

In the News

CSIR-CEERI Organises Outreach Programme *India International Science Festival (IISF-2023)*



Deputy Chief Minister, Rajasthan, Ms Diya Kumari

CSIR-Central Electronics Engineering Research Institute (CSIR-CEERI), Pilani, organised the India International Science Festival 2023 outreach programme on 24 December 2023, in partnership with Vijnana Bharati (VIBHA), Rajasthan and Subodh Public School Sanganer. The Chief Guest for the occasion was Ms Diya Kumari, Deputy Chief Minister, Rajasthan.

The Hon'ble Minister Ms Diya Kumari emphasised the significant contribution of Indian science and scientists in elevating the reputation of the nation globally. In addition, she commended India's scientific

institutions. Further, she emphasised that these activities are crucial for fostering the younger generation on the correct path, which is vital for the country's progress.

Extending a formal welcome, Dr PC Panchariya, Director, CSIR-CEERI, provided comprehensive insights into CSIR and CSIR-CEERI, elucidating the Institute's pivotal role in creating the nation's future, particularly in electronics. In addition, he apprised the audience of the most recent advancements achieved by scientists at the institute. He elaborated on the significance of the IISF outreach programme. He also

The Hon'ble Deputy Chief Minister, Rajasthan, Ms Diya Kumari, emphasised the significant contribution of Indian science and scientists in elevating the reputation of the nation globally.



urged the students and other notable visitors to take part in the IISF-2023, scheduled to take place at the 9th edition of IISF 2023 from 17 to 20 January 2024 in the DBT Regional Centre for Biotechnology-THSTI campus, Faridabad, Haryana.

Dr Meghendra Sharma, Secretary, VIBHA, Rajasthan, provided details regarding IISF 2023 and also elaborated on the government's efforts to address multiple crucial facets to ensure inclusivity in science and technology. Dr Brajesh Pandey, Executive Director, Indian National Science Academy (INSA), New Delhi; Prof. (Dr) BR Gurjar, Director, National Institute of Technical Teacher Training and Research (NITTTR), Chandigarh; Dr Laxman Singh Rathore, the former Director General of the India Meteorological Department,

Government of India; Shri Ravi Nayyar, a renowned social worker in Jaipur; and Shri Sumer Singh Bothra, Secretary of the Subodh Shiksha Samiti, were present during the event as special guests.

CSIR-CEERI scientists showcased a range of technologies at the event. The day-long event comprised multiple interactions between students and scientists. A total of 128 students from the state-level camp of Vidyarthi Vigyan Manthan also participated in the event. The event was attended by over 500 students, 150 faculty members, and over 50 distinguished individuals. The programme's Nodal Officer, Dr Vijay Chatterjee, Senior Scientist, CSIR-CEERI, provided an overview of the significance of IISF-2023 and urged the attendees to participate in IISF-2023 actively.

CSIR-NCL Organises IISF-2023 Curtain-Raiser Programme

In anticipation of the forthcoming India International Science Festival (IISF) 2023, the CSIR-National Chemical Laboratory (CSIR-NCL), Pune, in collaboration with Vijnana Bharati (VIBHA), hosted a curtain-raiser programme on 19 December 2023. The event aimed to set the stage for the grand celebration of Science and Technology.

The IISF is celebrated every year to promote Science and Technology and demonstrate how science could lead India towards a developed nation. The primary objective is to engage the public with science, fostering an appreciation for its wonders, and highlighting how Science, Technology, Engineering, and Mathematics (STEM) can offer

solutions to enhance our quality of life.

Dr CS Gopinath, Deputy Director, CSIR-NCL, addressed the audience, providing insights into the history and contributions of CSIR-NCL to the nation over the past seven decades. He highlighted the laboratory's significant role in various fields such as basic chemicals, dyestuff, pharmaceuticals, catalysis, tissue culture, tech transfers, patenting, innovation, entrepreneurship, and mission mode projects. Dr Gopinath also highlighted the seven main research themes of CSIR-NCL and discussed critical topics like climate change, pollution, affordable healthcare, and the National Green Hydrogen Mission.

Dr Manasi Malgaonkar, Coordinator of VIBHA, Pune, presented a brief history of the IISF and its objectives. As a knowledge partner, VIBHA has been instrumental in the success of the festival. Dr Malgaonkar outlined the major events planned for IISF 2023, including the Students Science Village, Face to Face with New Frontiers of Science & Technology, Science through Games & Toys, Students Innovation Festival – Space Hackathon, and Vigyanika – Science Literature Festival.

An interactive session titled “Role of Computers on the Selective Use of Bunsen Burner” was conducted



by Dr Sailaja Krishnamurty, Senior Principal Scientist, CSIR-NCL. She discussed the transformative journey of mankind over the last 300 years. She emphasised the role of computers in simulations, foreseeing a future where they replace traditional tools like the Bunsen burner. Dr Krishnamurty shared examples of ongoing research in computational chemistry conducted with her students.

Dr Wafia Masih, Senior Principal Scientist, CSIR-NCL, coordinated the outreach programme, extending a warm welcome to participants, including school students and teachers from Pune and its surrounding areas. The event proved fruitful, attracting over 230 students in standards 8-12 and 14 teachers from nine schools.

The curtain-raiser programme successfully ignited the spirit of scientific temper, paving the way for the much-anticipated IISF 2023, where science and innovation will take centre stage.

The event aimed to set the stage for the grand celebration of Science and Technology during the 9th edition of IISF 2023.

IISF 2023 Outreach Programme of CSIR-NIScPR

CSIR-National Institute of Science Communication and Policy Research (CSIR-NIScPR), New Delhi, organised the outreach event for the mega science event, IISF-2023, on

18 December 2023. Dr Raj Mehrotra, Curator ‘F’, National Science Centre, was the Chief Guest, and other distinguished guests were Dr Tripta Thakur, Director General, National

“This century belongs to information; the more information you have, the more aware you are, and be as informed as you can be,” says Dr Raj Mehrotra, National Science Centre.



Power Training Institute, and Shri Praveen Ramdas, Secretary, VIBHA, India.

While addressing the event, Dr CB Singh, Head of the Jigyasa Programme, CSIR-NIScPR, briefed about the IISF-2023. Besides, he explained the CSIR's Jigyasa programme that inculcates scientific temper in students and motivates them to choose science as a career option.

Dr Raj Mehrotra said, “Do something that your classroom does not allow you”, but do not ignore the classroom too. He emphasised the application of rational thinking to believe in things. He added, “This century belongs to information; the more information you have, the more aware you are, and be as informed as you can be”. Citing various examples, he also mentioned about the National Council of Science Museums (NCSM). He emphasised the importance of being scientifically tempered and channelling the Yuvashakti – the nation's youth, in Amritkaal. Finally, he demonstrated the experiment of

viewing air through a fun activity. Wireless Electricity was the experiment of the day!

In her welcome address, Dr Ranjana Aggarwal, Director, CSIR-NIScPR, discussed the IISF and its relation with science. Moreover, she stressed the importance of science and the festive nature of the mega science event, IISF. She further highlighted that the event engages people from different walks of life, including students, entrepreneurs, scientists, farmers, artisans, etc., in an exciting and enjoyable interaction with science. The festival acts as a bridge between science and society, she emphasised. Later, Dr Aggarwal invited everyone to attend the mega science festival and experience the wonders of science.

Talking about the message IISF conveys, Shri Praveen Ramdas said that IISF is a festival to popularise science among all segments of society in the form of various planned events.

Dr Tripta Thakur talked about traditional science and how India can become a Vishwa Guru through traditional science and not leave the Bharatiya spirit. In addition, she spoke about the importance of science in Amritkaal.

Shri Kuldeep Dhatwalia, Sr Consultant, Science Media Communication Cell (SMCC),



CSIR-NIScPR, briefed the audience about the Media Conclave programme for two days during IISF.

Dr Paramananda Barman, Scientist, CSIR-NIScPR, briefed the audience about the Vigyanika event to be organised during IISF.

Vigyanika 2023 is jointly coordinated by the National Innovation Foundation (NIF) India, an autonomous institute of DST and CSIR-NIScPR.

Concluding the event, Dr Manish Mohan Gore, Scientist, CSIR-NIScPR, presented the vote of thanks.

CSIR-IMTECH Organises Outreach Programme for 9th IISF-2023

CSIR-Institute of Microbial Technology (IMTECH), Chandigarh, organised an outreach programme on 15 December 2023 for promotion of the India IISF 2023. The theme of the current edition of IISF 2023 is “Science and Technology Public Outreach in Amrit Kaal”, which aims to inspire a wide range of people and provide a platform for students, teachers, scientists, researchers, industry professionals, entrepreneurs and science communicators to showcase their work.

Around 200 school students from the tri-city participated in the outreach event with their teachers and mentors. The students got an opportunity to visit various labs in IMTECH and interact with the scientists to understand multiple facets of microbiology and biotechnology. The outreach programme aims to inspire students and young researchers to undertake science as a career and uplift the scientific temperament of researchers across the country.

Delivering her keynote address, Prof. Jayanti Dutta, Deputy Director, UGC-Human Resource Development Centre, Panjab University, emphasised that science should be fun, which will bring back the joy of discovery in the field. She emphasised that events like IISF help science reach the masses,

which is the biggest challenge in a diverse country like India. The aim is to engage the public with science and celebrate the joy of science. It shows how Science, Technology, Engineering and Mathematics (STEM) can provide solutions to improve our lives and encourage frugal innovation.

Since 2015, IISF has organised eight editions across the length and breadth of the country and has expanded as a mega science festival. This year, the Ministry of Science & Technology, Ministry of Earth Sciences, Department of Space, and the Department of Atomic Energy, in association with Vijnana Bharati (VIBHA), is organising the IISF-2023.

Dr Sanjeev Khosla, Director, CSIR-IMTECH, welcomed the students and dignitaries and said, “IISF is dedicated to fostering

The outreach programme aims to inspire students and young researchers to undertake science as a career and uplift the scientific temperament of researchers across the country.



Prof. Venugopal Achanta, Director, CSIR-NPL, emphasised the importance of IISF and the outreach programme for sensitising the masses and promoting scientific temperament.

creativity in Science, Technology and Innovation for advancing a prosperous India. Even if one student after today's programme aspires to take research as a career in science, I think the aim of IISF is served."

Prof. Arvind Garg, Sah Uttar Kshetra Parmukh, Vijnana Bharati (VIBHA), gave a brief account of VIBHA's activities and the role of IISF in shaping the research ecosystem in the country.

CSIR-NPL Organises Outreach Programme of IISF 2023

CSIR-National Physical Laboratory (CSIR-NPL), New Delhi, organised a half-day outreach programme on 14 December 2023 for the IISF-2023. During the inauguration of the programme, Prof. Venugopal Achanta, Director, CSIR-NPL, welcomed the guests and emphasised the importance of IISF and the outreach programme for sensitising the masses and promoting scientific temperament.

The Chief Guest of the programme, Prof. MM Tripathy, Director General, National Institute of Electronics & Information Technology (NIELIT), shared his memories with IISF 2016, which was organised in the CSIR-NPL campus. He emphasised that youth should actively participate in such programmes because they are the future leaders and will play a major role in the economic development of the country. Dr Tripathi also highlighted the importance of ethics in artificial Intelligence, digital public infrastructure, cyber security, quantum computing, molecular communication, etc., for society and associated challenges.

The programme further followed up with a detailed presentation by Prof. Puneet Misra, President, Indraprastha VIBHA, on the spectra of events planned for IISF 2023. Dr Misra highlighted about 16 events planned to be part of this



four-day event, like the Student Science Village, Young Scientist's Conference, Women Scientist and Entrepreneur Conclave, etc. He conveyed to the audience the role and objective of IISF, which involves the translation of science in the form of tradition, culture and festivals so that it can be disseminated to a maximum number of people, especially the youth of our country, to nurture and develop scientific temperament in future generations.

Another speaker, Dr Sushil Kumar, Chief Scientist, CSIR-NPL, gave an overview of CSIR-NPL, its mandate, past and present activities being performed at CSIR-NPL in the field of Metrology, Research, Skill development, and further assisting industries in various areas.

The programme concluded with a vote of thanks by Dr Sumit K Mishra, Coordinator, IISF Outreach Programme, followed by the National anthem.

CSIR-CDRI Organises Pre-Fest Event of IISF 2023

CSIR-Central Drug Research Institute (CSIR-CDRI), Lucknow, organised a Pre-Fest Event of India International Science Festival (IISF 2023) with great enthusiasm, hosting a group of 100 students and 4 faculty members from Kendriya Vidyalaya, IIT Kanpur, Kanpur (UP). Under the aegis of Public Outreach in Amrit Kaal, a Student-Scientist Connect Programme was organised. The event, held on 6 December 2023 aimed to inspire and motivate young minds to pursue careers in science, specifically focusing on the exciting field of Drug Discovery and Research.

Jigyasa nodal officer at CSIR-CDRI, Dr Sanjeev Yadav, welcoming the students, provided valuable insights about the various programmes being organised in IISF 2023 and their significance in the journey of science. He emphasised that IISF was initiated under the vision of the Hon'ble Prime Minister with the theme 'Science for Society', IISF's primary objective is to commemorate India's achievements in Science and Technology, making the world of science accessible to all.

During his interaction with students and faculty, he also shed light on the remarkable work undertaken by CSIR-CDRI in drug discovery and development. He highlighted the institute's commitment to advancing scientific knowledge and its role in contributing to the greater scientific community.

The students were then given the opportunity to



explore the laboratories, gaining hands-on experience in various scientific divisions. In the Botany division, Dr DK Mishra provided a comprehensive overview of medicinal plants, showcasing CDRI's ongoing research. The students were introduced to the herbarium, enhancing their understanding of the diverse plant species under study.

Moving to the Medicinal and Process Chemistry department, Dr Richa Pandey and Er Ranvir Singh elucidated the process of extracting molecules from natural products. They also explained the scientific validation methods employed to confirm the efficacy of these molecules in drug development.

A visit to the Laboratory Animal Facility proved to be an insightful experience, as Dr Hansda and his team demonstrated various animal models and explained their crucial role in drug development. The students gained a deeper understanding of the ethical and scientific considerations of using animal models for research purposes.

The event aimed to inspire and motivate young minds to pursue careers in science, specifically focusing on the exciting field of Drug Discovery and Research.

CSIR-IIIM Holds IISF Outreach Programme

CSIR-Indian Institute of Integrative Medicine (CSIR-IIIM), Jammu, conducted the IISF outreach programme on 18 December 2023. The programme was attended by 700 students and teachers drawn from various schools in the Jammu region. Dr Zabeer Ahmed, Director, CSIR-IIIM, encouraged the students to participate in IISF-2023 in large numbers and assured them of full support in pursuing scientific inquiry. He also mentioned the other society-related activities taken up by CSIR-IIIM. He further informed the students to connect through the 'Viksit Bharat @2047' portal and share their innovative ideas.

The guest from VIBHA, Prof. Pawanesh Abrol, Vice President and HoD, Department of Computer Science, University of Jammu, gave a detailed



presentation regarding various events to be organised during IISF-2023. Earlier, Dr Dhiraj Vyas, Head, Plant Sciences Division, coordinator of the event, in his welcome address, informed about the four aspects of doing 'wonderful' science and arranging such events & their benefits.

The programme was concluded with the vote of thanks by Er Abdul Rahim, Chief Scientist & Head, RMBD&IST.

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CSIR's One Week, One Lab

CSIR-NGRI Celebrates the "One Week, One Lab" Programme

CSIR-National Geophysical Research Institute (CSIR-NGRI), Hyderabad, celebrated the "One Week, One Lab" programme from 04 to 09 September 2023 by organising the weeklong programmes.

The programme was inaugurated by Chief Guest Dr PS Goel, Former Secretary, Ministry of Earth Sciences, with

Guests of Honour Dr N Kalaiselvi, DG CSIR & Secretary DSIR and Shri Jayesh Ranjan, Principal Secretary, Dept of IT, Telangana. Dr Prakash Kumar, Director, CSIR-NGRI, outlined the week's schedule and discussed NGRI's scientific vision, emphasising cutting-edge technologies like AI and machine learning.

Dr Kalaiselvi, who joined virtually, extended best wishes, highlighting NGRI's role in addressing societal challenges. Shri Jayesh Ranjan praised CSIR's campaign and invited NGRI to join Telangana's Research and Innovation Circle, offering support for scientific experiments. Dr PS Goel shared views on future research, emphasising demand-driven science and collaboration methods.

MoUs were also exchanged with IIT Madras, SRTM University, and Bundelkhand University for research collaboration. Dr Goel also inaugurated an R&D exhibition showcasing NGRI's research accomplishments.

On 5 September 2023, a Geoscience Conclave was organised, inviting eminent geoscientists of the country to speak on their work done in the past decades in various geoscience disciplines. During this meeting, seven experts delivered the talks on frontier areas of geophysics.

The next event, Stakeholder Connect, on 6 September 2023, aimed to engage with various stakeholders to ensure effective communication, gather feedback, address concerns, and foster mutually beneficial relationships. Representatives from NPCIL, ONGC, NMDC Ltd, Geological Survey of India, Central Ground Water Board and State Ground Water Department participated in the stakeholder meeting and held discussions with the CSIR-NGRI scientists.

Shri Bhuwan Chandra Pathak, CMD, NPCIL, was the Chief Guest



During inauguration

and Dr Ch. Venkateshwar Rao, Additional Director General, Geological Survey of India, was the Guest of Honour. The programme started with an introduction to the CSIR-NGRI activities and contributions by Dr Prakash Kumar, and it was followed by a talk on “Ease of doing business with CSIR” by Dr Darokar, Chief Scientist, CSIR Head Quarters.

The programme ‘Society Connect’ was a potential campaign mode programme oriented toward strengthening society and agriculture farmers by promoting scientific practices for sustainable groundwater management. The programme addressed the farmers’ issues and inculcated the innovative modalities CSIR-NGRI and eminent groundwater professionals have developed. Nearly 200 farmers from various states, including Uttar Pradesh, Haryana, Karnataka, Maharashtra, and Andhra Pradesh, besides 40 students, accompanied by their teachers from local schools in Choutuppal, participated. The event was inaugurated by Shri Vedire Sriram, Adviser to the Hon’ble Minister, Ministry of Jal Shakti, Govt of India. Shri VK Upadhyay, Director UPGWD and

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Dr VK Saraswat, member NITI Aayog, released a volume of abstracts that offers a glimpse into the current state of geothermal energy resources in India, the strategies required to propel this renewable energy source and developing future strategies.

Dr P Rajendra Prasad, Sir Arthur Cotton Geospatial Chair Professor, Andhra University, were the Guests of Honour.

The Workshop on "Geothermal Energy Resources of India: Present Status and Way Forward" was organised from 7-8 September to bring together experts, researchers, and industry leaders to create a collaborative environment where knowledge is shared, innovative ideas are exchanged, and a roadmap for the future development of geothermal energy in India is projected. The inaugural session took place on 7 September 2023. The Chief Guest for the event was Padma Bhushan Dr VK Saraswat, Hon'ble Member of NITI Aayog. The Guests of Honour included Prof. SK Mehta, Vice Chancellor of the University of Ladakh, and Padma Shri Prof. HK Gupta, President of the Geological Society of India.

Dr VK Saraswat delivered a detailed presentation covering the significance of geothermal energy, national strategies and targets for the development of geothermal energy in the country, next-generation geothermal technologies (Enhance Geothermal System, EGS and Advance Geothermal System, AGS), current challenges of geothermal resources

for sustainable energy in India and the vital role to be played by CSIR-NGRI in this context.

Dr Saraswat also released a volume of abstracts, which serves as a compendium of insights, ideas, and the latest R&D findings discussed during the workshop. It offers a glimpse into the current state of geothermal energy resources in India, the strategies required to propel this renewable energy source and developing future strategies.

The "Student/Public Connect" was a full-day event held as part of the "Jigyasa" programme, open to all students, teachers, and the general public. During this event, CSIR-NGRI showcased more than ten exhibits featuring various R&D activities. Attendees, including students and the public, had the opportunity to interact with scientists and gain knowledge about rock types, natural resource exploration, earthquake and tsunami phenomena, earthquake risks, hazard prevention, and the extent and sustainability of groundwater.

CSIR-NGRI has the country's first open-air rock museum, featuring a vast collection of rock samples from different geological regions. This museum was a major attraction for students, offering

insights into various types of rocks, their formation, and the valuable information they provide. To enhance the experience, a student-scientific quiz encouraged participants to delve deeper into the field of earth sciences.

The Open Day of the “One Week, One Lab” programme was held on 8 September 2023. It was a captivating and enjoyable educational event designed to foster a deeper understanding of Earth Sciences among students. There were more than 6,000 visitors during the public connect event, including over 150 schools, colleges, and institutes, and members of the general public and NGOs.

“One Week, One Lab” Programme at CSIR-IMMT

As part of CSIR’s “One Week, One Lab” campaign, CSIR-Institute of Minerals and Materials Technology (CSIR-IMMT), Bhubaneswar, conducted a series of weeklong activities from 11-16 September 2023.

The programme was formally inaugurated on 11 September 2023, by Dr Debashish Bhattacharya, Vice President of Technology & R&D at TATA Steel. The ceremony was graced by the presence of notable figures, including Prof. S Basu, Prof. Shreepad Karmalkar, Director of IIT Bhubaneswar, Prof. Ashok Kumar Ganguli, Director, IISER Berhampur and Dr Ramanuj Narayan, Director of CSIR-IMMT. Prof. BK Mishra, Director of IIT Goa and Former Director of CSIR-IMMT, conveyed his greetings via-video

The Valedictory ceremony was organised on 9 September 2023. Dr D Srinivasa Reddy, Director CSIR-IICT and Dr Vinay K Nandikoori, Director, CSIR-CCMB, were the Guests of Honours. Former Directors of CSIR-NGRI also graced the occasion. They extended their congratulations for the successful execution of the “One Week, One Lab” programme and emphasised the significance and fruitful outcomes of collaborative events like this. During the ceremony, all seven event coordinators presented summaries of their respective events. Dr N Purnachandra Rao, Chief Scientist CSIR-NGRI, proposed the vote of thanks.

message to CSIR-IMMT. A "Startup & IPR Conclave" was organised to kickstart the programme, focusing on engaging students and young entrepreneurs.

Day 2 was dedicated to the spotlight on “Minerals, Coal, critical Minerals, REE/PGE,” which

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Second day was dedicated to the spotlight on “Minerals, Coal, critical Minerals, REE/PGE,” which are important for India's industrial growth, economic development, and employment opportunities.

are important for India's industrial growth, economic development, and employment opportunities. Mr SS Mohanty, CEO and MD of Essar Minmet Ltd, and Mr G Suresha, ED of Odisha Asset, Arcelor Mittal Nippon Steel India Ltd, graced the occasion as Chief Guest and Guest of Honour, respectively. Approximately 125 delegates representing Indian Mineral Industries, R&D institutions, government policy-making agencies, start-ups, MSMEs, and academia were invited to participate in this significant event and engage in discussions about the current status of the mineral industry in India and globally.

On day 3, 13 September, the programme revolved around Environment, Waste Management, and Pipeline Transport. The event was honoured by the presence of Smt. Sulochana Das, the BMC Mayor, as the Chief Guest. Distinguished dignitaries included Shri Pallava Bagla, a renowned science communicator, Prof. Amitav Das, Dean of Faculty Affairs at IISER Kolkata, and Shri SK Vasudevan, ED of SERPL, IOCL, Bhubaneswar. They interacted with scientists, students, and other participants from both industry and academia.

Day 4 was dedicated to the theme “Blue Economy”. This one-day conclave aimed to facilitate discussions on sustainable approaches and technological advancements for harnessing ocean resources. Eminent personalities including Prof. SK Singh, Director of CSIR-NIO, Goa,

Dr GA Ramadass, Director of NIOT Chennai, and Dr (Mrs) SK Mishra, Director of CSIR-CGCRI, Kolkata, and experts in seabed minerals and ocean energy, participated in the Blue Economy event, fostering valuable interactions.

Day 5 primarily focused on functional materials for energy applications and featured brainstorming sessions on CRTDH empowering MSMEs. Prof. Manoj K Dhar, Director of AcSIR, was the Chief Guest, and Dr Sujata Chaklanobis, Scientist G & Head of CRTDH DSIR, was the Guest of Honour. Expert talks and round-table discussions led by panellists comprising industry experts and academia were conducted.

On day 6, the programme was dedicated to honouring the Research scholars of CSIR-IMMT through a Research Scholar's conclave. During this event, scholars presented their research activities to eminent dignitaries from both industry and academia. Prof. MK Dhar, Director of AcSIR, addressed students and scientists. Special talks were delivered by Padmashree Prof. AP Dash (VC, AIPH University, Bhubaneswar) and Prof. AK Mahapatra (Former Director, AIIMS Bhubaneswar) to inspire and motivate the scholars and students of the institute.

The programme also included poster presentations, model exhibitions, live demonstrations, lab and pilot plant visits, and theme-based panel discussions. Additionally, to cultivate a culture of curiosity and scientific temper among school

students and their teachers, more than 1000 students from different schools and colleges visited central exhibits and various labs.

The valedictory function on the afternoon of Day 6 witnessed the presence of Shri MK Gupta, Joint Secretary of CSIR, as the Chief Guest and Prof. Siddharth Das, Former Principal of SCB Medical College, as Guest of Honour. About 150 superannuated employees of CSIR-IMMT were invited to this function, where they were honoured by Director Dr Ramanuj Narayan with mementoes. The event was attended by all CSIR-IMMT employees, other invitees,



students, project staff, and the family members of the employees. During this gathering, two MOUs were signed with two reputable institutes.

CSIR-NAL Celebrates “One Week, One Lab” Programme

CSIR-National Aerospace Laboratories (CSIR-NAL), Bengaluru, celebrated the “One Week, One Lab” from 19-24 September 2023. On the curtain raiser day, 02 August 2023, CSIR-NAL launched the Jal Dost II (airboat for de-weeding of lakes) and the Q-plane (e-VTOL aircraft for border management). This occasion was graced by Dr VK Saraswat, Member NITI Aayog and all the members of the Research Council of CSIR-NAL.

The first day was inaugurated by Ms Gunjan Krishna, IAS, and Commissioner for Industries Development & Director for Industries & Commerce, Govt of Karnataka, on 19 September 2023. The Guest of Honour was Dr Kallappa Pattada, Boeing India. This was followed by the

inauguration of the exhibition area in the Golden Jubilee Hangar, Belur Campus, by the Former Directors of CSIR-NAL.

The first session was “Academia/Research Institute to Intrapreneurship & Entrepreneurship”. It was designed to inspire and educate aspiring Intrapreneurs from CSIR-NAL & entrepreneurs with first-hand accounts of individuals who transitioned from academic and research backgrounds to establish successful companies.

The second session was “Scaling the Innovation Continuum: Unleashing the power of the Innovation Continuum”. In today's rapidly evolving world, researchers are increasingly transitioning from the academic/research realm to become entrepreneurs and

CSIR-NAL launched the Jal Dost II (airboat for de-weeding of lakes) and the Q-plane (e-VTOL aircraft for border management).

The panel discussion explored the critical journey from research to innovation to industry.

venture catalysts. This keynote session brought forth inspiring speakers who have successfully traversed this path, transforming their research expertise into entrepreneurial ventures and subsequently becoming a catalyst for innovation and growth. The venture capitalist ecosystem for early-stage deep tech innovations and their perception of the research industry integration were discussed.

The third and final session was “Bridging the Gap: Accelerating the Research to Innovation to Industry Continuum”. The panel discussion explored the critical journey from research to innovation to industry, highlighting the challenges and opportunities of effectively bridging these stages. It provided a platform for experts, researchers, industry leaders, and policymakers to exchange insights, share best

practices, and discuss strategies for fostering a seamless transition from research breakthroughs to successful commercialisation.

The second day was kicked off by Dr Girish S Deodhare, Distinguished Scientist & DG, ADA and Dr Naresh Palta, Sr Adviser Aerospace & Aviation, MAINI GROUP, on 20 September 2023. Their talks covered collaboration and commercialisation. The guests also launched a website for indigenisation of components and LRU (Line Replaceable Unit).

This day aimed to present the challenges and opportunities in developing indigenous components/ systems by MSMEs & Start-ups for aircraft programmes like SARAS Mk-II, HANSA-NG, HAP& RTA. The respective Project Directors of the aircraft programmes at CSIR-NAL presented the opportunities.

Additionally, the market potential of UAVs & Electric Air Mobility were explored and the transformative effects they bring to sectors such as transportation, logistics, agriculture, and surveillance were discussed. The panel discussions focused on the dynamic relationship between start-ups and research labs, emphasising the collaborative strategies that foster replicable initiatives in the innovation continuum, specifically from Prototype to Production (P2P).

The third session was on the High Potential NAL Technologies for commercialisation presented by the various Cluster Chairmen of CSIR-NAL. The session provided opportunities to commercialise technologies with high market potential by MSMEs and Startups.



It also focused on a joint collaboration with risk and cost-sharing partnership in key areas of co-development in aerospace. Technology transfer MoU was signed with select industry partners. The final session was led by angel investors.

The Skill Development Academia Connect was organised on 21 September. Dr Abhay A Pashilkar, Director, CSIR-NAL, inaugurated the event with an insightful address, highlighting the pivotal role of skill development in the Aerospace Sector. Dr Arun Bandyopadhyay, Director, CSIR-Indian Institute of Chemical Biology (CSIR-IICB), in his address, stressed the importance of Skill Development and the various training programmes provided by CSIR-IICB. Director, CSIR-IICB also discussed the development of indigenous ventilators and RT-PCR test kits for COVID-19.

Dr S Ravishankar, Head, Aerospace Skill Development Centre (ASDC), CSIR-NAL, presented the various skill development initiatives undertaken by the organisation. He emphasised the importance of nurturing technical expertise and practical skills among aerospace enthusiasts. He briefed about the various Aerospace Courses offered at CSIR-NAL under the Aerospace and Aviation Sector Skill Council and tailor-made courses provided at ASDC.

Mr Muthukrishnan, Head, Operations, Aerospace and Aviation Sector Skill Council, discussed the specialised skill development programmes aimed at the aerospace and aviation

sector, shedding light on industry-specific training efforts.

Mr G Venkatesh, Deputy Director, Regional Directorate of Skill Development & Entrepreneurship (RDSDE), in his talk titled “Implementation of Apprenticeship Training Programme and its Benefits”, offered practical insights into implementing apprenticeship training programmes. He outlined the various benefits of such programmes, including skill enhancement, industry exposure, and increased employability. Additionally, Mr Venkatesh provided detailed information about the legalities and different categories of apprenticeships under the Government of India, ensuring a comprehensive understanding for the attendees.

Cmde. CD Balaji (Retd), Chairman, K-Tech Centre of Excellence in Aerospace and Defence, in his talk titled “Innovation and Skilling for Aerospace and Defence Ecosystem”, emphasised the importance of innovation and skilling within the aerospace and defence sectors, exploring the symbiotic relationship between the two. Mr CA Shashidhar Shetty, Chairman, Karnataka Small Scale Industries Association (KASSIA), shared insights into manufacturing skill requirements in his talk titled “Manufacturing Skill Requirements for Job Prospects, An Industry Perspective”, providing an industry perspective on job opportunities within the aerospace and defence sectors.

Dr S Ravishankar, CSIR-NAL, emphasised the importance of nurturing technical expertise and practical skills among aerospace enthusiasts.

Prof. Rajkumar S Pant from IIT-Bombay delivered a comprehensive lecture, delving into advanced topics related to aerospace engineering and innovation.

Prof. Rajkumar S Pant from IIT-Bombay delivered a comprehensive lecture, delving into advanced topics related to aerospace engineering and innovation. He discussed the various spin-offs of space technology that are being utilised in diverse sectors. His session offered attendees profound knowledge and cutting-edge insights into the field, enhancing their understanding of the intersection between aerospace engineering and its practical applications in other industries.

The afternoon session was marked by signing of a Memorandum of Understanding (MoU) with various academic institutes. These MoU's aimed to strengthen the collaboration between CSIR-NAL and academia, thereby fostering research, development and knowledge exchange as part of the Skill development initiatives.

A captivating live demonstration featuring an Octocopter was organised in the Golden Jubilee Hangar, CSIR-NAL, Belur campus, and this enabled the attendees to witness first-hand the application of drone technology in the aerospace sector. The attendees also took this opportunity to visit the exhibition stalls displaying the various technologies developed by CSIR-NAL.

On the Fourth day of the "One Week, One Lab" Campaign on the theme "Student Scientist Connect", 119 students and 27 teachers from ATAL Tinkering Lab schools in rural Karnataka attended this programme. A set of seven DIY kits were distributed

to each participating school; with these kits, students can conduct more than 40 science experiments in their school. Dr VPS Naidu, nodal officer of Jigyasa, briefed the participants about Jigyasa and its activities.

The Chief Guest of the programme, Prof. RK Pant, Professor at Dept of Aerospace Engineering, Indian Institute of Technology, lectured on "Principles of Flight" along with an aircraft model demonstration. It was an interactive session, and students were excited to ask questions. Dr Abhay Pashilkar, distributed the participation certificates to all the students and teachers. Aero-quiz was conducted, and prizes were given to winners and runners. The programme was concluded by interacting with scientists, visiting the technologies and aircraft exhibition, and an octocopter flying demonstration.

Open Day for College Students was organised on the fifth day to create awareness among engineering students about NAL's achievements and to showcase the latest technologies in the field of Aerospace Engineering & Science. Engineering students from southern states took part in this event, and they enthusiastically witnessed the exhibition and interacted with scientists about new innovations.

The Open Day for the public was an excellent opportunity for the general public to reach out and interact with scientists about the R&D achievements of CSIR-NAL. Around 750 people gathered from various parts of Bengaluru.

CSIR-IGIB Celebrates “One Week, One Lab” Programme



CSIR-Institute of Genomics and Integrative Biology (CSIR-IGIB), Delhi, kick-started a series of events under the “One Week, One Lab” programme from 18 to 23 September 2023, to highlight the institute’s outstanding research and technological innovations. The theme of the event was “Bringing Genomics Closer to the Society”. The event had major programmes where the goal was to connect to various stakeholders, including clinicians, industry, school students, research scholars, and society.

The event's inauguration commenced on 18 September at CSIR-IGIB Auditorium, Mathura Road Campus, New Delhi. The dignitaries that graced the occasion included Chief Guest Dr Rajesh S Gokhale, DBT Secretary; Guest of Honour Dr NK Ganguly, Ex-DG, ICMR, and Dr Sudeep Gupta, Director, Actrec.

The institute inaugurated the comprehensive multi-omics database of Indian breast cancer patients generated as part of the

CSIR-led Indian Breast Cancer Genome Atlas (IBCGA) programme. This pan-India collaborative effort between cancer researchers, data scientists and clinicians is a huge step towards facilitating breast cancer diagnosis and therapeutics aimed at profiling 1000 breast cancer patient samples. To encourage this journey of improving precision medicine in India, the data release of genomic and transcriptomic data of 200 breast tumours from Indian patients was planned. There were extensive research exhibitions from various laboratories to showcase major themes of IGIB.

On 19 September, “Clinical-Connect Day: Renewing the Old & Forging New Collaborations” had events like popular lectures, panel discussions and exhibitions. This was possible because of the Institute’s extensive and long-term collaborations with medical professionals across India and mutual trust. The event provided an excellent networking platform for clinical leaders,

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scientists, and young medical and research students to come together and discuss the road ahead for providing cutting-edge technologies for patient care.

As part of this clinical feast, the Online Portal for the much-anticipated flagship programme: "Phenome India: CSIR Health Cohort Knowledgebase" was inaugurated by Joint Secretary, CSIR, Shri Mahendra Kumar Gupta. This is a first-of-its-kind pan-India collaborative effort between all CSIR laboratories to develop personalised risk prediction scores for communicable and non-communicable disorders (cardio-metabolic).

On the third day, 20 September, Industry-Connect was organised. It was an exciting day involving promoting active exchange and networking between industry professionals and researchers. CSIR DG Dr N Kalaiselvi joined online. In her presence, for the first time, a video was formally showcased highlighting the activities of the institute. She congratulated IGIB fraternity that has come out as a leader in a short time and also emphasised having a larger canvas.

The day was full of inspiring talks by industry leaders as they shared insights on the future of technology and start-up space in the country. There was a panel discussion with experts in the field of Genetic Counselling participating.

The outreach day on 21 September saw a large

footfall of 1300 students in both campuses. The young minds caught a glimpse of lab exhibitions, live demos, facility visits, hands-on activities, and lots of fun-filled games and quizzes. In addition, there was a popular science talk by a young entrepreneur, Mr Aryan Mishra, who also inaugurated the Ramanujan-Hardy Lab. This is an exclusive space away from the main lab where school students can pursue their ideas through self-designed experiments. IGIB scientists will mentor students and nurture their ideas.

The last theme of the event was an off-site two-day workshop at the University of Kashmir from 22 to 23 September, where IGIB scientists showcased their innovative research outcomes through jointly organised training lectures. The day was filled with engaging talks and stimulating discussions centred around posters.

During the valedictory session, Hon'ble Minister S&T, Dr Jitendra Singh, graced the occasion and presented poster awards to students. In parallel, at IGIB, a Zebrafish Laboratory training workshop was organised from 22 to 27 September that covered aspects of ethics in animal research, embryonic development in a petri-dish, genetics, and genomics of zebra fish.

The event culminated with student-led activities, where the students of IGIB participated with big ideas in the field of life sciences in the form of the shark tank forum.

CSIR-HRDC, Organises Capacity Building Training Programmes

The Second Meeting of Monitoring Committee of CSIR Integrated Skill Initiative was held on 2 August 2023 at CSIR-Human Resource Development Centre (CSIR-HRDC), Ghaziabad. The meeting was chaired by Prof. MM Chaturvedi, University of Delhi and members including Dr SS Arya (Agriculture Skill Council of India), Ms Anju Bajaj (Delhi Productivity Council), Dr Neeta Das Pradhan (National Skill Development Corporation), Dr RK Sinha (Head HRDC) and Dr Vinay Kumar (Nodal PI-HRDC). During the meeting, the nodal officers from CSIR labs presented their annual progress, achievements and outcomes in the project for the year 2022-23.

The next day, the Capacity Building Training for Nodal Officers of CSIR Integrated Skill Initiative was organised in hybrid mode. Dr RK Sinha, Head, CSIR-HRDC welcomed the guests and delegates. Mr SK Bose, CEO, Hydrocarbon Sector Skill Council (HSSC), Mr Sanjay Bhardwaj, Sr VP,



Industry & Strategy, Capital Goods Skill Council (CGSC) and Mr Anshul Saxena, Senior Director, Life Sciences Sector Skill Development Council (LSSSDC) were present and shared their knowledge and experience. 48 nodal officers and their teammates from different CSIR labs have participated in this.

Two days Capacity Building Programme: Forum of IT Officials, was organised during 26-27 October, 2023. Approximately 75 IT officials from various CSIR labs participated. Shri Mahendra





Kr Gupta, Joint Secretary, CSIR, inaugurated the programme along with Dr RK Sinha, Head, CSIR-HRDC & Mrs Dolly Chaudhary, Head, IT, CSIR-HQ. The focus of this forum to brainstorm the new ideas and possibilities to digitalise CSIR on one platform and make one CSIR.

In compliance with CSIR-Capacity Building Programmes as a prelude to Vigilance Awareness 2023, CSIR-HRDC prepared a quarterly training calendar to organise online programmes. A series of awareness programmes were conducted online to get maximum participation across CSIR.

More than 2000 participants of different cadre across CSIR participated in these online programmes. The feedback of

these awareness programmes was overwhelming.

Besides the above programme, two days Training Programme on Generation of Annual Accounts through AMS was also organised during 30-31 October 2023. Approximately 70 participants of Finance & Accounts Officer and Controller of Finance and Accounts level participated in this programme. Dr N Kalaiselvi, Secretary, DSIR & DG, CSIR, and Ms Gurveen Sidhu, DG of Audit (Environment & Scientific Dept) graced the occasion and addressed the participants. Shri Mahendra Kr Gupta, JS, CSIR, and Shri Chetan Prakash Jain, JS & FA, CSIR, also addressed the participants. Dr TS Rana, Head-Designate, CSIR-HRDC, welcomed the dignitaries.

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