

CSIR's One Week, One Lab

CSIR-NEERI Organises the “One Week, One Lab” campaign



Dr S Chandrasekhar, Secretary, DST, addressing in the inaugural session

CSIR-National Environmental Engineering Research Institute (CSIR-NEERI), Nagpur, organised the “One Week, One Lab” campaign during 8-13 April 2023 to reach out to society and stakeholders. The Chief Guest Dr S Chandrasekhar, Secretary, Department of Science & Technology (DST), GoI, inaugurated the event on 8 April 2023.

Addressing the audience, Dr Srivari Chandrasekhar emphasised on the need to organise such events regularly to inform the general public what scientists have done for them. Every research institute should make a habit of apprising about the research work at least a month, he added. He advised the CSIR-NEERI scientists to always keep in mind the importance of public health

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Campaign against noise pollution for the general public at Ajni Chowk, Nagpur

from an environment point of view. He further said that limiting global temperature rise to 1.5°C and reaching net zero carbon emissions are a big challenge for all of us. He also urged the scientists to make science and technology more relevant looking at some critical situations like what will happen if water gets completely exhausted, what will be the fuel of the future. Dr Chandrasekhar advocated that we need to always keep in mind 'affordability' while going for 'sustainability', otherwise 'net zero' will be a 'dream zero'.

The Centre of Excellence (CoE) on Climate Change Research was inaugurated by Dr S Chandrasekhar. CoE will study the impact of thermal power plants concerning microclimate changes in the Vidarbha region and identify climate change vulnerable zones in the Vidarbha. The CSIR-NEERI Annual Report was also released on this occasion.

After the inauguration, a panel discussion on 'Drivers of Women:

Education, Skill Development and Societal Changes' and 'Workshop on Green Skilling for Sustainable Development' were organised.

The 'Public Outreach' programme was organised on the second day of the "One Week, One Lab" campaign. The public representatives including Members of the Legislative Assembly (MLA) and Corporators interacted with the CSIR-NEERI scientists on various issues of water treatment. The general public also visited the institute and was taken to various R&D laboratories and facilities. Cycle rally and skits were organised for creating environmental awareness.

On the third day of the "One Week, One Lab" campaign, the 'Rural Outreach' programme was organised to update the farmers about the latest scientific and technological developments available to them. Farmers from the Vidarbha region participated in the programme. In an interactive session, the



Students being explained about green crackers



MSME representatives at the Harit Sangrahalaya of CSIR-NEERI

farmers were briefed about water management techniques, solid waste management, wasteland rejuvenation, and the technologies relevant to the rural sector to protect the environment and agriculture.

The 'Student Outreach' programme was organised on the fourth day of the campaign. Education Officers and Principals of various schools, along with students and teachers from Maharashtra participated in this event. Popular science lectures and hands-on science activities were organised for the students. Approximately 3000 students and 175 teachers of 130 schools from different regions of Maharashtra visited the Institute. The students visited all laboratories and facilities to see live demonstrations and interact with CSIR-NEERI scientists. The students also witnessed the virtual lab developed by CSIR-NEERI's 'Jigyasa' for testing environmental samples

virtually. The outreach campaign was instrumental in bringing out the hidden talents of students and creating more awareness of science, technology and engineering. On this occasion, students from Kendriya Vidyalayas, Navodaya Vidyalayas, Zilla Parishad Schools, Corporation Schools, and private schools participated in the event.

Fifth day, the 'Industry-MSME Meet' was organised which aimed to encourage industries and MSMEs to steer their progress through scientific interventions. Four sessions were organised during this meet to give a glimpse of the capabilities of CSIR-NEERI in water and wastewater management, air quality monitoring & management, and waste management. The industry-MSME representatives and CSIR-NEERI scientists interacted in each session for higher synergy and coordination for sustainable development. More than 50 industry-MSME participants attended the event.

During 'Student Outreach' programme, the students witnessed the virtual lab developed by CSIR-NEERI's 'Jigyasa' for testing environmental samples virtually.

Week-long Outreach Campaign at CSIR-CSMCRI



The campaign kicked off with a grand celebration on 10 April 2023 along with the celebration of the 70th Foundation Day of the institute.

TO showcase the legacy and achievements of CSIR laboratories to society, “One Week, One Lab” campaign was celebrated at CSIR-Central Salt & Marine Chemicals Research Institute (CSIR-CSMCRI), Bhavnagar, during 10-14 April 2023. A press conference was organised as a ‘curtain raiser event’ on 8 April 2023 in which the media representatives were officially informed about the week-long programme at CSIR-CSMCRI Bhavnagar Campus.

The campaign kicked off with a grand celebration on 10 April 2023 along with the celebration of the 70th Foundation Day of the institute. The function was inaugurated by Shri Rajendrasinh Rana, ex-MP, Bhavnagar, as the Chief Guest. The day was celebrated as an ‘Open day’ — the institute was open to all science enthusiasts to visit and interact with CSIR-CSMCRI staff and students. Many science exhibition stalls were set up to showcase the technological models and R&D activities carried out by the institute. Director, Dr Kannan Srinivasan, CSIR-CSMCRI welcomed the guests & visitors and expressed his views

on the ‘genesis & purpose of campaign’.

The Technology Compendium of the institute in Hindi was released and 7 MoUs were signed during the occasion.

In the second phase of the function, the foundation day of the institute was celebrated with great fanfare and was graced by the presence of Shri Nilesh M Desai, Director, Space Applications Centre, Indian Space Research Organisation, Ahmedabad, and Dr Balasubramanian Gopalan, Scientific Adviser, CSIR-IICT, Hyderabad. Dr Kanti Bhooshan Pandey, Sr Scientist and PRO of the institute informed that around 500 students and the public visited the institute throughout the day. The opening day ended with a ‘cultural programme’.

Start-ups and industry meet was organised on Day 2 in which CSIR-CSMCRI scientists, industry personnel and start-ups met and discussed the business opportunities based on CSIR-CSMCRI’s research outputs. The meet was inaugurated by Dr DS Reddy, Director, CSIR-IICT, Hyderabad, and Dr Ravi Mariwala,

member, research council, CSIR-CSMCRI. Shri Shyam Babu, Director, Central Fertiliser Quality Control & Training Institute, Faridabad, and Dr Mathavan, Deputy Director, Regional Fertiliser Control Lab, Mumbai, along with 80 other representatives from 35 industries participated in the event. Dr PK Singh, Agriculture Commissioner, Dept of Agriculture, GOI, attended the function virtually. Dr Kamlesh Prasad, Head of business development group of the institute thanked all the industry personnel for the overwhelming response and expressed his desire to have more interactions with industries in future. The licensees of CSIR-CSMCRI held B2B meetings with leading large companies in the field of agrochemicals on seaweed bio-stimulants.

Day 3 was dedicated to skill development programme, in which the CSIR-integrated skill development initiative and its impact were explained to college students. Prof. S Anantha Ramakrishna, Director CSIR-CSIO, Chandigarh, inaugurated the event which was enriched by the dedicated lecture-cum discussion sessions with students, teachers, CSIR-CSMCRI scientists and invited speakers including Dr Swarna V Kanth, CSIR-CLRI, Chennai, Dr Virendra Singh, Pidilite Industries, Ms Gladis Nair, iCreate, Dr Madhavi Joshi, GBRC, Gandhinagar, Prof. I Mukhopadhyay, PDEU Gandhinagar, Prof. (retired) KN Joshipura, SP University, Vallabh Vidhyanagar, Dr Rajesh Patel, Nirma University, Ahmedabad,



Dr Anand Bhadalkar, Director of STBI, Vadodara. In this event, hundreds of students, faculty members from different colleges from Gujarat state participated.

Science exhibition and outreach event was organised on the fourth day in which scientist-student interaction, participation by science enthusiasts and popular science lectures by eminent personalities were the main attractions. 'Science Outreach Programme' under Jigyasa was inaugurated by Dr Shashank Chaturvedi, Director, Institute for Plasma Research, Gandhinagar, as Chief Guest followed by popular science lectures by eminent invited speakers like Dr Narottam Sahoo, GUJCOST, Gandhinagar, Prof. Ramesh V Upadhyay, CUST, Changa. A science excursion was also organised for the students and the teachers to Regional Science Centre, Bhavnagar, where they visited the automobile gallery, biological gallery, and Nobel prize gallery.

On the last day of the campaign, a dedicated session for interactions with farmers and salt workers, who are the beneficiaries of CSIR-CSMCRI technologies, was arranged together with the 132nd birth anniversary celebration of Dr BR Ambedkar. Several farmers and many salt workers from

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The campaign was attended by various dignitaries such as Hon'ble Minister of State S&T, Dr Jitendra Singh, Dr N Kalaiselvi, DG-CSIR, Shri Arun Kr Singh, Chairman ONGC Group, Dr S Chandrashekhar, Secretary DST.

different regions of Gujarat visited the institute and exhibition stalls. The Chief Guest, Dr Mahesh kumar M Dafda, Principal, SD High School, Bhavnagar, inaugurated the function.

The valedictory function was followed by cultural events graced by the presence of Dr Bhartiben Shiyal, Member of Parliament, Bhavnagar, as the Chief Guest and Mr NV Upadhyay,

IAS, Commissioner of Bhavnagar Municipal Corporation as the Guest of Honour. Both the guests praised the work of CSIR-CSMCRI and talked about the benefits of having such a national lab in Bhavnagar. Dr Puyam Sobhindro Singh, the chairperson of the celebration committee of the institute informed that this weeklong event was warmly welcomed by the public and broadly covered by the media.

CSIR-IIP's "One Week, One Lab" Campaign

CSIR-Indian Institute of Petroleum (CSIR-IIP), Dehradun, organised the "One Week, One Lab" campaign to showcase its legacy and achievements to society from 13-19 April. During the week-long campaign, ten interactive events were organised to showcase and market the capabilities, expertise, and technological breakthroughs of CSIR-IIP.

Hon'ble Minister of State (I/C) S&T, Dr Jitendra Singh, Dr N Kalaiselvi, DG-CSIR, Shri Arun Kr Singh, Chairman ONGC Group, Dr S Chandrashekhar, Secretary DST, Dr Durgesh Pant, DG UCOST, Air Marshal Alok Singh, AVSM, VSM, Air Officer-in-charge Maintenance (AoM), Sh. Sumit Sarkar, CEO CBDA Raipur, Ms Mercy Epao, Jt Sec. MSME, Sh. Khajan Das, MLA Raipur (Dehradun), Dr Ashish Lele, Director CSIR-NCL, Dr M Parida, Director CSIR-CRRI, Dr Pradeep Kr Ramancharla, Director CSIR-CBRI attended the programme.



DG-CSIR inaugurating the campaign at India Habitat Centre, New Delhi

The events were attended by a large number of participants from industry, students and teachers from schools and colleges, gram pradhans, local entrepreneurs, farmers, district administration and state government functionaries, etc. The events were organised at India Habitat Centre, New Delhi, Bajrikot village Champavat, and CSIR-IIP campus at Dehradun for widespread publicity and to provide accessibility to the participants and attendees.

The major highlights of the campaign were:

1. Stakeholders meet to showcase the developmental journey

of CSIR-IIP technologies from idea nucleation to its implementation in the industry.

2. Sustainable Aviation in India & Industry Meet, focusing on the launch of the DILSAAF™ (Drop-in Liquid Sustainable Aviation and Automotive Fuel) brand of sustainable fuel, along with deliberations on collaborative developments between CSIR-IIP and various industry partners in overcoming specific technical challenges.
3. The MSME Meet & Pan CSIR-Collaboration showcase presenting CSIR-IIP's outreach to its esteemed MSME partners and exhibiting its intra-CSIR collaborative research.
4. Gram Chaupal showcasing the scientific capabilities of CSIR based on rural technologies and proposing them for developing the 'Adarsh Champawat' model.
5. Institute Academia connect, building bridges between institutes and universities with CSIR-IIP scientists to understand the challenges and opportunities in science and engineering.
6. JIGYASA student-scientist connect programme connecting school students with scientists and extending the student's classroom learning with a very well-planned research laboratory-based learning.
7. Alumni-meet-cum-workshop for brainstorming the challenges and opportunities in the Oil and Gas industry and futuristic research approaches for clean and sustainable



Hon'ble Minister address MSME Meet & Pan-CSIR Collaboration showcase

energy with Industry persons trained and associated with CSIR-IIP.

8. 64th Foundation Day of CSIR-IIP along with the Ambedkar Jayanti, marking the inauguration of the Upstream Research Laboratory and Fuel Testing Laboratory along with the foundation stone laying of the D-4 Methanol Demonstration Plant.
9. Nature Walk celebrating the biodiversity of the CSIR-IIP campus and learning the flora and fauna of the area and its ecological significance from expert environment enthusiasts.
10. Interaction with district authorities and state government functionaries to showcase and propose the offerings of CSIR-IIP towards the development of Uttarakhand State.

Hon'ble Union Minister Dr Jitendra Singh appreciated the initiatives taken by CSIR-IIP and complimented it for being the only laboratory in the country that celebrates not wealth but waste. He congratulated the team for working on the next-generation challenge of converting waste to wealth. The minister highlighted that "waste is the wealth of the coming times", and it is in line with Prime Minister Narendra Modi's vision of India being central to global environmental action.

During the campaign, CSIR-IIP celebrated the 64th Foundation Day, along with the Ambedkar Jayanti, marking the inauguration of the Upstream Research Laboratory and Fuel Testing Laboratory along with the foundation stone laying of the D-4 Methanol Demonstration Plant.

CSIR-NPL Organises “One Week, One Lab” Programme



The inaugural programme started with the welcome address of Prof. Venugopal Achanta. Dr Achanta highlighted the legacy and the major achievements of CSIR-NPL. He showcased the contribution of NPL to the growth of the nation as a National Metrology Institute and custodian of reference standards. He mentioned that CSIR-NPL is the custodian of Indian Standard Time (IST). Not just that, IST is kept traceable within a few nanoseconds to the international reference time UTC (Coordinated Universal Time) using ultra-precise satellite links. CSIR-NPL also standardises the measurements of gas and airborne particles for monitoring atmospheric pollution. CSIR-NPL has played a pivotal role in the successful conduction of elections through its ‘election indelible ink’ to mark out voters who have exercised their votes. This ink was developed at CSIR-NPL in 1952.

Prof. V Ramgopal Rao, Group Vice-Chancellor, Birla Institute of Technology & Science and former Director-IIT Delhi, delivered the keynote address on “Enabling Deep-Tech Innovation in Indian Institutions: Opportunities & Challenges” where he emphasised the importance of higher education spanning from research areas which are extremely important in current scenario for the growth of the country.

The Chief Guest of the programme, the Union Minister

CSIR-National Physical Laboratory (NPL), New Delhi, celebrated the “One Week, One Lab” campaign from 17-21 April 2023. Hon’ble Minister Dr Jitendra Singh inaugurated the programme at CSIR-NPL on 17 April 2023.

The prime focus of the inaugural day programme was the lab visits and student-scientist interactions. About 400 students from 10 schools along with 35 teachers participated in the programme. The programme began with a written Quiz Competition in which 10 winners received recognition and were awarded. Students listened to inspiring lectures by Indian science leaders. Post lunch, the students had the opportunity to visit the advanced laboratories of the institute where they were introduced to the ongoing R&D activities of the lab by scientists and research scholars. This visit helped students to learn more about scientific research and build connections with experts in this field. Earlier, the programme was started with a press conference by Director CSIR-NPL, Prof. Venugopal Achanta, on 14 April 2023.

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of S&T, Dr Jitendra Singh appreciated the efforts of CSIR and CSIR-NPL in building a scientifically and technically prosperous India. Dr Jitendra Singh said that the prime focus of “One Week, One Lab” is to introduce national laboratories which could have common interests to the general public, stakeholders, industries, and school students. The campaign will strengthen collaborations with the industries.

The Hon’ble Minister inaugurated YUVA-PORTAL and emphasised that this will make a good ecosystem for young people to interact with various industries via their start-ups. This will expand their reach, worth & enhance the connectivity for their work. He emphasised enhancing the integration of industries with national laboratories like NCL, NPL, etc. Dr Jitendra Singh gave the message of “celebrating ourselves, our worth, and all those connected to our work” through the “One Week, One Lab” programme. He emphasised propagating ourselves through social media to make people aware. “India stands third in the ecosystem of start-ups & this needs to be uplifted,” the minister said.

The Startup/MSME/Industry meet was organised as a three-day programme from 18-20 April 2023 which included talks by eminent scientists, technocrats, and industrialists from various sectors such as energy, environment, pharma, and other sophisticated equipment and device manufacturers. The representatives from various

industries and start-ups showcased their technologies developed and explained the support provided by CSIR-NPL. Also, various reference material producers, producing the Indian Reference Materials trademark as Bhartiya Nirdeshak Dravya (BNDs) showcased their products and explained the pivotal role of CSIR-NPL in developing BNDs that are poised to enhance the quality infrastructure as well as the quality of products in different consumer sectors. The advanced technologies developed by CSIR-NPL had also been showcased during the event, allowing interested industries to capitalise on their growth.

On 18 April, Prof. Venugopal in his address welcomed all the guests and participants and briefed them about the activities of CSIR-NPL, the role of NPL in elevating the socioeconomic status of the country, and the services that NPL provides to the industries and stakeholders. He also invited the industry participants to bring their technical problems to NPL to improve their products for global acceptability.

Following the Director’s address, two guest speakers Dr Mriganshu Guha, Head, Tata Steel Limited, Advance Materials Research Center & Technology Intelligence Chennai, and Shri SK Shaw, Group Manager, NCCBM (National Council for Cement and Building Materials), Ballabgarh, addressed the gathering. Dr Guha explained about the current material research at Tata Steel, collaboration and services provided by NPL, and future

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potential joint work with NPL. Mr Shaw elaborated on the role of CSIR-NPL in bringing the global visibility of BNDs in the area of cement and building materials apart from the current research in NCCBM.

Dr Ashok A Sonkusare, Dy Adviser (Science & Technology and Digital Communications), Niti Aayog, Govt of India, was the Guest of Honour of the event and spoke about current government policies for research and innovation and highlighted how innovation can be translated to full-scale at industries.

The Chief Guest, Shri Chetan Prakash Jain, JS & FA, CSIR, New Delhi, CMD, CEL Ghaziabad, highlighted the role of CSIR-NPL in the growth of industries. He highlighted how a spin-off activity of CSIR-NPL gave birth to one of the very important industries, CEL Ghaziabad.

During the inaugural session, a technology entitled "Six-stage bioaerosol air sampler and sampling probe for mask testing" was transferred to M/s Envirotech Instruments Private Limited, Delhi. Further, an MoU entitled "Design and Development of Smart Noise Tracker for Noise Monitoring and e-sound Limiter for Noise Control" was signed between CSIR-NPL and "M/s Distronix, Kolkata" and a BND® 2203, i.e. Rockwell Hardness Block (90 HRBW) was also released with Global PT Provider Private Limited, New Delhi.

Thereafter, the chief guest, Shri Chetan Prakash Jain, inaugurated the MSME/Industry meet exhibition pavilion at AR

Verma lawn where all participating industries and NPL showcased current technologies/products/activities.

On the third day 19 April 2023, The "Metrology Conclave" was organised which highlighted the core aspects of CSIR-NPL. The programme was inaugurated by the chief guest Shri Pramod Kumar Tiwari, Director General, Bureau of Indian Standards (BIS), and Guest of Honour Shri Jaxay Shah, Chairman, Quality Council of India (QCI) along with Prof. Venugopal Achanta Director, CSIR-NPL, Dr Ritu Srivastava, Co-ordinator of the campaign, and Dr Naveen Garg Sr Principal Scientist & Convener of the event.

Prof. Venugopal Achanta, in his presidential address, gave a brief overview of the evolutionary aspects of metrology and provided insights into the various efforts of CSIR-NPL in the field of metrology. One of the major highlights of Prof. Achanta's address was the NPL "Waste to Wealth" policy aimed towards dealing with the silicon waste that is being generated on a large scale based on the increasing demand for solar panels in the country. He also emphasised the need to establish secondary standards metrology laboratories in collaboration with CSIR laboratories, BIS and QCI.

In his address, Shri Jaxay Shah, Director, QCI, stated that keeping in view the Hon'ble PM's vision of "Atmanirbhar Bharat" in the context of quality and quantity of the Make in India products (with a focus on Skill, Scale, and Speed), we should not only meet the global

demands but must also increase our product acceptance rate. The credibility and quality can only be met with support from the four pillars, i.e., CSIR-NPL, Legal Metrology, BIS, and QCI-NABL. This will also help in making India a developed country by 2047.

Shri Pramod Kumar Tiwari, IAS, DG-BIS, highlighted the importance of creating awareness about the metrological activities among the general public through various initiatives such as conducting training, empowering MSMEs, etc. To generate a trained workforce in the coming years, he suggested that the educational institutions of our country can work on a policy of framing courses and conducting training in the field of metrology. He also advised creating a pan-India database of testing, calibration, and validation laboratories under various umbrellas.

On this occasion, lectures covering almost all fields of physical quantities with their metrological aspects were delivered by renowned scientists. The event also showcased CSIR-NPL's role and efforts in metrology and the CSIR-NPL road map for future and developing national and international collaborations.

A *Handbook on Advances in Metrology* was released. The book contains all the latest developments that have taken place in NPL and will be helpful for students, researchers, and industry personnel.

During a panel discussion on "Expectations from CSIR-NPL & Future directions", experts

from BIS, NABL, Legal Metrology, Industries, and Research and calibration labs discussed their challenges in the metrological sector and the possible solutions NPL could provide.

A quiz competition was also conducted. It was attended by many students, including from IIT and other engineering colleges in Delhi. They benefitted from the lectures and showed their interest in pursuing a career in Metrology.

'R&D Conclave with focus on Women in STEM' was the theme for day 4th during which eminent former scientists from NPL, alumni and women leaders in science shared their own experiences in research & development and showcased the role of CSIR-NPL.

In his inaugural address Prof. Venugopal Achanta, emphasised the contributions of women researchers in scientific and technological research and development. The Guest of Honour, Dr Sarita Ahlawat (Co-Founder, Botlab Dynamics) gave a plenary talk on "Fun & Frustration of Building Hardware-based Technology" in which she focussed on the Drone-Swarming technology, Nano-drones for defence purposes developed in collaboration with Indian Air Force and Indian Army. She further discussed the challenges and success achieved in the world's largest 3500 drone show in 'Beating the Retreat Ceremony-2022'.

Dr Amitava Sen Gupta, the Chief Guest of the event (Former Director, CSIR-NPL), delivered his keynote address on "Exploring Antarctica — a Journey to the White

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Continent" where he shared his amazing experiences on Antarctica expeditions and in leading the team to build the current station.

On this occasion, MoUs for collaboration with academic institutions, NIT Delhi, Miranda House, and Galgotias University were also signed. A compendium on '*CSIR Women Achievers in STEM*', compiled by CSIR-NPL, was released during the event, which was inspired by the first woman DG-CSIR Dr N Kalaiselvi.

An open-forum panel discussion with eminent speakers was held to brainstorm "The Present and Future R&D Trends and Opportunities". Another panel discussion with a focus on "Challenges and Opportunities for Women in STEM Careers" was organised by women scientists in CSIR-NPL. Later, a compiled documentary film was played during the event to showcase the success stories of renowned Indian women scientists and a quiz competition for students was also organised.

The programme ended with a Skill Conclave held on 21 April 2023. The conclave was open to the public, and about 400 persons from various academic institutions, businesses, students, and members of the general public from a range of societal vocations were present.

Welcoming the gathering, Prof. Venugopal Achanta, Director CSIR-NPL, spoke about the nation's need for skilled resource persons. He spoke about grooming of new talent, upgrading of current ones, and development of new ones, as

well as innovative thinking. "CSIR-NPL organises training programs/courses on a regular basis in the field of metrology to promote and train the skilled manpower for the country in order to bridge the gaps between the skill manpower supply and demand of the country," Prof. Achanta added.

In his speech, the Guest of Honour, Dr Nagahanumaiah, Director, CMTI, Bengaluru, discussed the problems faced by our education system and also probable solutions. He said, "PSUs should revive themselves by introducing rigorous Graduate Engineering Training (GET) programmes." He also described the internship and skill development programmes at CMTI.

The Chief Guest of the event, Prof. TG Sitharam, chairman of AICTE, gave a lecture on "Building a coherent skilling ecosystem for India". He said, "Humans will be at the centre even after the emergence of artificial intelligence platforms like chat GPT as the technology is developed by humans only." Also, he added, "Every day, technology is changing at rapid speed, so to keep pace with upcoming technologies, we need to acquire knowledge and keep updating our skills to make India a *Vishwa-Guru*."

The keynote speaker Dr R Chidambaram (Padma Vibhushan), former Principal Scientific Advisor, Govt of India, talked on various issues — the need to generate new knowledge, climate change and associated threats, the need to generate new knowledge, and the importance

of skill to add to the knowledge. He stressed the relevance of statements from the World Bank like, “low skills perpetuate poverty and inequality”. However, “Both over-skilling and under-skilling are major concerns,” he added. “To fight with the climate change and associated threats, we must have low carbon technologies and the relevant skills to address the issue,” Dr Chidambaram reiterated.

Several renowned scientists, administrators, and invited experts included Dr DK Aswal (Former Director, CSIR-NPL), Ms Priya Vyas (Springer Nature), Dr HC Kandpal (Former Scientist, CSIR-NPL), Dr SK Dhawan (Emeritus Scientist, CSIR-NPL), and Dr Rina Sharma (Chief Scientist, CSIR-NPL).

The conclave included a series of breakout sessions and panel discussions which allowed participants to share their ideas and experiences for the remedial measures to the underlying problems.

In this one-day programme, a social awareness demonstration

by Dr Bipin Kumar Gupta was organised to help the people spot the difference between fake and real currency notes and to create awareness among the people to raise their understanding of Indian currency. Around 100 devices were distributed among the common people which can be utilised for checking the fluorescent features of the Indian currency.

In this programme, an initiative was taken to train 25 visually challenged young women from All India Confederation of the Blind Braille Bhawan, New Delhi, for checking the Indian currency on their own. It was also demonstrated that the Indian currency includes security features for visually impaired people.

The campaign concluded with a cultural evening in which Dr Diwakar Sharma and the group mesmerised the audience with their musical performance on “Science in Music” followed by the performances of research scholars of CSIR-NPL.

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World Environment Day

World Environment Day Celebration at CSIR-CSMCRI

AS part of “World Environment Day 2023”, staff members of CSIR-CSMCRI (Central Salt and Marine Research Institute), Gujarat, took the Mission Lifestyle for Awareness (LiFE) Pledge at the institute auditorium. During the



World Environment Day function on 8 June 2023, the plantation was done by the Chief Guest Prof. (Dr) Shyam R Asolekar, IIT Bombay; and Dr Kannan Srinivasan, Director, CSIR-CSMCRI. Further, fruit plants (Guava, Sitaphal, Mango and Rose) were distributed among the staff members by Prof. (Dr) Shyam R Asolekar and Dr Kannan Srinivasan.

In the second half of the day, a lecture was delivered by Prof. (Dr) Shyam R Asolekar on

“Emerging Technology Solutions in Water and Wastewater Management” and Dr Soumya Haldar, Sr Principal Scientist gave a lecture on the “Environmental research and activities carried out at CSIR-CSMCRI”.

During the week-long celebrations, on 12 June 2023, the plantation was done by Dr RB Thorat, Sr Principal Scientist, at Chitra GIDC Plot of CSIR-CSMCRI.

World Environment Day at CSIR-IIP

Sh. Anoop Nautiyal, Founder SDC, stated that it is our collective social responsibility to encourage and educate youngsters, family and friends to restrict and minimise the use of plastics in our day-to-day life.

CSIR-Indian Institute of Petroleum (CSIR-IIP), Dehradun, celebrated World Environment Day on 5 June 2023. The theme of the function was "Preventing Plastic Pollution".

The Chief Guest of the event was Sh. Anoop Nautiyal, Founder of the Social Development for Communities (SDC) Foundation, Uttarakhand. The programme was initiated with the warm welcome of the Chief Guest by the Director CSIR-IIP, Prof. R Pradeep Kumar. Dr GD Thakre, Sr Principal Scientist, presented World Environment Day's brief outline and background.

In his welcome address, Prof. R Pradeep Kumar, emphasised the importance of climate change and the significance of Energy demand and supply in the Nation. He also informed the gathering that we need to utilise our resources judiciously, as they won't be available to us again once replenished.



Sh. Anoop Nautiyal delivered the World Environment Day Lecture on "The Perils of Plastic Waste". Shri Nautiyal informed the audience that nobody is 100 per cent perfect, but we can try to change our habits and minimise the use of single-use plastic in our homes. He also stated that it is our collective social responsibility to encourage and educate youngsters, family and friends to restrict and minimise the use of plastics in our day-to-day life.

Dr Sunil Pathak, Senior Principal Scientist, enlightened the gathering by providing information on the Climate Clock and its significance. Climate

change is a big challenge in front of the world. The Energy Swaraj Foundation (ESF), in collaboration with the government's Atal Innovation Mission, is keen to spread awareness about climate change among the common masses. A climate clock, alarming people about the time left for the average global temperature rise to hit the 1.5 degrees Celsius mark, is all set to be displayed.

On the occasion of World Environment Day, a climate clock was unveiled by the dignitaries on the dais in the presence of the august audience. This clock revealed that we are just 6 years, 47 days and 10 hours behind when the earth's temperature will increase by 1.5°C. The event concluded with a vote of thanks by Shri Anjum Sharma, Senior Controller of Administration.

World Environment Day Celebration at CSIR-CLRI

CSIR-Central Leather Research Institute (CSIR-CLRI), Chennai, celebrated the World Environment Day on 5 June 2023 at Triple Helix Auditorium. Dr Sukumar Devotta, Former Director NEERI (2003-2008) was the Chief Guest who delivered the World Environment Day 2023 theme lecture on "Beat Plastic Pollution". Dr S Rajamani, Former Head, Environmental Engineering Department, graced the occasion by sharing his innovative ideas with the scientists.

As a part of the celebration, a poster competition was conducted for the research scholars and project students who participated and shared creative posters on the themes — Plastic-free alternatives and Plastic pollution in ocean.

Top three posters were selected for prizes and certificate of appreciation was given to all the participants.

Dr KJ Sreeram, Director, CSIR-CLRI, enlightened the gathering by delivering the opening remarks on the judicial use of plastics in



On this occasion, saplings were also planted in the campus

day-to-day life. The director also mentioned the importance of the environment and urged to protect nature by handling plastics in a sustainable manner. He added that the recycling rates of plastics have to be improved to manage plastic waste effectively, and the only way to address this issue is to bring about a change in the mindset of the people and each individual is responsible for the positive as well as the negative change and the option lies with the young research group.

Dr Sri Balakameswari, Head, Environmental Engineering Department, shared ideas to

Dr KJ Sreeram, Director, CSIR-CLRI, enlightened the gathering by delivering the opening remarks on the judicial use of plastics in day-to-day life.

Four interesting lectures were delivered by subject experts followed by a quiz, and laboratory visits after the inauguration.

eliminate plastics in marine environment and their effects on sea creatures. She reminded that the World Environment Day 2018 theme of “Beat plastic pollution” was hosted by India and the same theme is again refocused today. She urged that the Pledge should be taken by each individual to beat plastic pollution for the plastic-free environment.

Dr Sukumar Devotta, in his lecture, talked about microplastics and the problems associated with them. He added that huge volumes of plastic waste due to human activities are dumped into the marine environment

and coastal zones, and are again transported to estuaries and offshore by the ocean currents and tides. This in turn disturbs the marine animals and also passes to humans through the food chain. Also, the long-term effect on the consumption of microplastics is uncertain. However, the presence of plastics in natural environment will alter the habits of the animals. He made the session interactive by throwing a lot of questions to the research community.

Dr Sanjeev Gupta proposed the vote of thanks.

CSIR-NPL Celebrates World Environment Day 2023

CSIR-National Physical Laboratory (CSIR-NPL) celebrated the World Environment Day 2023 on 5 June 2023 under the JIGYASA CSIR flagship programme during which 100 children and 12 teachers from six Delhi NCR schools participated.

Jigyasa, CSIR's flagship programme, is an educational project designed to inspire school children to pursue scientific careers. The programme started with the welcome address by Dr Jiji Pulikkotil, CSIR-NPL, followed by an address by acting Director of CSIR-NPL, Dr Sanjay R Dhakate and Head of Environmental Sciences and Biomedical Metrology Division, Dr TK Mandal. Dr Mandal emphasised about the pollution in various facets of the environment while Dr Dakate

sensitised the audience about the seriousness of plastic pollution which is contaminating the whole ecosystem. The inaugural session was concluded with a vote of thanks by Dr Sumit Kumar Mishra, CSIR-NPL.

Four interesting lectures were delivered by subject experts followed by a quiz, and laboratory visits after the inauguration.

The first lecture was delivered by Dr Sachchidanand Singh, CSIR-NPL, wherein he said, “Climate Change has always been a part of life on the Earth due to several natural factors like plate tectonics movement, variation in earth's orbit, volcanic activities, etc. and human-induced reasons like large scale fires, overgrazing, etc.”

Dr Singh added that “the most worrying aspect is the recent

speed of accelerated growth in Green House Gas (GHG) concentration and Atmospheric Aerosols due to anthropogenic activities, particularly after the industrial revolution". He said that the CO₂ level has increased by more than 45% after 1850 and the consequences are alarming and global warming is no longer a prediction but it is happening, it is real and being felt by the present generation. He concluded his talk with the statement that, "It is the duty of all of us to do something to contain the present speed of increase in GHG and aerosols in the environment to save the earth from further degradation."

Dr Monika J Kulshrestha, CSIR-NPL, spoke about 'Environmental Impacts' and presented an overview of human activities affecting the environment adversely. She further told the students how each individual can take responsibility for making a difference in the environment. She also explained to the students the importance of atmospheric chemistry research and its direct relevance in the Indian scenario.

Dr Shankar, CSIR-NPL, talked about international scenarios of national metrology institutes starting from meter convention



to BIPM and to NPL's role in disseminating SI traceability. He also talked about air quality measurements and its different parameters. Setting the tone with this year's theme, he also displayed the recent results of their research where they found tracers for plastic pollution in the air. Finally, he said, let's decide today that when we celebrate the century year of our independence we will have a plastic-free environment, for which we need to find societal and scientific solutions, and it is a collective responsibility of all of us.

The last speaker, Dr Rupesh M Das, CSIR-NPL, apprised about the importance of Antarctica and Indian scientific activities related to environmental investigations. He also elaborated on the possible climate change impact on the ice-covered continent and its consequences to the other regions.

The programme ended with felicitation of the quiz winners.

CSIR-NEERI Celebrates World Environment Day

CSIR-National Environmental Engineering Research Institute (CSIR-NEERI), Nagpur, celebrated World Environment Day on

5 June 2023. Shri Kamalkishor Futane, Deputy Commissioner (Development), Nagpur Division was the Chief Guest and

*Shri Kamalkishor
Futane, Deputy
Commissioner
(Development), Nagpur
Division urged CSIR-
NEERI to extend support
to urban and rural local
bodies in strengthening
waste management
infrastructure and
creating a scientific
approach and adequate
awareness amongst the
public.*

Ms Rachna Gampa, Sr Manager, Plastic Neutrality, Recykal-India was the Guest of Honour. Shri RM Kshirsagar, Director, National Fire Service College, Nagpur, was the Special Guest. Dr Atul Vaidya, Director, CSIR-NEERI and Dr Rita Dhodapkar, Research Lead, CSIR-NEERI, India-Australia Research Collaboration and Principal Technical Officer, CSIR-NEERI, were also present on this occasion.

Speaking on the occasion, Shri Futane said that the World Environment Day has been developed as a platform since 1972 to raise awareness of the problems facing our environment, but still we are far away from achieving our goal. He stated that urban and rural local bodies of Maharashtra are now focused on building community and public toilets, particularly for the floating population as part of the Swachha Bharat Mission. He briefed about the 'Majhi Vasundhara Campaign 4.0' recently implemented by the Department of Environment and Climate Change, Government of Maharashtra, to protect our environment with public participation. Shri Futane urged CSIR-NEERI to extend support to urban and rural local bodies in strengthening waste management infrastructure and creating a scientific approach and adequate awareness amongst the public.

Shri Kshirsagar said that the government has already implemented a sustainable and responsible approach to plastic usage and waste management ensuring the protection of the environment and the well-being of

future generations. But still more work needs to be done and people should also take responsibility to combat plastic pollution, he added. Shri Kshirsagar said that nature has to be preserved, which can only be done as a collaborative effort from all.

In his lecture, 'National Circular Economy Roadmap for Reducing Plastic Waste in India', Dr Dhodapkar mentioned that Indian and Australian Research Organisations are collaborating to develop a National Circular Economy Roadmap for reducing plastic waste in India as part of the India-Australia Comprehensive Strategic Partnership. CSIR-NEERI and The Energy and Resources Institute (TERI) are involved from India, she added.

She further informed that India generates nearly 26,000 tonnes of plastic waste each day of which 8% of the plastic gets recycled, 29% is mismanaged and the rest finds its way into water bodies and the food chain. Therefore, there is a need to shift from a linear economy to a circular economy ensuring maximum reuse and recycling of products. She assured that the roadmap being prepared will help to increase plastic circularity in India over the next decades. This roadmap will also strengthen waste management infrastructure in India, including recycling capability, digital platform, education, training, etc., she added. Dr Dhodapkar said that an innovation hub should be set up to support India's transition to a circular economy for plastics.

Speaking on 'Technologies Accelerating Plastic Circularity', Ms Gampa said that more than 400 Million Tonnes (MT) of plastic waste is produced every year of which 1 million plastic bottles are purchased every minute. India alone generates 4059 MT of Plastic waste per day, she added. She advocated that behavioural change, holistic and systemic change, and identification of the value chain can accelerate circularity to beat plastic pollution in India. The consumer is the key player in the value chain which significantly impacts the ecosystem, she said. Ms Gampa described the unique systems implemented by Recykal to incentivise plastic waste disposal at Kedarnath. She also elaborated on digitally enabled incentivised recovery of littered Plastic while improving the livelihoods of locals citing a case study of mini Switzerland', Chopta (Uttarakhand).

Dr Atul Vaidya in his theme address described plastic waste and its management strategies for environmental sustainability.

World Environment Day Celebrations at CSIR-CDRI

On the occasion of World Environment Day, CSIR-Central Drug Research Institute (CSIR-CDRI), Lucknow, organised a Student-Scientist Connect programme focused on the #BeatPlasticPollution campaign. The programme was planned under the JIGYASA project to enhance classroom learning and



Dignitaries seated on the dais: (from right) Dr Atul Vaidya, Shri Kamalkishor Futane, Ms Rachna Gampa, Shri RM Kshirsagar, Dr Rita Dhodapkar

He advised the local authorities to ensure the disposal of plastic waste in a scientific manner to avoid environmental impacts.

Dr Debishree Khan, Scientist, CSIR-NEERI, conducted the proceedings and Mr Prakash Kumbhare, Sr Principal Scientist, CSIR-NEERI, proposed the vote of thanks.

In all, 70 students visited laboratories of CSIR-NEERI and interacted with scientists. Various programmes were organised to mark this occasion.

Dr Atul Vaidya, Director, CSIR-NEERI, described about plastic waste and its management strategies for environmental sustainability.

motivate young talent toward science and technology.

CSIR-CDRI invited a batch of 55 undergraduate students along with 5 faculties from Mahayogi Gorakhnath University, Gorakhpur (UP).

The Senior Scientist and Coordinator of CSIR-JIGYASA

*Dr Sanjeev Yadav,
Sr Scientist, CSIR-CDRI,
said that sensitisation
towards plastic pollution
is the only solution
with the help of the 3R
formula i.e. Reduce,
Reuse and Recycle
plastic.*



programme at CSIR-CDRI, Dr Sanjeev Yadav said that plastic pollution had become a major problem. Quoting the UNEP report he informed that the world is full of plastic, more than 400 million tonnes of plastic is produced each year, half of which is designed for single use only. Of these, less than 10% is recycled. An estimated 19 to 23 million tonnes end up in lakes, rivers and seas. Today, the plastic that clogs landfills seeps into the oceans or is burned into toxic fumes, making it one of the most serious threats to the planet. Not only that, microplastics, which are found in the food we eat, in the packaged drinking water bottle and even in the air we breathe contain dangerous additives, which can threaten our health.

He further said that sensitisation towards plastic pollution is the only solution with the help of the 3R formula i.e. Reduce, Reuse and Recycle plastic.

Later, he shed some light on how with the help of the Green and Sustainable Chemistry approach we can synthesise environment-friendly and economically efficient synthesis of various APIs for drug discovery. He also explained the journey of a molecule to medicine – how a molecule is converted into medicine with a dedicated teamwork of scientists and researchers.

Later, participants also got the opportunity to interact with the scientists and researchers in the Bioinformatics lab and Laboratory Animal Facility and learnt about the role of *in silico* analysis in drug discovery and the importance of various animal models required for research.

At the end of the programme students and faculties gave feedback on the overall experience of CDRI visit.

Printed and Published by

**Mukesh Ambadas Pund on behalf of CSIR-National Institute of Science
Communication and Policy Research**

Dr KS Krishnan Marg, New Delhi-110 012

Editor: Hasan Jawaid Khan; **Associate Editor:** Sonali Nagar

Design: Abhinav Raj; **Production:** Ashwani Kumar Brahmi

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Phone: 25843359

Annual Subscription: ₹750; **Single Copy:** ₹75.00

RN 4512/57