

In the News

“We need to create a balance between Indian traditional knowledge and modern S&T advancements”: Dr Jitendra Singh, Hon’ble Union S&T Minister

International Conference on “Communication & Dissemination of Traditional Knowledge” Organised by CSIR-NIScPR



CSIR-National Institute of Science Communication and Policy Research, New Delhi, organised an International Conference on Traditional Knowledge (CDTK-2023) during 14-15 February 2023 at the National Agricultural Science Complex Centre (NASC), New Delhi.

Dr Jitendra Singh, Minister of State (Independent Charge) of the Ministry of Science & Technology, Govt of India, appreciated the efforts of CSIR-NIScPR in organising the conference of such significance. He said that India has a very rich heritage of traditional knowledge which could be more fruitful if we validate it with

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modern tools of science and technology. He added that we need to create a balance between Indian traditional knowledge and modern S&T advancements.

Earlier, during the inaugural function, Dr N Kalaiselvi, Director General, CSIR & Secretary, Department of Scientific & Industrial Research (DSIR), Ministry of Science & Technology, Govt of India said, "Science communication plays a crucial role to make society aware of the research in our labs. When we talk about our heritage of traditional knowledge, the scientific validation and its effective communication to the society will be useful."

Shri Vaidya Rajesh Kotecha, Secretary, Ministry of Ayush, Govt of India, was the Guest of Honour and Prof. Subhash Kak from Oklahoma State University, USA, joined online and delivered the Keynote address "Indian Knowledge in the Perspective of the Western Tradition".

While delivering her Welcome Address, Dr Ranjana Aggarwal, Director, CSIR-NIScPR elaborated on the new initiative SVASTIK (Scientifically Validated Societal Traditional Knowledge) of CSIR-NIScPR. Recognising the need for effective communication of TK and traditional practices and upon the clarion call of the Hon'ble Prime Minister of India and President of the CSIR, Shri Narendra Modi, CSIR-NIScPR launched the nationwide initiative to communicate scientifically validated traditional knowledge to the society under its "SVASTIK" initiative.

Prof. BN Jagatap, Senior Professor at IIT Bombay, CSIR-NIScPR Research Council Chairperson, & Chairperson, Steering Committee, SVASTIK, also shared his valuable thoughts during the session.

Dr G. Mahesh, Chief Scientist, CSIR-NIScPR, proposed the vote of thanks. SVASTIK Brochure and popular science book and a special issue of the *Indian Journal of Traditional Knowledge* were released during the conference.

Traditional Knowledge experts from India and abroad participated in the conference with seven technical and poster sessions. A panel discussion on "Traditional Knowledge Research & Communication — The Road Ahead" was also organised.

A parallel National Workshop on "Role of Taxonomical Identification & Authentication of Plants & Crude Drugs in Traditional Medicine & Research" was organised on 15 February 2023. Drug development from medicinal plants and the importance of taxonomy in drug identification/authentication were the focal areas of this National Workshop. The workshop provided an opportunity for young researchers to learn about drug discovery and hands-on training in the identification and authentication of medicinal plants. Dr Suman Ray, Principal Scientist, CSIR-NIScPR, was the coordinator of the National Workshop.

Concluding the two-day conference, Dr Charu Lata, Principal Scientist, CSIR-NIScPR and Organising Secretary of the Conference, proposed the vote of thanks.

India & Mexico Sign MoU for Research, Technology and Innovation Collaborations



INDIA and Mexico signed a Memorandum of Understanding (MoU) on 4 March 2023 on research, technology and innovation collaborations with a focus on several key technology areas like Aerospace, Electronics Instrumentation & Strategic Sectors; Civil, Infrastructure & Engineering; Ecology, Environment Earth & Ocean Sciences and Water; Mining, Minerals, Metals & Materials; Chemicals (including leather) and Petrochemicals; Energy (Conventional & Non-Conventional) and Energy Devices; Agri, Nutrition & Biotech and Healthcare.

The multi-sectoral historic agreement was signed in the august presence of Union Minister for Science & Technology, Dr Jitendra Singh and Foreign Minister of Mexico Mr Marcelo Ebrard at the CSIR Science Centre,

Lodhi Road, in presence of high-level delegations from both sides.

Dr Jitendra Singh assured the Mexican Foreign Minister that the three priority areas of Water, Lithium and Vaccines flagged by the Mexican side will be taken care of by the CSIR and other sister organisations and India will provide tangible results in the coming few months. He said Lithium is becoming a real connect between India and Mexico, apart from the future vision of sustainable start-ups. The Minister appreciated the presence of the Foreign Minister in the signing of the MoU and said it reflects the seriousness the Mexican Government attaches to its relationship with India.

Dr Jitendra Singh pointed out that CSIR and Mexican Agencies through this MoU could contribute effectively to the global society through research and innovation partnerships for technology

Hon'ble Minister Dr Jitendra Singh pointed out that CSIR and Mexican Agencies through this MoU could contribute effectively to the global society through Research and Innovation partnerships for technology development.

development, upscaling of each other's Intellectual Property for commercialisation and research infrastructure development & sharing. He said, in addition to regular research & development, capacity building & training and participation

in knowledge dissemination activities, a special focus on technology and industry collaboration has been structured in the MoU.

Adapted from PIB, Press Release

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

CSIR-Central Drug Research Institute (CSIR-CDRI), Lucknow, celebrated the CSIR “One Week, One Lab” programme during 13-24 February 2023.



Flag-off ceremony

The institute inaugurated the programme with a flag-off ceremony on 13 February 2023 for the team of scientists and researchers for outreach programmes at various schools. Besides, a Vigyan Jyoti Programme for motivating girls in STEM at Jawahar Navodaya Vidyalaya Piparsand, Lucknow, was also organised during which girls were sensitised towards women empowerment. A quiz competition was organised for them in which the

girls participated enthusiastically.

For newly adopted Atal Tinkering Labs, a Student-Scientist-Connect programme was also conducted at SR Global School, Bhaismau, Lucknow. During the interaction, students were motivated to pursue careers in science and a quiz competition was also conducted for them. A similar programme was organised at the Army Public School, Lucknow.



Student-Scientist connect Programme

A webinar was also organised titled “One Week, One Lab & One Product: Reunion for rapid fracture healing & osteoporosis management”, which was also joined by collaborators and industry partners.

The next day on 14 February 2023, a Health Awareness Programme was organised in villages — Pahiya Ajampur, Kakori



Pictures of the Health Awareness Programme



and Purseni in Lucknow. During the programme, scientists interacted, counselled and surveyed the villager's understanding towards health and fitness. Villagers were also sensitised about Lymphatic Filariasis, how they can protect themselves and how they can cure it. Also, free health check-up for villagers and spreading awareness towards Diabetes and other lifestyle-related diseases was conducted. Children were also sensitised towards their health.

On 15 February, an Open Day was conducted in which more than 600 students participated with full vigour. Students from 15 pharmaceutical colleges interacted with scientists and learnt about the Drug Discovery and development process. Students were also exposed to hands-on demonstrations and exhibitions.

CSIR-CDRI launched its new made-in-India product GreenRTM on 16 February 2023. It is a Nucleic

Acid Staining, safe & cost-effective dye for biomedical research and diagnostics. The product was launched in collaboration with Industry partner Geneto Protein Pvt. Ltd (GTP), a start-up company registered in Uttar Pradesh. The product also has applications in molecular diagnostics such as PCR-based tests to detect disease.

Shri Alok Kumar, Director General, UPCST was the chief guest for the product launching event. Other dignitaries in the programme included Dr V.P. Kamboj, former Director, CSIR-CDRI; Dr GN Singh, former DCGI and Advisor to the Chief Minister of Uttar Pradesh; Prof. Alok Dhawan, Director, CBMR; Dr Huma Mustafa, Joint Director, CST-UP; along with Dr Atul Goyal, Chief Scientist, CSIR-CDRI; and Dr Shraddha Goenka, MD, Gene to Protein Ltd who led the team that took this product from lab to market. Many other eminent scientists and researchers also witnessed this event.

CSIR-CDRI Director, Dr Radha Rangarajan said that the nucleic acid staining dye, GreenRTM is an example of a successful industry-academia collaboration. She further added that Indian

During the health awareness programme, villagers were sensitised about Lymphatic Filariasis, how they can protect themselves and how they can cure it.

CSIR-CDRI launched its new made-in-India product GreenRTM which has applications in molecular diagnostics such as PCR-based tests to detect disease.



researchers are dependent on costly, imported nucleic acid staining dyes; GreenRTM is a safe and effective alternative with similar staining outcomes to commercially available dyes.

Chief Scientist Dr Atul Goel who led the development of the product said that GreenRTM is an economical alternative to imported dyes that are used to stain DNA/RNA. He gave some details about GreenRTM and said that it is highly versatile and binds to all nucleic acids including genomic DNA, PCR products, plasmids and RNA. The chemical synthesis of GreenRTM was standardised by Dr Goel's team comprising Ms Sajiya M Kundan, Ms Suchitra, Mr AP Dwivedi and the BDPL team has studied its biological applications in real-time PCR and DNA binding. Dr Shradha Goenka, Director of Geneto Protein Pvt. Ltd also talked about the benefit and various applications of the product. She said that this

product will also help to come closer to the goal of Aatmanirbhar Bharat.

Later, on that day a panel discussion on Industry-Academia collaboration for the development of affordable healthcare products also took place in Biotechpark, Lucknow, where it was emphasised that all stakeholders — industries, academia, clinicians, regulatory-authority, government & end users — need to contribute together for translating products to the market.

The successful celebration of the “One Week, One Lab” programme concluded on 24 February 2023 with Dr N Kalaiselvi, Director General, CSIR and Secretary DSIR, Govt of India, unveiling the original foundation stone of CSIR-CDRI which was laid by Pt Jawaharlal Nehru, the then Prime Minister of India on 17 February 1951 in the Chattar Manzil Palace. Now this foundation stone has been shifted to the institute's new campus. Earlier, Director CSIR-CDRI, Radha Rangarajan welcomed the DG and presented an overview about the institute.

Dr Kalaiselvi interacted with the scientists and visited some important Laboratories & Facilities (NMR, X-Ray, Electron Microscopy, CBRS, Herbarium). Later she



inaugurated a Lab for the Centre for Science Outreach and Research. Dr N Kalaiselvi also addressed the scientists, researchers and staff and motivated them to do their best irrespective of what capacity they are working in the organisation. She added, “The Nation has a lot of expectations from CSIR labs so we have to put our maximum efforts to make the nation proud of us with our contributions.”

Later, two MoUs were signed — one with the Manipal Academy of Higher Education, Manipal,

and another with Themis Medicare Limited, Mumbai. Another indigenous technology of a new Quencher UniQ for research and diagnostics was also transferred to the Industry partner, Biotech Desk Private Limited, Hyderabad for further development.

After the felicitation of the Hon’ble DG by the CSIR-CDRI Staff Club, the programme was concluded with a vote of thanks by Dr Shubha Shukla.

“One Week, One Lab” Programme by CSIR-IHBT

CSIR-IHBT (CSIR-Institute of Himalayan Bioresource Technology), Palampur, Himachal Pradesh, also joined the celebration with its “One Week One Lab” programme from 20-25 February 2023.

The programme was inaugurated on 20 February 2023. Mr Ashish Butail, Hon’ble Chief Parliamentary Secretary, Government of Himachal Pradesh was the Chief Guest of the inaugural function. Dr Girish Sahni, former

“The Nation has a lot of expectations from CSIR labs so we have to put our maximum efforts to make the nation proud of us with our contributions,”
Dr N Kalaiselvi, DG, CSIR.

Hon'ble Chief Parliamentary Secretary, Mr Ashish Butail appreciated the contribution of CSIR-IHBT for societal upliftment and invited the industries to invest in the state.

DG, CSIR and Secretary DSIR and Dr MP Gupta, CMD of Deccan Health Care Division, Nutridec, Hyderabad, were the Guests of Honour. Mr Ashish Butail appreciated the contribution of CSIR-IHBT for societal upliftment and invited the industries to invest in the state. He also assured the state government's support to generate livelihood for the people.

Dr Sanjay Kumar, Director, CSIR-IHBT, threw light on the purpose of the programme and apprised that the scientists of the CSIR-IHBT have significantly contributed towards the self-reliance of farmers and entrepreneurs by developing agricultural practices of crops like asafoetida, saffron, stevia, liliun, and cinnamon. To process the harvest, distillation units were set up in different states to grow and process aromatic crops, especially lavender and aromatic marigold.

Dr Girish Sahni emphasised the need to change the ecosystem so that products based on technologies developed in the lab can reach the market. He said that these technologies can be disseminated by setting up technology parks. The special guest, Dr MP Gupta, Managing Director, Deccan Healthcare Ltd, Hyderabad, said that success is achieved only by overcoming challenges and said that there was an urgent need for clarity, simplicity, and regulatory policy reforms to help entrepreneurs.

Another highlight of the programme was the distribution of liquorice (Mulethi) in Himachal Pradesh. Mr Ashish Butail distributed the planting material

**1 week
One Lab**



of 'Mulethi' (*Glycyrrhiza glabra*) to farmers for commercial cultivation in the state for the first time. Seeds and planting materials for various crops were also distributed to farmers from different parts of the state.

A booklet was released on start-ups, and the Hon'ble Chief Parliamentary Secretary also inaugurated the Plant Tissue Culture Unit, exhibition of entrepreneurs and flower show at CSIR-IHBT. Two MoUs were also signed on the occasion for the dissemination of technologies developed at CSIR-IHBT. On this day about 125 students and teachers from JNV Paprola and Viveka Foundation also visited the institute under the Jigyasa programme and about 38 farmers attended a training programme.

The theme for the second day was "Making India Atmanirbhar through Empowerment of Farmers". As a part of the campaign, a five-day training programme on "Cultivation and Post-Harvest Management of Aromatic plants" was organised from 19-23 February 2023 at CSIR-IHBT. In this training 52 farmers of District Mandi, Himachal Pradesh participated and were apprised about CSIR-Aroma Mission activities, cultivation and post-harvest technologies of aromatic crops. The farmers were also apprised about floriculture, planting, farm management

and harvesting of medicinal and aromatic plants, dehydration of flowers, formulation of incense cones, beekeeping, stevia, heeng cultivation, shitake mushroom, and food processing technology.

A workshop on “Fostering Waste Management in Cold Regions” was organised on the third day of the programme. Mrs Poonam Bali, Mayor of Palampur Municipal Corporation, presided over the function as the chief guest. President of Baijnath-Paprola Nagar Panchayat, Mrs Kanta Devi and Secretary Mr Pradeep Dixit, local Mahila Mandals and representatives and local sweepers participated in the function.

CSIR-IHBT's scientist Dr Rakshak Kumar in his presentation on domestic waste management said that more than 50 per cent of domestic waste is from our kitchen which is organic and can be put to good use. He urged all the participants to keep their kitchen waste separate and make organic manure from this waste. He informed that CSIR-IHBT has developed Smart Biobin and “Compost Booster” for disposal of the waste. It rapidly degrades organic waste. Smart Biobin and "Compost Booster" were also demonstrated during the programme. Along with this, a gaming competition was also organised on this occasion in which the participants learned the difference between wet and dry waste while playing.

A workshop on “Boosting Women Empowerment” was organised on the fourth day of the programme. The Chief Guest of the



programme was Ms Gandharva Rathore, Settlement Officer, District Kangra, Himachal Pradesh. While highlighting the need for women's empowerment, she delineated how women can become self-reliant by joining the National Rural Livelihood Mission. She urged the women to adopt the technologies developed by CSIR-IHBT for empowering themselves. Over 120 women from various self-help groups of the state participated in the function.

Dr Pamita Bhandari, Principal Scientist of the institute gave information about the technologies developed by the institute and their benefits. Three technologies on natural colours and dyes, value addition from dried flowers and herbal incense stick-making were also demonstrated on this occasion.

Dr Aparna Maitra Pati, Chief Scientist, CSIR-CDRI, threw light on the purpose of the programme and informed that CSIR-IHBT has taken steps towards the

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self-reliance of women, farmers and entrepreneurs.

On this occasion, 27 differently-abled children from Rotary Sewa Ashram, Saliana, District Kangra, and Himachal Pradesh also visited the institute. These children visited Tulip Garden and Bamboo Museum and enthusiastically participated in various activities like painting and music. Under the Jigyasa programme, around 700 students and teachers in the programme visited the institute from Jawahar Navodaya Vidyalaya, Paprola; Viveka Foundation School, Bhawarna; Government Senior Secondary School, Gandhir, Bilaspur; Cambridge School, Palampur and Greenfield School, Nagrota and were informed about research work and technologies developed in various laboratories.

Artificial Intelligence and Machine Learning in Agriculture and Innovation for Better Health was the theme for the fifth day. A workshop on "Motivating School Students Toward Improved Health and Innovation" was organised on 24 February 2023. The programmes were designed to teach students the value of micronutrients in food, a balanced diet, and good health care hygiene.

Mr Ashok Sharma, District Programme Officer, Kangra, addressed the students on the importance of a balanced diet. He pointed out that malnutrition, especially iron and protein deficiency, is a major health problem in India and particularly in Himachal Pradesh. He further added, malnutrition is affecting 60% of children under 5 years of



age and nearly 50% of women of reproductive age. He continued, CSIR-IHBT has developed several proteins, iron, zinc and calcium-enriched food products to meet the needs of the target communities. These products are very useful and soon they will be used in the entire state. Furthermore, he advised students that rather than eating junk food they should eat protein, vitamins and micronutrients rich food.

Dr Aparna Maitra Pati, Chief Scientist, CSIR-IHBT, presided over the event and highlighted the work done by CSIR-IHBT in combating malnutrition. Scientists of CSIR-IHBT also conducted a workshop and demonstration programme on the value of micronutrients and showcased various IHBT products to students, child development officers, block supervisors, and district/block POSHAN Abhiyaan coordinators.

CSIR-IHBT in association with the Directorate of Women and Child Development, Govt of Himachal Pradesh has conducted a pilot scale nutrition supplementation programme under the aegis of POSHAN Abhiyaan. Recently, the Directorate of Women and



Child Development, ICDS, Govt of Himachal Pradesh have associated with CSIR-IHBT as part of Mukhya Mantri Balamposhan Yojana (MMBSY), an intensive drive to combat malnutrition in the state.

On this occasion, under the Jigyasa Programme, Dr Amit Kumar, Senior Principal Scientist of the institute, addressed about 600 students and teachers from various schools on "Artificial Intelligence and Machine Learning in Agriculture". The role and usage of drones in agriculture were also demonstrated. Further, these students and teachers also got information about research work and developed technologies of the institute.

A programme on "Strengthening Local Linkages"



was organised on the sixth day of the programme. The Mayor of Palampur Municipal Corporation, Mrs Poonam Bali, was the guest of the ceremony.

Dr Pralay Das, Principal Scientist, CSIR-IHBT, welcomed the participants and highlighted the purpose of the programme. The Institute's Scientist Engineer Mohit Sharma gave information on technologies developed at the Chemical Technology Division, Dr Mahesh Gupta on Challenges in Post-Harvest Management – Crispy Fruit and Fruit Technology, Dr Poonam on Value Addition of flowers through dehydration technology, and Dr Probir Kumar Paul on Agrotechnology for medical, aromatic and economically important plants.

Events

CSIR-NCL Celebrates National Science Day

CSIR-National Chemical Laboratory (CSIR-NCL), Pune, celebrated the National Science Day on 28 February 2023. The programme started with welcome remarks from

Dr Ashish Lele, Director, CSIR-NCL. He reminded students that National Science Day is celebrated every year to commemorate Sir CV Raman's discovery of a "New Type of Secondary Radiation",

Prof. Arindam Chowdhury, IIT, Bombay, spoke on the topic "Blink, Wink, Flicker and Sparkle: Optical Instabilities of Perovskite Crystals."

As a part of the celebrations of National Science Day at CSIR-NCL, the research work being carried out in the laboratory was showcased in the form of poster presentations.

now famously known as the Raman Effect. He urged students to read about the history of this fundamental discovery which started with Raman's journey from London to Mumbai aboard the SS Narkunda in 1921 and culminated with his Nobel Prize in 1930.

The National Science Day Lecture was delivered by Prof. Arindam Chowdhury from the Indian Institute of Technology (IIT), Bombay, on the topic "Blink, Wink, Flicker and Sparkle: Optical Instabilities of Perovskite Crystals". Prof. Arindam Chowdhury talked about an experimental technique of imaging dynamics & spectroscopy of ensembles of molecules or even single molecules, which is based on the phenomenon of static (spatial) and dynamic (temporal) photoluminescence intermittency. He specifically dwelled on the imaging dynamics of semiconductor single crystals of perovskites, which are drawing a lot of attention these days because of their applications in photovoltaics.

When observed under a microscope, he showed that the crystals appear to flicker, blink or even wink! He explained that the observed fluctuations in the emitted light are a result of the generation and diffusion of 'exciton pairs' i.e., electrons and holes in the semiconductor crystals when they are exposed to visible light. The emission is quenched when excitons finally recombine. Wavelet analysis of the temporal fluctuations can provide useful data on the diffusion dynamics of excitons and their recombination frequency.



Dr Arindam Chowdhury, IIT Bombay, delivering the lecture

Prof. Arindam also showed some unusual experimental data in which the fluctuations in large (or fused) single crystals can be synchronous or out-of-phase. He also touched upon the fact that such measurements can provide useful information on the adverse effects of moisture and oxygen in the atmosphere surrounding perovskite crystals. For example, this science could be converted into humidity/air sensors for perovskite solar cells.

As a part of the celebrations of National Science Day at CSIR-NCL, the research work being carried out in the laboratory was showcased in the form of poster presentations during 23-24 February 2023. A total of 170 posters were presented enthusiastically by the JRFs, SRFs, PAs and post-docs.

An eminent panel of judges scrutinised and evaluated the posters in each category and selected the best posters. A total of 30 poster prizes were presented at the hands of the Chief Guest for the day, Prof. Arindam Chowdhury. Dr Sarika Maitra Bhattacharyya gave the vote of thanks.

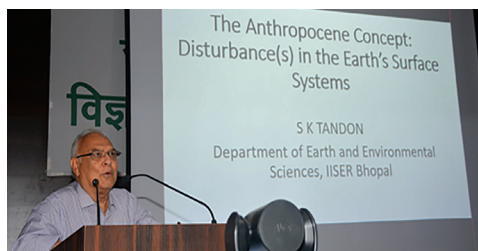
CSIR-NEERI Celebrates National Science Day

Need to officially declare the 'Anthropocene' as human-influenced age in Earth's history

CSIR-National Engineering Research Institute (CSIR-NEERI), Nagpur, celebrated the National Science Day in the NEERI auditorium on 28 February 2023. The Chief Guest Prof. S.K. Tandon, Visiting Professor, Department of Earth and Environmental Sciences, Indian Institute of Science Education and Research (IISER), Bhopal, delivered the National Science Day Lecture on this occasion. Dr Atul N. Vaidya, Director, CSIR-NEERI, was also present on this occasion.

Highlighting the 'Anthropocene Concept', Prof. Tandon provided a brief overview of the earth's surface and its evolution. He mentioned that the earth is about 4.5 billion years old and its geological timeline is spilt into Cenozoic, Mesozoic and Paleozoic ages. Since the last two hundred years humankind has caused such a negative footprint on the environment that some scientists describe it as a new geological age: the age of human impact on Earth or the Anthropocene, he added.

Prof. Tandon pointed out that environment degradation and climate change have increased at a rate never seen at any other time in history. He also stated that the Anthropocene is an unofficial unit of geological time, used to describe the most recent period in Earth's history when the human activity



started to have a significant impact on the planet's climate and ecosystems. He stressed the need to officially declare the 'Anthropocene' as a new geological timeline and separate it from the current geological timeline 'Holocene'.

Prof. Tandon informed that the Anthropocene Working Group (AWG) under the International Commission on Stratigraphy still has not decided on the definition of 'Anthropocene' in the context of earth and environmental science. Expressing concern over the global water crisis and anthropogenic impact on the world's big rivers, he said that there is a need to form a planetary boundaries framework that is useful for reconciling local and global water sustainability goals. He held the energy production, resource consumption and growing population mainly responsible for causing the appearance of this new geological age — Anthropocene, because the energy produced from coal, oil and natural gas emits large amounts of greenhouse gases, the main causes of global warming.

Highlighting the 'Anthropocene Concept', Prof. SK Tandon, IISER, provided a brief overview of the earth's surface and its evolution.

Dr T Mohapatra, DG, ICAR, highlighted that 'Agriculture 4.0' is a part of the fourth wave of the industrial revolution, which proposes an ideal state of fully autonomous and optimised manufacturing in industries.



Dr Atul N. Vaidya, Director, CSIR-NEERI, delivering the welcome address

Dr Atul N. Vaidya, Director, CSIR-NEERI, in his welcome address said that science is essential for the development of human society for a variety of purposes. In the environmental context, the application of science and technology enhances the lives of people in various ways, he added. He urged the scientists to work on such R&D projects which



Dr Shalini Dhyani conducted the proceedings

can create scientific knowledge of public interest.

Dr Shalini Dhyani conducted the proceedings and Dr Prakash Kumbhare proposed the vote of thanks. Forty five BDS students from the Department of Public Health Dentistry, Government Dental College and Hospital, Nagpur, visited CSIR-NEERI on this occasion.

CSIR-IMTECH Celebrates its 39th Foundation Day

CSIR-Institute of Microbial Technology (IMTECH), Chandigarh, celebrated its 39th Foundation Day on 24 January 2023. On this occasion, the institute organised several events including the much-anticipated Foundation Day Lecture. Dr T Mohapatra, Former Secretary, Department of Agricultural Research and Education, Govt of India, and Director General, Indian Council of Agricultural Research (ICAR) delivered this year's Foundation Day Lecture on "Food and Nutrition Security in India: Capitalising on Agriculture 4.0".

Dr Mohapatra who pioneered the field of 'Molecular Plant Breeding' in India highlighted that 'Agriculture 4.0' is a part of the fourth wave of the industrial revolution, which proposes an

ideal state of fully autonomous and optimised manufacturing in industries. His talk emphasised on the transition from manual to automatic to semi-autonomous to completely autonomous farming through the effective integration of physical and digital technology. He also gave a brief background on the agriculture revolution that has taken place in the last 70 years enabling food and nutrition security in India. Dr Mohapatra is credited with initiating Plant Genomics research in the country through the formulation and implementation of the Rice Genome Sequencing Project.

During his leadership at ICAR, the country realised a revolution in the production of pulses and sugar, and more than 80 biofortified crop varieties were

released to alleviate malnutrition. His research accomplishments include the development of the first high-yielding Basmati rice variety resistant to bacterial leaf blight through molecular marker-assisted selection, and physical mapping and genome sequencing of rice and tomato.

Dr Sanjeev Khosla, Director, CSIR-IMTECH, while welcoming the guests and faculty to IMTECH's Foundation Day gave a status report of the institute and apprised the audience of its achievements during the last year. He also lauded the efforts of scientists and researchers and exhorted them to focus on future research areas and building capacity in microbial genomics and metagenomics, microbiome biology, developing animal and 3D culture models for infectious disease research and providing microbial consortia for the bioremediation of waste including plastics.

Dr Khosla further said, "A robust pipeline of world-class scientific and technology inputs is a key requirement for developing a sustainable ecosystem for



innovation. We at IMTECH provide this ecosystem not only by our portfolio of innovative technologies in the field of microbiology and biotech but also by supporting the start-ups through workshops and meetings to promote innovation and entrepreneurship in life sciences."

As part of the celebrations, CSIR-IMTECH also observed an 'Open Day' during which about 250 school students, graduates and the general public from in and around the Tricity visited the institute and interacted with scientists to get a first hand account of various facets of microbiology and biotechnology. On this occasion, the institute also felicitated its students for the best PhD thesis and best PhD presentation award 2022 with a certificate and cash award for their outstanding performances.

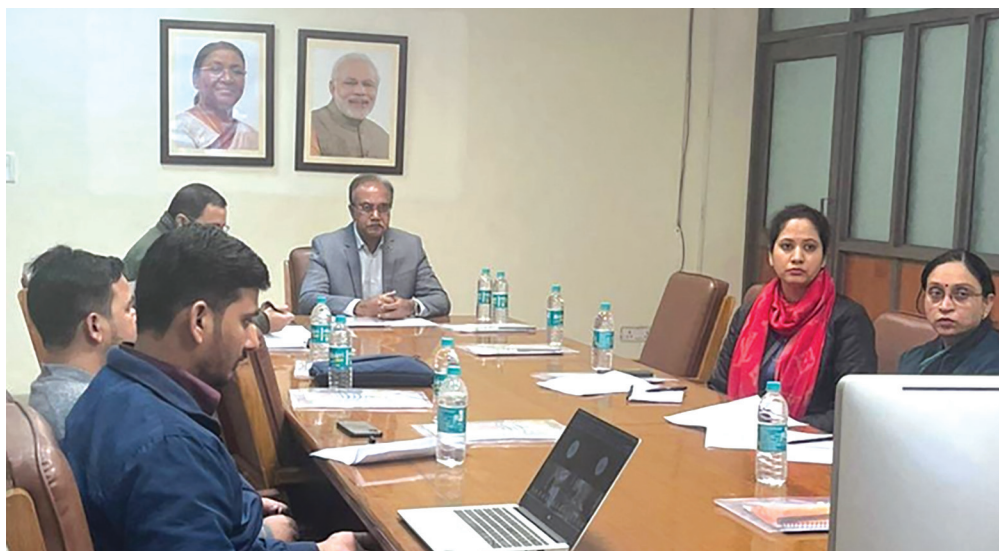
Dr Sanjeev Khosla, Director, CSIR-IMTECH, said, "A robust pipeline of world-class scientific and technology inputs is a key requirement for developing a sustainable ecosystem for Innovation."

CSIR-NIScPR Organises National Brainstorming Meeting on Science Communication in Regional Languages

CSIR-National Institute of Science Communication and Policy Research (CSIR-NIScPR), New Delhi, organised a national-level brainstorming meeting on

science communication efforts in the 22 Indian languages on 10 January 2023 in hybrid mode.

During his welcome address, Shri Hasan Jawaid Khan,



Shri HasanJawaid Khan, Chief Scientist of CSIR-NIScPR delivering the welcome address

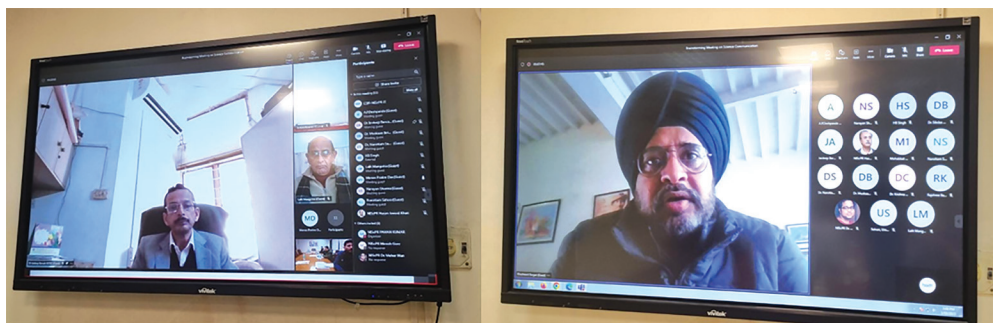
Mr Hasan Jawaaid Khan, Chief Scientist, CSIR-NIScPR, highlighted the importance of science communication in regional languages, especially in the far-flung regions.

Chief Scientist, CSIR-NIScPR, expressed gratitude to all experts for joining this important meeting and briefed about the efforts being made by CSIR-NIScPR and other organisations towards science communication. Further, Mr Khan highlighted the importance of science communication in regional languages, especially in the far-flung regions, and the need to communicate on new topics especially relevant to the regions.

Later, Dr Manish Mohan Gore, Scientist, CSIR-NIScPR introduced the agenda and outline of the brainstorming meeting. Dr Gore is the Principal Investigator of the project focused on science communication in the Indian languages for CSIR-NIScPR. He discussed the status, achievements, challenges and possible solutions for communicating science in respective languages. He also discussed the framework for developing popular science literature in Indian languages, particularly those that have comparatively less literature.

In this brainstorming meeting, experts of science communication in Indian languages (Assamese, Bengali, Bodo, Dogri, Gujarati, Hindi, Kannada, Kashmiri, Konkani, Maithili, Malayalam, Manipuri, Marathi, Nepali, Odia, Punjabi, Sanskrit, Santali, Sindhi, Tamil, Telugu, and Urdu) were invited. The experts discussed and suggested plans for appreciation, promotion, and incentives for the development of science communication and popular science literature in these languages. These 22 official languages are listed in the 8th schedule of the Indian constitution.

The meeting was a part of the CSIR-NIScPR project which focuses on the analysis of science communication in Indian languages. The agenda of the meeting was to bring together science communication experts of different languages to discuss the current status of efforts & contributions in science communication along with



Experts of science communication in the Indian languages shared their thoughts in the brainstorming meeting

popular science literature and contemporary key challenges for communicating science in all official Indian languages. Several valuable recommendations were received as the outcome of the meeting.

Dr Paramananda Barman, Scientist, CSIR-NIScPR, moderated

an Open session for discussion among the invited experts. Dr Meher Wan, Scientist, CSIR-NIScPR, proposed the vote of thanks. Project staff Ms Niyati Singh and Shri Mohabbat Singh were also present in the brainstorming meeting.

CSIR-NIScPR Hosts Indian Architectural Heritage Sub-committee Meeting



AS part of the national initiative "Communicating India's Scientifically Validated Traditional Knowledge to the Society (SVASTIK)", CSIR-National Institute of Science Communication and Policy Research (CSIR-NIScPR), New Delhi, hosted the first meeting of the Indian Architectural Heritage sub-committee on 13 January 2023.



Committee members applauded SVASTIK's progress over the past year. Participants at the meeting proposed measures to disseminate ancient practices related to housing, water distribution systems, and urban settlements. The criteria for scientific validation of architectures was also discussed. The panellists suggested hosting

The committee recommended that SVASTIK stories be shared with teachers and used in the classroom to disseminate traditional knowledge.

a series of talks about India's architectural history. It was also suggested that the Indian Journal of Traditional Knowledge might consider publishing a special issue on architectural heritage.

The committee recommended that SVASTIK stories be shared with teachers and used in the classroom

to disseminate traditional knowledge. Additionally, it was suggested to contact institutions working on traditional knowledge and access their theses and dissertations to gather SVASTIK stories. Committee members were assigned to provide input for SVASTIK stories.

Awards & Honour

Dr Vinod Prabhakaran Elected as Fellow of the Royal Society of Chemistry

DR Vinod C. Prabhakaran, Scientist, CSIR-National Chemical Laboratory (CSIR-NCL), Pune, has been honoured as the Fellow of the Royal Society of Chemistry (FRSC) by The Royal Society of Chemistry, London.

Dr Vinod completed his MSc in Physical Chemistry from the School of Chemical Sciences, Mahatma Gandhi University, Kottayam, Kerala, in 1995. He obtained PhD in Chemistry from Jawaharlal Nehru Centre for Advanced Scientific Research, Bengaluru, under the guidance of Prof. CNR Rao FRS. He did post-doctoral work at various institutes including the Technical University Eindhoven, The Netherlands; Denmark Technical University, Denmark; and Cardiff University, United Kingdom. He joined CSIR-NCL in 2010 and started his independent research group at the Catalysis Division.



Dr Vinod's research group at CSIR-NCL has been involved in surface science studies and developing structured catalysts that can give molecular-level insights into many catalytic processes. The group also works in the area of in situ spectroscopy to study materials under close working conditions. Last few years, the group has been actively engaged in developing catalysts for CO₂ reduction and methane partial oxidation.

Dr Vinod has to his credit more than 125 research papers in peer-reviewed international journals and one US patent. So far, he has supervised nine PhD theses and has been guiding seven students to PhD. Dr Vinod is also a co-recipient of the National Award for Technology Innovation in Petrochemicals and Downstream Plastics Processing industry (2021) instituted by the Ministry of Petroleum, Government of India.

Dr Syed G Dastager Receives AMI-Prof. BN Johri and NASI-Scopus Young Scientist Award

DR Syed G. Dastager, Scientist, CSIR-National Chemical Laboratory (CSIR-NCL), Pune, has received the AMI-Prof. BN Johri Award from the Association of Microbiologists of India in recognition of his significant contribution towards understanding microbial diversity, and NASI-Scopus Young Scientist Award to recognise India's most promising researchers working in the area of environmentally sound sustainable development and contributing to protecting our planet and conserving its natural resources.

Dr Dastager completed his MSc and PhD in Microbiology from the Department of Studies and Research in Microbiology, Gulbarga University, in 2002 and 2006, respectively. He has done post-doctoral work at the Korea Research Institute of Bioscience and Biotechnology, Daejeon, Korea. He joined CSIR-NCL in August 2012 and started working at the National Collection of Industrial Microorganisms (NCIM).

Dr Dastager's research mainly emphasises the crucial role that microorganisms are currently playing and are likely to continue to play in future as microbial cell factories for the production of bio-



based ingredients for biotechnological use. His group has described more than 60 novel species of Actinomycetes/Actinobacteria. Interestingly these newly described species harbour a huge and so far almost untapped 'hidden' biosynthetic potential in their genomes.

Dr Dastager has to his credit more than 130 research papers in peer-reviewed international journals and 10 Indian and US patents. So far, he has supervised five PhD theses and is guiding eight students to PhD.

He has received several awards including the INSA Visiting Scientist Award, and the Young International Scientist of the Chinese Academy of Sciences. He has been the Associate of Karnataka Science and Technology Academy. He also serves on the editorial board of Microbiotechnology, a section within Frontiers in Microbiology, Frontiers in Bioengineering and Biotechnology and Frontiers in Environmental Science and has served as an associate editor for the journals *International Microbiology* and *Microbiological Research*.

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