work at Panchvati Junction is set to begin soon.

Additionally, in 2011–12, a flyover was recommended at Delhi Darwaza Junction by CRRI-CSIR as top priority among the 34 junctions, but it could not be built due to metro work and

heritage monuments. The official further mentioned that new areas like Bopal, Ghuma and Kathwada have been added to the city, leading to increased development and traffic congestion. Therefore, it is essential to conduct surveys at key junctions to plan for traffic management over the next decade.

At present, CRRI-CSIR has quoted Rs 3 lakh for traffic survey per junction, sources said. A decision regarding the survey will be made soon. Once the survey is complete, flyovers will be constructed with phased financial provisions in the budget.

At present, Ahmedabad has 81 flyovers, railway overbridges and river bridges, with construction work ongoing at Vadaj, Naroda Patiya, Makarba, Bootbhawani and Pallav intersections. Flyover construction at Panchvati and Panjrapol junctions is set to begin soon.

Ecofix Technology to Help BBMP in Instant Road Repairs in Bengaluru

Engineers of Bruhat Bengaluru Mahanagara Palike (BBMP) expressed satisfaction over a live demonstration of a pilot project steel slag based ECOFIX technology to fix deep and shallow potholes conducted on busiest Avenue road near Anjani Temple in Bengaluru city on Wednesday by scientists of CSIR-Central Road Research Institute (CRRI), a premier road research institute of the country.

The CSIR-CRRI Steel Slag road technology is well tested for its durability and performance in Gujarat, Jharkhand, Maharashtra and Arunachal Pradesh.

During the live demonstration, Principal-Scientist of CSIR-CRRI and inventor of the ECOFIX technology Dr Sanjay Pandey carried out a road repair demonstration on Avenue road and immediately after its repair, the road was opened for vehicular movement, making BBMP engineers happy.

Engineer-in-Chief of BBMP Dr B.S. Prahallad stated to make use of the technology for ecofriendly sustainable road repair in Bengaluru city in coming days. He termed ECOFIX technology "a boon to the city roads." After taking note of the advantages of the ECOFIX technology, Prahallad said during monsoon season when the majority of hot mix plants cannot be operated but with ECOFIX technology "It is possible to carry out durable road repairs in an eco-friendly manner."

The Principal Scientist Dr Sanjay Pandey stated ECOFIX technology is developed using industrial waste of steel industries (iron and steel) and has the unique ability to repair the water-logged pothole without any dewatering management.

While conventional road repair technologies require dewatering of potholes and application

of tack coat, Pandey said with ECOFIX technology can be used even under waterlogged conditions without any tack coat requirement. With ECOFIX technology, he said repaired road surfaces will perform better than regular roads, ensuring durability and longevity.

The ECOFIX technology, Pandey said, does not need any heating of aggregate and bitumen hence it significantly reduces the Greenhouse Gases (GHG) emission in the atmosphere caused by regular road maintenance techniques.

Published in:

Deccanchronicle

Hyderabad: CCMB calls for applications from school students for **'Young Innovators Program'**

Hyderabad-based Centre for Cellular and Molecular Biology (CCMB) is calling for applications from interested students for its "CCMB-Young Innovators Program" for school students of classes VIII to X.

The program will be held during the first and second week of January 2025 and since it has limited seats, the selection process involves a two-step process. The CCMB has urged individual schools to select maximum of five students who will have an opportunity to attend an in-person lecture by Dr. Mudrika Khandelwal from IIT-Hyderabad on Biomaterials at 2.30 pm on Dec 23 at CCMB campus.

The talk will be followed by a selection test for students. In the second step, based on the online selection test, a few students will be selected for the in-person program tentatively to be held between Jan 1 and January 10, 2025.

The selected students will be informed about the in-person program a couple of days after the screening test. It is mandatory that the relevant authority/school principal share their mobile and other details when sending nominations to notify them in a timely manner. The nomination by schools must be sent on or before December 18, 2024.

Published in:

Telanganatoday

BBMP successfully utilized pilot project CSIR CRRI steel slag based instant pothole repair technology ECOFIX to fix the Bengaluru City Road

CSIR-CRRI

11th December, 2024

Road research institute CSIR-Central Road Research Institute has joined hand with the Bruhat Bengaluru Mahanagara Palike (BBMP) to fix the potholes of Bengaluru city road. City of Bengaluru is facing problems of recurring potholes, which is causing traffic congestion, leading to road accidents.

To address this challenge India's premier road research institute CSIR-CRRI in collaboration with BBMP and RAMUKA GLOBAL SERVICES has successfully carried out a pilot project of steel slag based ECOFIX technology by fixing the potholes on Avenue road near Anjani temple,Bengaluru.

ECOFIX is utilised to fix the deep and shallow potholes under a live demonstration project to BBMP engineers of Govt.of Karnataka on one of the busiest road of Bengaluru city.

On this occasion the inventor of the technology Dr. Satish Pandey, Principal Scientist, CSIR-CRRI has informed that the as per the direction of Chief Secretary of Govt.Of Karnataka Dr.Shalini Rajneesh, CSIR-CRRI has carried out the demonstration trial of this eco-friendly technology on BBMP road for instant repair of potholes.

ECOFIX is developed using industrial waste of steel industries i.e iron and steel slag and has the unique ability to repair the water logged pothole without any dewatering requirement.

Conventional road repair technologies require dewatering of pothole and application of tack coat while ECOFIX can be applied even under water logged condition without any tack coat requirement. Repaired road surface was opened immediately for traffic movement. In terms of durability and longevity the repaired surface will perform better than the regular road as the ECOFIX is prepared using processed iron and steel slag aggregates and specially.

customised binder.CSIR-CRRI Steel slag road technology is already well tested in terms of durability and performance in various states of the country comprising state of Gujarat,Jharkhand,Maharashtra and Arunachal Pradesh. On this occasion Dr.B.S.Prahallad,Engineer-In-Chief BBMP congratulated the CSIR-CRRI team on successful trial of the technology on avenue road and informed that the BBMP has successfully tested the technology via this pilot project and will utilise this for eco-friendly sustainable road repair on the city roads.

He further added that during monsoon season when majority of hot mix plant cannot be operated, ECOFIX technology will be the boon to the city roads to carry out durable road repair in eco-friendly manner.

India is world's second largest steel producer and generates around 19 million tons of steel slag annually as solid waste and this quantity is expected to reach 60 million tons per annum by the end of 2030.

Utilisation of ECOFIX will pave the way for sustainable waste utilisation in the country by carrying out eco-friendly road maintenance and will also reduce the unsustainable mining of natural aggregates causing serious impacts on our ecosystem.

As application of ECOFIX is without any heating need of aggregate and bitumen hence it's also significantly lowers the GHG emission in the atmosphere caused by regular road

maintenance technique.

Published in:

<u>Countryandpolitics</u>

CSIR-IICT out-licenses tech for nanocellulose engineered compostable plastics

11th December, 2024

CSIR-Indian Institute of Chemical Technology (CSIR-IICT) has transferred process technology Nanocellulose Engineered Starch-based granules for compostable plastics as an alternative to single-use synthetic plastic to Hyderabad-based Greenworksbio Products (GBPL).

The company, headed by Rishika Reddy, consequently has commercialised the developed technology into 19 products and launched them in collaboration with CSIR-IICT. Union Minister of State (Independent Charge) for Science and Technology Jitendra Singh virtually participated in the launch recently.

Telangana IT and Industries Minister D. Sridhar Babu, Special Chief Secretary-IT and Industries Jayesh Ranjan, CIPET Director General Shishir Sinha, Apollo Hospitals Group Joint MD Sangita Reddy and WE Hub CEO Sita Pallacholla attended the event, CSIR-IICT said in a release.

Under the leadership of CSIR-IICT Director D. Srinivas Reddy, a team led by Senior Scientist of the Chemical Engineering and Process Technology (CEPT) department Vineet Aniya developed the innovative tech solution that aligns with the Government of India's initiatives

that have banned high-littering single-use plastic items such as straws, cutlery and thin packaging under 120 microns.

The compostable bioplastics are developed based on green chemistry principles and certified by CIPET, ensuring no harmful chemicals are released during the composting process. High load bearing capacity, thinning down the size of bags, lower plastic consumption, reduction in agri-waste, better transparency, antimicrobial properties and improved printability are some of the features of the low-cost bioplastics, the Institute said.

Speaking on the occasion, the Union Minister emphasised the importance of industryacademic partnerships in curbing single-use plastic pollution. He highlighted the pivotal role of such initiatives in bridging policy implementation gaps and propelling India to a leading global leader in sustainable innovation.

At the event, CSIR-IICT and GBPL signed an MoU to develop technologies for producing PBAT (a biodegradable polymer) using PET plastic waste, primarily from discarded water bottles. This collaboration aims to foster eco-friendly and scalable solutions, accelerate the transition toward sustainability and contribute to achieving the United Nations' Sustainable Development Goals (SDGs). The partnership exemplifies the synergy between research, industry and government policies, marking a crucial step towards reducing plastic pollution and building a sustainable future, it said.

'Desalination units a must to meet ever-increasing demand of water'

CSIR-CSMCRI, NEERI

11th December, 2024

The ever-increasing demand for fresh water for domestic and industrial purposes can be met through the installation of desalination plants using multiple technologies across India, said Kannan Srinivasan, director of CSIR-Central Salt and Marine Chemicals Research Institute (CSMCRI). He added that desalination is one of the solutions to address the challenge of meeting water necessities.

Srinivasan also pointed out that India's piped water network can ease the task of distribution through desalination plants. He made these remarks during a panel discussion on water and wastewater management at the 'One Week One Theme – Green Horizon Summit 2024' held at

CSIR-NEERI on Tuesday. The session was moderated by Rajesh Biniwale, co-chair, SEP Vertical, NEERI.

"We have nine states and four union territories with 63 coastal districts. Water is becoming increasingly saline in these districts. The ingress of salinity is becoming more prevalent in these areas. This is putting serious stress on sources of potable drinking water and leading to water shortage for households, agriculture, and coastal industry establishments where freshwater requirement is inevitable," he said.

Srinivasan said that one of the possible solutions, based on global experiences, is desalination. "Desalination as a market has emerged in the country in the last 15 years. Based on interests by coastal states, a huge amount of desalination capacity is going to be set up. Water is going to be a pricey commodity in future," Srinivasan said.

He added, "As an institute, desalination plants are the way forward for our country. That's what I have been telling all the departments and ministries." Srinivasan said India is increasingly becoming a networked country in terms of water distribution. "Desalination in a

distributed manner makes sense due three major reasons — leveraging these networks makes it economically attractive, there are fewer concerns about reject management, and capital expenditure involved in the distribution and commissioning of plants," he said.

Srinivasan estimated that 500 million to one billion litres of water would need to be desalinated per day in the next 20 years. "If it is going to be distributed through this network in a sustainable manner, it will not only be an economical solution, but also a great service to the country," he said.

He also said that the country needs to address each industry challenge with the right solution, which can be integrated using multiple technologies.

Udayan Shrouti, technologist at Enviro Energetics, emphasised that the focus must not be on

reverse osmosis but on the recovery of minerals which go into the metal industry or dyes. "If we are able to recover this, then it will be as good as fresh water," he said.

Shrouti also called for the protection of water bodies in the same way people protect their homes. "We have anti-theft systems at home. What about water bodies? Anybody goes and dumps anything in them. A waterbody is a living being encompassing air and soil at the bottom," he said.

Industry engagement needed in environmental solutions'

CSIR-CSMCRI, NEERI, NIO

Ajit Kumar Saxena, CMD of Moil, highlighted the critical need for expertise in addressing environmental challenges and stressed the importance of industry involvement in environmental problemsolving. He called for practical solutions and emphasised the necessity of societal engagement in tackling these complex issues.

Saxena was the chief guest at the Green Horizon Summit-2024 hosted by CSIR-Neeri at its auditorium on Tuesday. NEERI collaborated with CII to launch the 'One Week One Theme' campaign focusing on E3OW (Ecology, Environment, Earth and Ocean Sciences and Water). The event featured prominent leaders including JNARDDC director Anupam Agnihotri, CII Vidarbha Zone chairman Shailesh Awale, CSIR-NEERI director Atul Vaidya, CSIR-NIO director Sunil Singh, CSIR-CSMCRI director Kannan Srinivasan, CII Vidarbha Zone vice chairman Shree Jamdar, and CSIR-NEERI senior principal scientist Amit Bansiwal.

Saxena emphasised that while there are many environmental issues, there is a lack of adequate expertise, making events like this essential to bridge the gap. He commended the participation of the Confederation of Indian Industry (CII), highlighting the importance of direct engagement with industry to tackle environmental challenges effectively. Saxena expressed hope that pragmatic and implementable solutions would emerge from such events to address issues related to ecology, environment, and water. He also underscored the need to involve society, as environmental problems are both pervasive and complex.

Agnihotri cautioned about environmental sustainability, pointing to potential challenges for

life on Earth by 2050. He discussed CBAM's impact on Indian exports to Europe, particularly in metals, and stressed the importance of achieving carbon neutrality by 2070 through collaborative efforts.

Awale encouraged CSIR-Neeri to focus research on Maharashtra's industrial needs, particularly in Vidarbha. He expressed optimism about Nagpur's potential to become an exemplary green city through innovative solutions.

Singh emphasised the need to convert research into practical applications, noting the gap between knowledge generation and implementation. Vaidya introduced CSIR-Neeri's twelve new industrial solution projects, whilst Bansiwal outlined the 'One Week One Theme' event's objectives and CII collaboration opportunities.

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