

In the News

Union Minister Flags Off “Recycling on Wheels Smart-ER” under Swachhata Hi Seva (SHS) Campaign



In alignment with the Swachhata Hi Seva (SHS) campaign, celebrated from 15 September to 2 October 2023, Union Minister of State (Independent Charge) Science & Technology, Dr Jitendra Singh, inaugurated “Recycling on Wheels Smart-ER” at the CSIR Headquarters in New Delhi.

During the flag-off ceremony, Dr Jitendra Singh said, “The ‘Recycling on Wheels

Smart-ER’ project aligns perfectly with the Swachhata Hi Seva campaign’s objective of fostering a cleaner India.” He said, it not only bolsters transportation efficiency and cost reduction but will also efficiently extract precious metals from shredded e-waste in its later phase, making a significant contribution to the circular economy, thus aligning with the Swachh Bharat mission.

“This project recognises Safai Mitra’s crucial role in cleanliness, preserving both the environment and their health through responsible e-waste disposal,” said Dr Jitendra Singh.

Dwelling on the Swachhata Hi Seva theme, Dr Jitendra Singh said, “Mahatma Gandhi gave us the virtue of Swachhata, while Prime Minister Narendra Modi made it a part of life.”

The Minister elaborated that soon after taking charge in May 2014, PM Modi declared the Swachh Bharat Mission on 15 August 2014 to make India an open defecation-free country. He said, the cleanliness mission got institutionalised within a few years and it has become a way of life, a true mass movement (Jan Andolan).

Referring to “Recycling on Wheels Smart-ER”, Dr Jitendra Singh said, “This project recognises Safai Mitra’s crucial role in cleanliness, preserving both the environment and their health through responsible e-waste disposal. It stands out by offering skill development, aligning with the Extended Producer Responsibility (EPR), and promoting sustainability, contributing to the motto of Training, Transport, and Technology, empowering the informal sector with skills, efficient transportation, and technology for a better future.” Further, he emphasised, “This project introduces a pioneering approach to e-waste management in India,

with no comparable counterpart in the country to date. It sets an entirely new benchmark for sustainable e-waste practices, characterised by a unique design and implementation that amalgamates efficiency, accessibility, and environmental responsibility.”

He concluded, “As we embark on this transformative journey of ‘Recycling on Wheels Smart-ER,’ we actively contribute to the Swachhata Hi Seva campaign and reinforce the significance of cleanliness, environmental responsibility, and the well-being of our dedicated Safai Mitras. Together, we are creating a cleaner and greener India, in line with Prime Minister Narendra Modi’s visionary call.”

In her address, DG, CSIR and Secretary, DSIR, Dr N Kalaiselvi, said that Bapu rightly mentioned that “Cleanliness is next to Godliness” and narrated Gandhiji’s contribution to three vital and basic components of food, shelter and clothing in alignment with the environmental and climatic norms.

Dr Kalaiselvi said that all 37 CSIR labs across the country are engaged with both physical cleaning and e-cleaning processing, and weeding out of obsolete files.

Inauguration of ‘Yusuf Hamied Chemistry Camp’ at CSIR-IMTech by Hon’ble Governor Haryana

Hon’ble Governor of Haryana Shri Bandaru Dattatreya, inaugurated the ‘Yusuf Hamied Chemistry Camp’ at CSIR-Institute of

Microbial Technology (CSIR-IMTech) on 2 November 2023, to cater to the needs of students with hearing impairments and other disabilities.



The three-day residential camp commenced on 2 November 2023 aimed to inspire and nurture the next generation of chemists using the Indian Sign Language Enabled Virtual Lab (ISLEVL) developed at IMTech under the Jigyasa Programme of CSIR. The programme endeavoured to bridge the gap that Indian Sign Language (ISL) lacks in encompassing STEM vocabulary and communicating science to specially-abled students in the age group of 14-18 years.

Speaking on the occasion, Shri Bandaru Dattatreya said, “The camps are designed to give specially-abled students a hands-on experience in chemistry and would inspire them to pursue a career in science. Funded by the CSIR’s Jigyasa Programme, the ISLEVL has so far translated over 100 science videos produced by CSIR labs into ISL.” He appreciated CSIR, the Royal Society of Chemistry (RSC) and the Haryana Welfare Society for Persons with Speech and Hearing Impairments (HWSPSHI) for coming together to create this unique learning opportunity for people with hearing and speech impairment.

The chemistry camp is named after Dr Yusuf Hamied, a renowned Indian chemist and philanthropist and is a flagship programme of the RSC. The camp is designed to give students a

hands-on chemistry experience and inspire them to pursue a career in science.

Spearheaded by Dr Alka Rao, Principal Scientist, CSIR-IMTech, the team is working on developing popular science videos in the Indian Science Language (ISL) and an ISL vocabulary for STEM subjects. Over 70 students from around 35 schools in and around the Tricity would be participating in the event. The programme would enable students with hearing impairments to interact with different scientists and researchers, witness live demonstrations of the experiments, and interact with students in campus.

Guest of Honour, Shri Rajesh Aggarwal, Secretary, Dept of Empowerment of Persons with Disabilities (DEPwD), Ministry of Social Justice and Empowerment, Govt of India, gave information on various schemes of Government of India for specially-abled persons, including job opportunities in Govt sector. He said that technical education can enable them in a big way.

Dr Sanjeev Khosla, Director, CSIR-IMTech, while welcoming the Hon’ble Governor, apprised Shri Bandaru Dattatreya about the various events that are being organised under ‘Yusuf Hamied Chemistry Camp’.

Hon’ble Governor of Haryana, Shri Bandaru Dattatreya, said, “The camps are designed to give specially-abled students a hands-on experience in chemistry and would inspire them to pursue a career in science.”

“One Week, One Lab” Event at CSIR-CMERI



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The Curtain Raiser ceremony of the “One Week, One Lab” programme of CSIR-Central Mechanical Engineering Research Institute (CSIR-CMERI), Durgapur, was held on 21 August 2023 at CSIR-NPL, New Delhi, in the august presence of Dr Jitendra Singh, the Hon'ble Minister of Science and Technology & Vice-President of CSIR; Dr N Kalaiselvi, Secretary, DSIR & Director General, CSIR; Dr NC Murmu, Director, CSIR-CMERI; Prof. Venu Gopal Achanta, Director, CSIR-NPL and other dignitaries from various institutes, industries and other organisations.

The Hon'ble Minister launched and witnessed some of the nationally important technologies developed by CSIR-CMERI like E-Tractor, Vehicle Mounted Mechanised Drain Cleaning System (VM-MDCS), Mob Control

Vehicles (MCV), Integrated Municipal Solid Waste Management Disposal System (iMSWDS), etc. CSIR-CMERI also transferred the technology of iMSWDS to three MSMEs from Bihar, Rajasthan and West Bengal for further commercialisation and deployment. The commercial version of VM-MDCS machine, developed by one of the licensees of CSIR-CMERI, was demonstrated in front of the Hon'ble Minister and other dignitaries present in the event.

The institute inaugurated its “One Week, One Lab” programme on 11 September 2023 to showcase the legacy, exclusive innovations, and technological breakthroughs achieved by the Institute.

The first day was celebrated as the “Farmers Connect event”. More than sixty farmers from the adjoining districts of Durgapur were

present in the inaugural event along with officials from the Department of Agriculture, Govt of West Bengal. The officials deliberated on different governmental schemes currently available to the farmers and also urged CSIR-CMERI scientists to work towards solving different technological issues being faced by the farmers and Indian agriculture as a whole. Later, various agricultural machinery developed by CSIR-CMERI were demonstrated to the farmers.

An interactive session on *Pradhan Mantri Mudra Yojana* and various schemes/loans available from nationalised banks for the farmers' community was also organised for the farmers with experts from Krishi Vigyan Kendra (KVK), Ministry of MSME and UCO Bank.

Second day on 12 September 2023, the Make in India and MSME Connect event was held in which representatives from MSME, startup companies, and individual innovators, including student innovators participated. The event was graced with the presence of Dr NC Murmu; Dr Sujata Chaklanobis, Scientist G & Head, CRTDH (Common Research & Technology Development Hub), DSIR; Dr NP Sinha, Mentor of Centre for Education & Training, Indian Institute of Foundrymen as the Guest of Honour; and Prof. Indranil Manna, Vice Chancellor, BIT Mesra, Ranchi and Former Director, IIT Kanpur and CSIR-CGCRI as the Chief Guest.

Dr Chaklanobis deliberated on the functioning of the CRTDHs established across the country

analogous to the formation of a Golden Triangle between the Government, Industries (including MSME) and Academia (including the R&D organisations). A Chintan Shivir and a Samvad were organised with the DSIR officials on the panel for one-to-one interaction with MSME representatives on the challenges faced by them.

Robotics and Automation event was organised on 13 September 2023 during which Shri Brijendra Pratap Singh, Director-in-Charge, Burnpur and Durgapur Steel Plant was the Chief Guest and Shri Aditya Kumar Sinha, Center Director, Center for Development and Advanced Computing (C-DAC), Kolkata and Patna was the Guest of Honour.

Dr NC Murmu highlighted various R&D achievements of CSIR-CMERI in the recent past specifically focusing on development in the domain of robotics spanning robotic systems for interventions in the power sector, mining, social and strategic sectors, Autonomous Underwater

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Day 1: Farmers' Connect

*Dr NC Murmu,
Director, CSIR-CMERI,
talked about the
significance of "Clean
and Green India" and
the pivotal role that
CSIR-CMERI plays in
advancing this noble
cause.*

Vehicles (AUVs) for oceanic applications and flexible actuation systems for human-friendly applications.

Shri Sinha expressed that CDAC is keenly interested in close work with CSIR-CMERI in potential fields of Agricultural Research, Robotics & Automation.

Subsequently, Shri Singh, the Chief Guest mentioned that the "Robotics & Automation" theme of the programme has great significance in the industry context, especially in Industry 4.0.

During the day-long programme, several startups/ Industry/Government Sectors participated and presented their credentials and needs where CSIR-CMERI can cooperate and collaborate. Commodore Amit Ray, Indian Navy, delivered an expert talk on "Time for Autonomous Underwater Vehicles". Commodore Ray lauded CSIR-CMERI's contributions to the Underwater Robotics domain.

Day four, on 14 September 2023, the Clean and Green India event was organised. Dr NC Murmu, in his welcome speech, talked about the significance of "Clean and Green India" and the pivotal role that CSIR-

CMERI plays in advancing this noble cause. CSIR-CMERI developed the "Integrated Municipal Solid Waste Disposal System", which is a first-of-its-kind infrastructure located at the CMERI residential colony campus right in the heart of the city, was demonstrated to the dignitaries and representatives from various Municipal Corporations, Zilla Parishad and Panchayat Samiti of West Bengal.

Mr Prabhat Kumar Singh, the Managing Director of the National Safai Karamchari's Finance & Development Corporation (NSKFDC) graced the occasion. CSIR-CMERI has also transferred two modules of the technology for i-MSWDS to M/s Akash Enterprise, North 24 Parganas.

CSIR-CMERI scientists presented their "Strategic Research Approach towards Green India" in a number of ways, like solar photovoltaic generation and installation of a micro-grid at Sundarban area, cutting-edge energy storage technologies, from the remarkable graphene ultra-capacitor to aqueous batteries and compressed hydrogen storage tanks. The third line of research activities is in the domain of Electric Vehicle (EV) technologies





tailored for agricultural applications. Their recent achievement, the indigenous E-tractor, stood as a testament to their ingenuity.

The fifth and final day of the programme was celebrated as the Jigyasa and Student Connect event on 15 September 2023. Twenty nine teams consisting of around one hundred students of sixteen schools participated in the Science Model Competition organised on the theme Save Earth.

Dr Debiprosad Duari, Former Director, Research & Academics, MP Birla Institute of Fundamental Research & Institute of Astronomy Space and Earth Science, Kolkata, was the Chief Guest of the event. Dr Duari in his inimitable style

mesmerised all present in the auditorium through a popular science lecture on “A Cosmic Voyage”.

A “Jigyasa Rath” displaying the technologies developed by CSIR-CMERI started its journey on the day to reach the school students to make them aware of the latest developments in science & technology and to develop scientific temper in the young minds. The scientists and technical officials of CSIR-CMERI interacted with 3350 students and 112 teachers of the above schools and were overwhelmed by the interest and scientific curiosity expressed by the students, the future hope of the country.

CSIR-NIScPR’s “One Week, One Lab” Engaging Science & Society

Joining the “One Week, One Lab” campaign of CSIR, CSIR-National Institute of Science Communication and Policy Research (CSIR-NIScPR), New Delhi, organised the weeklong programme from 11 to 16 September 2023.

During the programme, the institute hosted a series of events creating a science-festive atmosphere all around highlighting and showcasing the institute’s activities, initiatives and achievements in the areas

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CSIR-NIScPR hosted a series of events, highlighting and showcasing the institute's activities, initiatives and achievements in the areas of Science Policy Research and Science Communication.



Dr Jitendra Singh, Hon'ble S&T Minister delivering his address during the inauguration

of Science Policy Research and Science Communication. The events catered to a wide range of audiences including scientists, academicians, science diplomats, scientists, science communicators, science publishers, entrepreneurs, industry experts, farmers, startups, students and other stakeholders.

The programme was kicked off with the curtain raiser event on 6 September 2023 held at PHD Chamber of Commerce, New Delhi. Dr Rakesh Bhatnagar, National Science Chair at Jawaharlal Nehru University, was the Chief Guest of the event, and other dignitaries included Dr Souvik Maiti, Director, CSIR-IGIB and Dr Manoranjan Parida, Director, CSIR-CRRI. Director, CSIR-NIScPR, Prof. Ranjana Aggarwal briefed about the "One Week, One Lab" programme as well as the NIScPR activities.

Dignitaries also released NIScPR's One Week, One Lab brochure, a short film featuring the activities of the institute was also shown.

The weeklong programme was inaugurated on 11 September 2023 by Hon'ble S&T Minister Dr Jitendra Singh. Dr N Kalaiselvi, Secretary, DSIR and DG, CSIR, was the Guest of Honour; Prof. Venu Gopal Achanta, Director, CSIR-NPL was the Special Invitee. Following

the inaugural ceremony, the names of the twelve Shanti Swarup Bhatnagar (SSB) awardees for the year 2022 were also announced.

Appreciating the institute's activities Dr Jitendra Singh said, "CSIR-NIScPR has shown the unique capacity of dissemination of scientific achievements to the society. People have started realising the significance of the core strength of this Institute." The minister further emphasised that the experiments conducted within the walls of the labs must reach out to the stakeholders. Dr Singh expressed his appreciation for NIScPR's SVASTIK initiative, which combines traditional knowledge with modern scientific knowledge. He also congratulated the SSB awardees.

Addressing the gathering, Dr N Kalaiselvi emphasised the significance of science communication, saying that it serves as a bridge between scientists and the lay public. She praised science communicators as the real unsung heroes who play a crucial role in linking the gap between labs and the masses.

Prof. Venu Gopal Achanta said, "NIScPR is a binding force for all the CSIR labs as it records science history and disseminates it to the general public through publications."

Earlier, in her welcome address, Dr Ranjana Aggarwal praised the campaign as a unique platform for showcasing the technological breakthroughs and success stories of each CSIR lab to a diverse range of stakeholders. She credited the Hon'ble Minister Dr Jitendra Singh, for his visionary leadership and unwavering support in making this campaign a reality.

Marking the completion of 80 years of CSIR since its inception in 1942, a book, “CSIR@80: A Photo Journey (1942-2022)” was released by the Hon'ble Minister. A book “Vigyan Pragati's Shreshtha 80 Alekhon Ka Sankalan” in Hindi was also released. Hon'ble Minister also inaugurated the “Science Media Communication Cell (SMCC),” an initiative of CSIR-NIScPR that focuses on the dissemination of Indian R&D breakthroughs through effective media communication. After the inaugural session, an exhibition of CSIR-NIScPR knowledge products was opened to the general public.

The next day, on 12 September 2023, a workshop on “India's Startup Revolution – An Exciting Journey from an Idea to Market” was conducted at CSIR-NPL. The Chief Guest of the workshop was Dr Omkar Rai, Executive Chairman of Startup Odisha and the Guest of Honour was Mr Puneet Kaura, Chairman, CII Delhi State Council and Managing Director & CEO Samtel Avionics Ltd. The workshop aimed at exposing students to pathways towards converting their ideas into commercial products and providing a platform for networking. It was attended by industry players, startups, research institutes, universities, government bodies, and incubators involved in promoting startups.

Dr Omkar Rai spoke about India's efforts at helping startups grow in tier-2&3 cities. Mr Puneet Kaura stressed on building a growth mindset, continuous learning, networking and connecting with mentors, peers, and partners for scaling up and finding pathways to growth.

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Release of book

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During the workshop, three books were released by the dignitaries, namely, *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*.

The day-long startup workshop included technical and interactive sessions as well as panel discussions on different aspects of the startup ecosystem. The exhibition of over 30 startups, ranging from high technology to those impacting rural development, was one of the attractions. Industry experts and heads of incubation centres also discussed ways to enhance the startup ecosystem in the country.

On 13 September 2023, three programmes were conducted — Grassroot Innovations & Skill Development Conclave for Rural Development, Student-Science Connect Programme, and CSIR-NIScPR & KAMP Workshop for Teachers.

Grassroots Innovations and Skill Development Conclave for Rural Development began with the inauguration of an exhibition by Dr Shekhar C Mande, Former DG-CSIR, & Chief Guest of the event and Dr Sanjay Kumar, Chairman, Agricultural Scientists Recruitment Board (ASRB) was the Guest of Honour. The exhibition showcased technologies/products from different CSIR labs such as CSIR-IHBT, CSIR-AMPRI, CSIR-IIP, CSIR-CIMAP, CSIR-CSMCRI, CSIR-NBRI, CSIR-NIIST, CSIR-IICT and CSIR-NIScPR.

Addressing the gathering, Prof. Ranjana Aggarwal emphasised the multidisciplinary nature of CSIR-NIScPR, which serves as a vital bridge between science and society at large.

Dr Sanjay Kumar stressed the importance of making scientific advancements accessible to the public and understanding stakeholder needs.

Dr Shekhar C Mande emphasised the importance of research and innovation in shaping the nation's future.

The programme on Student-Science Connect was attended by more than 150 students from Kendriya Vidyalaya Vikaspuri, Kendriya Vidyalaya Dwarka, and MM Public School. Shri CB Singh, Head, Jigyasa Training and HR Division, CSIR-NIScPR, gave an overview of the programme.

Prof. Ranjana Aggarwal emphasised the relevance of the two themes for the programme — millets and scientifically validated Indian traditional knowledge.

The programme was also graced by Dr Shekhar C Mande, Dr Sanjay Kumar and Prof. Sharmistha Banerjee, University of Hyderabad. Dr Mande highlighted the efforts undertaken by CSIR-NIScPR in the preservation and revitalisation of diminishing Indian Traditional Knowledge. He emphasised the significance of the NIScPR publication "*Wealth of India*" in this regard.

Dr Sanjay Kumar stressed the importance of learning through fun, teamwork, and building meaningful connections with extended family. Prof. Sharmistha Banerjee talked

about India's contributions to the fields of Science and Technology. The annual report for Jigyasa, covering the period of 2022-2023, was also unveiled.

The programme included talks on the nutritional importance of millet, and scientific communication of traditional knowledge. A quiz competition and puppet show centred on science communication were also held. The event was concluded with a visit to the Raw Materials Herbarium & Museum and Ayur Vatika at CSIR-NIScPR.

The same day, a CSIR-NIScPR & KAMP Workshop on Science Communication was also organised to sensitise participating science teachers about the various facets of science communication.

Welcoming everyone, Shri CB Singh outlined the workshop's objectives. Following this, the audience was captivated by the keynote speech delivered by Prof. Sharmistha Banerjee from the University of Hyderabad.

The sharing of knowledge on an integrated approach in the education system by Prof. Sharmistha Banerjee opened the floor for insightful discussions. She emphasised the importance of introducing research and scientific methods at the school level, advocating for a more interdisciplinary approach to education.

Subsequently, in his lecture on "Science Communication: Indian Efforts and Citizen Responsibility," delivered by Shri Hasan Jawaaid Khan, Chief Scientist and Head of Popular Science Division, CSIR-NIScPR, shed light on

the challenges of information consumption in today's era of information overload. Finally, Ms Sonali Nagar, Senior Scientist, CSIR-NIScPR, addressed the audience on "Nuances of Popular Science Writing," focusing on the intricacies of scientific writing and highlighting the essential elements of effective communication.

On day four, 14 September 2023, the event on "Science Communication: Public Engagement with Science" was organised. The Chief Guest of the event was Dr Santosh Choubey, Chancellor, Rabindranath Tagore University, Bhopal, and the Guest of Honour was Dr Tsering Tashi, Deputy Project Director, Navigation Spacecraft, UR Rao Satellite Centre, Indian Space Research Organisation (ISRO), Bengaluru. The programme had a technical session, panel discussion and Vigyan Kavi Sammelan.

During the inaugural session, Dr Ranjana Aggarwal highlighted the significance of the science communication event and emphasised the importance of public engagement.

Shri Hasan Jawaaid Khan, Chief Scientist, CSIR-NIScPR, provided a brief background of the event, focussing on science communication and its key challenges.

Dr Tsering Tashi discussed his journey of scientific research at ISRO and stressed the importance of science outreach activities for rural communities and how he had helped numerous students from the Ladakh region through science communication programmes.

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significance of the
science communication
event and emphasised
the importance of public
engagement.*

Interacting with the audience, Dr Santosh Choubey emphasised the significance of science communication and suggested creating science communication hubs across the country.

A book titled *Vigyan Sanchar Ki Anwarat Yatra*; three CSIR-NIScPR popular science books in English translated into Marathi, Kannada, and Bangla, respectively; *Navasanchetana* CSIR-NIScPR *Rajbhasha* magazine (July-Sept 2023 issue), and an “*e-Hydrogen Digest Compendium*” based on hydrogen research were released.

Dr Manish Mohan Gore, Editor, *Vigyan Pragati*, who was responsible for conceptualising the day-long programme, delivered the vote of thanks.

After the inaugural, a technical session on “Organisations spreading science to society” was chaired by Dr Santosh Choubey and co-chaired by Dr Tsering Tashi. Experts from reputed organisations like Department of Science & Technology, All India Radio, National Research Development Corporation, TIFR, IGNOU, etc. participated.

Later, a panel discussion was held to mark the completion of 70 years of “*Vigyan Pragati*,” the monthly Hindi magazine published by CSIR-NIScPR. The discussion was chaired by Shri Devendra Mewari, a renowned science writer, and co-chaired by Shri Kuldeep Dhatwalia, Project Manager, Science Media Communication Cell (SMCC). Ms Shubhada Kapil, Assistant Editor, *Vigyan Pragati*, presented the milestones of the magazine's journey. This was followed by various speakers sharing their experiences of writing for *Vigyan Pragati* and how it had shaped their writing skills.

Commemorating the Hindi Diwas on 14 September, a Vigyan Kavi Sammelan was also organised, during which Shri Mahendra Kumar Gupta, Joint Secretary, Administration, CSIR, was the Chief Guest and the chairperson was Dr Madhu Pant, a renowned Science Poetess and former Director, Rashtriya Bal Bhawan, New Delhi. Poets from different organisations participated and made the evening eventful.



During the release

Shri Mahendra Gupta appreciating the efforts said that such kind of science-literature integration will definitely communicate science to society in the right way. Dr Ranjana Aggarwal expressed her gratitude to all the participating poets for their creative engagement. Dr Madhu Pant recited her science poem 'Dharti ki Yahi Pukar' which was commended by the audience.

On day five, 15 September 2023, the Science Knowledge Convention event was organised. It was inaugurated by Chief Guest Dr Akhilesh Gupta, Secretary, SERB and Senior Adviser at the Department of Science and Technology (DST) and Guest of Honour Dr Suman Kumari Mishra, Director, CSIR-CGCRI, Kolkata. The convention aimed to showcase e-resources, databases, standards and knowledge products for S&T staff, researchers, students and NKRC Nodal officers. It also featured signing of MoUs between CSIR & DST and CSIR & MoES for NKRC.

The "One Month One Lecture on e-resource" initiative was also launched along with the *NKRC Report: A Journey of 21 Years*, and special issues of CSIR-NIScPR journals *IJBB & IJEMS*. Subsequently, a panel discussion on Science and Technology Information and Knowledge Resources was held, which was chaired by Dr Manoranjan Mohanty, Head, Autonomous Institutions Division, DST and Mrs Neelu Srivastava, Chief Scientist, CSIR-NIScPR, as the Co-Chair.

Lastly, an Authors and Publishers Interaction Meet was

held with sessions on scientific writing and publications, indexing tools, and e-resources for S&T research and databases. Dr Suman Mallik, former Chief Scientist, CSIR, was the Chair and Shri CB Singh, Sr Principal Scientist at CSIR-NIScPR was the Co-chair of the session. Two open sessions for discussion were organised.

A Science Exhibition and a Poster Presentation Competition were organised with the theme of Societal Impact of Research/Projects undertaken. Many students and guests participated, and several reputable science publishers including Wiley, Clarivate, Elsevier, and American Chemical Society (ACS) set up stalls. Dr Manoranjan Parida, Director of CSIR-CRRI, addressed the audience and distributed prizes to the poster competition winners. Over 800 participants attended both offline and online.

The weeklong programme concluded on 16 September 2023 with the event "Science Diplomacy for Sustainable Development" exploring how science diplomacy can contribute

Appreciating the Kavi Sammelan, Shri Mahendra Kumar Gupta, JS, Administration, CSIR, said that such kind of science-literature integration will definitely communicate science to society in the right way.



The signing of MoUs between CSIR & DST and CSIR & MoES for NKRC

*The Yuwa Manthan
i.e. Young Researchers
Conclave programme
was held at the
Digwadih campus of
CSIR-CIMFR.*

to sustainable development, sustainable entrepreneurship development in particular. The Chief Guest Dr Philipp Ackermann, German Ambassador to India and Bhutan, and Guest of Honour, Dr Bhaskar Balakrishnan, Former Science Diplomat, addressed the gathering. Dr Rama Swami Bansal, Head, International S&T Affairs Directorate, CSIR; Prof. Madhav Govind, Chairman, Centre for Studies in Science Policy, JNU; Shri R Madhav, Director, Indo-German S&T Centre; Dr Purnima Rupal, Former Director, CEFIPRA & Head, SCDD, CSIR and Dr Dhoya Snijders, Innovation Counsellor for India, Embassy of Kingdom of Netherlands attended the event as expert speakers.

CSIR-CIMFR Celebrates “One Week, One Lab”

CSIR-Central Institute of Mining and Fuel Research (CSIR-CIMFR), Dhanbad, celebrated the “One Week, One Lab” Campaign from 22 to 26 August 2023. The opening ceremony of the campaign was held at Hotel Radisson Blu in Ranchi on 22 August 2023.

Dr N Kalaiselvi was the Chief Guest and the event was attended by more than 300 participants comprising experts from various mining and fuel industries,



Dr Philipp Ackermann, German Ambassador to India and Bhutan, German Embassy while sharing his thoughts during the event

Summarising the weeklong programme, Dr Yogesh Suman, Sr Principal Scientist & Chairman, NIScPR "One Week, One Lab" programme, presented the summary of the events. Concluding the programme, Dr Manish Mohan Gore, Scientist & Coordinator, NIScPR "One Week, One Lab" programme proposed the vote of thanks.

academic institutes, officials from local administration and scientists and staff from CSIR-CIMFR. A technology was transferred and seven MoUs were signed on the occasion.

The Yuwa Manthan i.e. Young Researchers Conclave programme was held at the Digwadih campus of CSIR-CIMFR on 23 August 2023 where research papers were presented by young scientists, research scholars and invited



speakers through lectures and posters.

On 24 August 2023, the Vidyarthi-Jigyasa i.e. Open Day programme was successfully conducted to engage school children from Dhanbad and its neighbouring areas. The goal was to captivate young minds by showcasing the practical applications of science in national development. This programme was executed across multiple venues, including the Barwa Road and Digwadih campuses, as well as all regional centres situated in Nagpur, Bilaspur, Roorkee, and Ranchi. More than 1000 students from various schools participated. Exhibitions by school students and technologies from CSIR-CIMFR were showcased during the occasion.

The Gyanodaya (Thematic Lectures) programme focusing on the theme “Mining for Sustainable Development and Energy for Growth of the Nation” was hosted on 25 August 2023 at CIMFR Barwa Road campus. Distinguished luminaries from various industries, academic institutions delivered plenary speeches.

On the last day 26 August 2023, the Udaan (Startup Meet) and Udyog Sangam (Industry Meet) under the theme of "Transformative Research for Industrial Excellence," were organised to facilitate fresh partnerships, promote inventive resolutions, and enhance the relationship between the scientific community and industrial sector.



Workshop on Science Communication by USO in collaboration with CSIR-NIScPR

United Schools Organisation of India (USO), New Delhi, in collaboration with CSIR-National Institute of Science Communication and Policy Research (CSIR-NIScPR), New Delhi, organised a one-day “Teachers Workshop on Science Communication” on 22 September 2023 at the Einstein Meeting Room, USO House,

New Delhi. The workshop was organised for science teachers aimed at motivating them in the art of effective science communication by equipping them with practical tools and techniques and providing a framework for scientific writing.

Welcoming the gathering, Ms Nina Jain, representing USO, highlighted the pivotal role



*Mr Hasan Jawaid Khan,
Chief Scientist,
CSIR-NIScPR,
stressed the role of
teachers – as they
are directly in touch
with students – in
disseminating the
correct information to
the students.*

CSIR-NIScPR plays in effectively communicating scientific information. She also emphasised that science communication serves as a vital bridge connecting the realm of science with the broader community and added that each individual holds a crucial responsibility in nurturing the next generation of scientists and innovators, with the initial and fundamental step being effective science communication. Ms Jain emphasised the significant role that teachers need to play in cultivating students' ability to articulate and convey scientific ideas in a manner that both engages and enlightens others, thereby inspiring and empowering the future generation of thinkers and innovators.

In his opening remarks, Mr CB Singh, the Head of the Jigyasa Division, CSIR-NIScPR, extended a warm welcome to all and shed light on the prominent role of CSIR in the realm of industrial research, underscoring the fact that when we think of industrial research, the name CSIR naturally springs to mind. Discussing science communication, Mr Singh emphasised the significant role played by CSIR-NIScPR journals and popular science magazines – 'Science Reporter, Vigyan Pragati, and Science Ki Duniya, as reliable sources of scientific information.

Mr Hasan Jawaid Khan, Chief Scientist, CSIR-NIScPR and Editor, *Science Reporter*, presented a talk on "Communicating Science to Empower Citizens" where

in he informed about the fault lines and challenges in science communication today. He stressed the role of teachers – as they are directly in touch with students – in disseminating the correct information to the students. He further added that students – who are going to be future citizens – form the backbone of every economy, and all educators can positively influence them and guide them to accurate information sources.

Dr Manish Mohan Gore, Scientist, CSIR-NIScPR and Editor, *Vigyan Pragati*, talked about "हिन्दी और प्रादेशिक भाषाओं में विज्ञान लेखन". Mentioning the popular science magazines (*Vigyan Pragati*, *Science Reporter* & *Science-Ki-Duniya*) of CSIR-NIScPR, Dr Gore informed about the various segments in the magazines and the vast area they covered. He also discussed the importance of science writing in Hindi and regional languages.

The next lecture was on "Conceptualisation & Writing Science Books" by Ms Sonali Nagar, Senior Scientist and Associate Editor, *Science Reporter*. Ms Nagar provided a comprehensive explanation of the intricate process of writing a book. Ms Nagar stressed that having a creative idea is just the starting point. Equally vital is the phase of meticulous planning, where the structure, content, and approach are carefully considered. She stressed that what sets successful authors apart is their unwavering determination to

produce a book of immense value and exceptional quality, ensuring that it makes a lasting impact on readers and society as a whole.

The final talk was delivered on “Research Communications” by Mr RS Jayasomu, Chief Scientist, CSIR-NIScPR, and Editor, *Indian Journal of Experimental Biology*. Dr Jayasomu discussed about research publications and the various components involved in writing a research paper, emphasising the significance of each step in crafting a high-quality publication. Dr Jayasomu also offered valuable insights into the importance of data integrity

and ethical considerations when dealing with research publications. He cautioned the audience that once their research data is ready, publishing is not merely a routine step. Instead, he stressed that it's essential to approach publishing with a discerning eye.

In the end, the queries and questions raised by teachers were addressed. Expressing her gratitude on behalf of the attendees, Ms Jolly Regi, Moderator from USO, extended heartfelt thanks to the speakers, recognising their invaluable contributions. Ms Aakansha from USO proposed the vote of thanks.

Dr RS Jayasomu, Chief Scientist, CSIR-NIScPR, discussed about research publications and the various components involved in writing a research paper, emphasising the significance of each step in crafting a high-quality publication.

Events

CSIR-CSMCRI Organises CSIR Integrated Skill Programme

To generate the future feed stock for energy & nutraceuticals, a CSIR Integrated Skill Training Programme on “Microalgal Diversity and their Biotechnological Potentials” was organised at CSIR-Central Salt & Marine Chemicals Research Institute (CSMCRI), Bhavnagar. The programme was coordinated by Dr Subir Kumar Mandal, Principal Scientist, Applied Phycology and Biotechnology, at the CSIR-CSMCRI premises from 12 to 14 September 2023. Twelve participants, including MSc students, ongoing PhD students, and Assistant Lecturers, participated from various Universities of Gujarat and Odisha.

The participants experienced hands-on training on the

morphological and molecular identification of microalgae, culturing them, and scaling up to mass cultivations. They also learned about the extraction of products from thereof. All the participants completed their training programme and received certificates during the valedictory function.



CSIR-NIScPR Organises Student-Science Connect Programme “Millets for Health and Nutrition”

CSIR-NIScPR, New Delhi, organised a “Student-Science Connect Programme” with the theme “*Millets for Health and Nutrition*” at Cambridge School in Srinivaspuri, New Delhi, as part of the Jigyasa event on 20 October 2023. The event was attended by more than 200 students and 20 teachers from more than 10 different schools. Besides Cambridge School, Srinivaspuri, Cambridge School, Indirapuram; Army Public School, Dhaula Kuan; DPSG Palam Vihar, Gurugram; Gyan Mandir Public School; and Bal Bharati Public School, Pitampura, participated in the event. The central objective of the event was to provide students with a deep understanding of millets and their pivotal role in promoting health and nutrition.

The programme commenced with Shri CB Singh, Head of Jigyasa, Training and HR Division at CSIR-NIScPR introducing the students to CSIR and its various laboratories. During his welcome address, Mr Singh addressed the importance of bridging the gap between the scientific community and society and also discussed the role of the Jigyasa programme which aims at “Capacity building in Science, Technology, and Innovation (STI) at the grass root level amongst students and teachers”.

Dr Suman Ray, Principal Scientist & Jigyasa Nodal at CSIR-NIScPR, delivered a talk on “Millets for Health and Nutrition”. In her presentation, she covered a wide range of millet-related topics, including their historical significance, the Indian states that

The event also placed a significant emphasis on creating awareness on Energy Literacy Training, which is an initiative by the Energy Swaraj Foundation, aimed at educating individuals about the critical concept of energy literacy.



Glimpses of the programme

produce millets, different millet species, nutritional value, dietary fibre content, minerals, trace elements, vitamins, and amino acids. She also touched on the significance of the International Millet Year. Dr Ray engaged the audience with an interesting millet quiz.

A short movie on millets was also shown to the students highlighting two key points: "The History of Millets" and "Traditional Indian Millet Recipes".

The event also placed a significant emphasis on creating awareness on Energy Literacy Training, which is an initiative by the Energy Swaraj Foundation, aimed at educating individuals about the critical concept of energy literacy.

Energy literacy is regarded as the initial stride towards addressing climate issues and safeguarding the environment. The knowledge and understanding is necessary to make informed choices, conserve energy resources, and actively contribute to mitigating climate change and environmental preservation.

The programme concluded with the dissemination of NIScPR's monthly popular science Hindi magazine, "Vigyan Pragati", featuring a special issue on Millets, which was made available to both students and teachers. *Vigyan Pragati* is widely recognised for its informative and insightful articles, making it a valuable resource for teachers and students who wish to further explore the subject.

CSIR-CDRI Organises AI Awareness Programme



A group of enthusiastic students from Chandrabhanu Gupta Agriculture Post Graduate College pursuing BSc in Agriculture were invited to the CSIR-Central Drug Research Institute (CSIR-CDRI), Lucknow, as part of the Artificial Intelligence (AI) awareness programme under the aegis of CSIR Jigyasa programme on 10 August 2023. The event was marked by an enlightening discourse on the burgeoning influence of AI

in various aspects of daily life, particularly its transformative role in the realm of agriculture.

Dr Sanjeev Yadav, Senior Scientist, warmly welcomed the students, providing them with a comprehensive introduction to the institute and its groundbreaking work. He highlighted how AI has seamlessly integrated into different facets of our daily lives, enhancing convenience and efficiency.

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Later, Dr Santosh Shukla, Scientist, CSIR-CDRI, took centre stage to elucidate the immense potential of AI in revolutionising agriculture. Dr Shukla delved into the applications of AI, demonstrating “how it can be harnessed to optimise various aspects of agriculture, ranging from crop monitoring and disease detection to yield prediction and precision farming”. Dr Shukla drew attention to AI's capabilities in transforming industries, from healthcare to finance, and from manufacturing to agriculture. The students were captivated by the prospects of AI-driven solutions and the transformative impact they could have on the future of agriculture.

The students were then treated to an insightful laboratory visit, offering them a glimpse into the practical implementation of bioinformatics techniques. They were exposed to the inner workings of advanced technologies and their pivotal role in deciphering complex biological data.

A trip to the Botany Unit of SAIF&R followed, providing the

students with an opportunity to meet with Scientist Dr Vinita Tripathi. She unravelled the intricate connection between agriculture, medicine, and the role of plants in shaping the pharmaceutical landscape. Dr DK Mishra took the students through the world of herbarium – a collection of preserved plant specimens. In his engaging interaction, he not only elaborated on the types of herbarium but also unveiled the pivotal role they play in scientific research, plant identification, and preservation of botanical heritage.

Later, in the Medicinal Process Chemistry Division, Er Ranvir Singh, shared the steps involved in extracting valuable molecules from plants, shedding light on the synergy between agriculture, chemistry, and pharmacology.

The visit to CSIR-CDRI not only enriched their knowledge but also ignited their curiosity to explore the potential of Artificial Intelligence-driven solutions in addressing critical challenges in the agricultural sector.

The students were captivated by the prospects of AI-driven solutions and the transformative impact they could have on the future of agriculture.

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