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Science, Technology, and Innovation Exhibition of IISF 2023

CSIR-CBRI, NIScPR

20th January , 2023



With the closing ceremony of IISF at the grand A.P.J. Abdul Kalam Hall, where the Chief guest was Shri Manohar Lal Khattar, Chief Minister of Haryana. The Minister announced the development of a “Science City” in the city of Faridabad, Haryana. He also visited the mega science expo where countless commendable innovations were displayed. Dr. Jitendra Singh, Union Minister of State for the Ministry of Science & Technology visited the mega expo at the inaugural day, the first day of the India International Science Festival (IISF) 2023.

More than 100 stalls were installed at the expo where 20 stalls were from the private organisations, while more than 80 stalls were from the government organisations. There were around 1 lakh visitors in the exposition. Among the major organisations who showcased their scientific inventions and innovations include Indian Institute of Technology (IIT), Defence Research and Development Organisation (DRDO), Indian Space Research Organisation (ISRO), Ministry of Earth Sciences (MoES), and Department of Science and Technology (DST) and its autonomous bodies. The displays were clearly justifying the theme of the ninth edition of IISF, “Public Outreach in Amrit Kaal” reflecting the Nation’s contemporary position in the new era in the field of Science and Technology. It proved that our country is young and enthusiastic determined to achieve a lot.

Among the many displays, Ram Mandir model was the centre of attraction of the exhibition due to its inauguration ceremony on January 22, 2024. The unique design including the “Surya Tilak,” highlighting the scientific prowess in the monument was given by the CSIR lab, Central Building Research Institute (CBRI) located at Roorkee, Uttarakhand.

Another treat to the eyes was the "Pollution-Free Viksit Gaon, Viksit Bharat" at the expo. It envisions a sustainable and developed rural community contributing to the overall progress of India. It was a CSIR initiative.

National Institute of Plant Genome Research (NIPGR), the autonomous institute of Department of Biotechnology (DBT), Government of India. The institute focuses on high quality plant biology research and training the next generation of plant biologists. One of its recent major achievements showcased include “ADVIKA,” a novel superior drought tolerant, climate smart chickpea variety.

Participants watching live experimental set-up in International Centre for Genetic Engineering and Biotechnology (ICGEB), New Delhi stall at the expo.

Several awards under different categories were given to the participants at the mega science expo. For the Best Conceptual Pavilion, Raman Research Institute (RRI) was awarded the first prize. Department of Science & Technology, Govt. of Gujarat was awarded the second prize, and Technology Development Board (TDB) stood third.

In the category of the Best Technology Pavilion, Defence Research & Development Organisation (DRDO), Ministry of Defence stood first. BrahMos Aerospace got the second prize.

For the Best Interactive Pavilion, National Centre for Polar and Ocean Research (NCPOR), Ministry of Earth Sciences (MoES) received the first prize, and Indian Space Research Organisation (ISRO), Department of Space (DoS) got the second prize.

In the category of the Jury Special Mentioned Award, Indian Council of Medical Research got the first prize (ICMR), Amity University received the second prize.

For the Best Pavilion in the Expo, the Council of Scientific and Industrial Research (CSIR) stood first, and Department of Biotechnology stood in the second category, Department of Science and Technology received the third prize.

The Mega science exposition was covered by the Science Media Communication Cell (SMCC) at CSIR-National Institute of Science Communication & Policy Research (NIScPR). It coordinated and facilitated the media publicity of the India International Science Festival (IISF) 2023. The key objective of the SMCC is to disseminate and showcase R&D breakthroughs and scientific achievements of India on various platforms of media.

KAMP Students Shine at the Indian International Science Festival 2023 - Vigyanika Event by CSIR-NIScPR

CSIR-NIScPR

20th January , 2023



In a remarkable display of scientific prowess and artistic flair, more than 100 students from Knowledge & Awareness Mapping Platform (KAMP) participated in the Indian International Science Festival (IISF) 2023 - Vigyanika Event, organized by (NIScPR). The event unfolded on January 19th, 2024, at the prestigious DBT THSTI - RCB Campus, situated within the NCR Biotech Science Cluster in Faridabad, Haryana. In an exciting convergence of knowledge and creativity, students from distinguished institutions including Jain Bharati Mrigavati Vidyalaya, Universal Public School, Delhi Public School, R.K. Puram and S.D. Public Secondary School passionately showcased their extraordinary talents at the Vigyanika Event. These budding talents engaged in intellectually stimulating Quiz and Drawing competitions, providing a glimpse into the diverse and exceptional skills fostered by these institutions. Their passion and intellect illuminated the event, leaving an indelible mark on the prestigious gathering. Kudos to these young minds for representing excellence and innovation in the field of science and art!" Their active involvement in the IISF 2023 - Vigyanika Event not only underscores their individual talents but also reflects the collective dedication to fostering a culture of innovation and scientific exploration.

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NBRI creates floral replica of Ram temple

CSIR-NBRI

20th January, 2023

A floral replica of Ram Temple made from 75 kgs of marigold and chrysanthemum will be the major attraction during the two-day CSIR- National Botanical Research Institute's (NBRI) annual 'Rose and Gladiolus' show to be held on Saturday and Sunday.

“We have used three varieties of marigolds, a variety of chrysanthemums mostly of Basanti (yellow) colour to depict this major event ,” said NBRI chief scientist Prof SK Tiwari.

Airbus & CSIR-IIP ink pact for green aviation

CSIR-IIP

20th January, 2023

French aviation biggie Airbus has inked a memorandum of understanding (MoU) with CSIR-Indian Institute of Petroleum (CSIR-IIP) to develop new technology pathways as well as test and qualify indigenous sustainable aviation fuel (SAF) in India.

The collaboration will address the Indian aerospace industry's decarbonisation ambitions by supporting SAF production and commercialisation, using a new HEFA technology pathway and locally sourced feedstocks.

They will work jointly on technical assessment, approvals, market access, and sustainability accreditation efforts for SAF production.

Today, all Airbus aircraft are certified to fly on 50% SAF blend, with a goal to fly up to 100% SAF by 2030. tnn

Ministry of Textiles Allocates Rs 103 Cr for R&D Projects In Technical Textiles

CSIR-NAL

19th January , 2023

The Ministry of Textiles has earmarked approximately Rs 103 crores for a series of Research and Development (R&D) projects in the realm of technical textiles, on Thursday. Union Minister for Textiles, Commerce and Industry, Piyush Goyal, highlighted the importance of fostering collaborative efforts between the government and industry to boost the indigenous development of technical textile products.



During the 8th Meeting of the Mission Steering Group (MSG) of the National Technical Textiles Mission (NTTM), the ministry sanctioned budget of Rs 103 crores encompassing 11 project proposals, comprising 9 R&D initiatives, 1 project dedicated to machine development, and another focused on equipment development.

Notably, one of these projects is dedicated to the advancement of high-strength carbon fibre, strategically aimed at achieving self-reliance in the field of Technical Textiles for India.

These projects span diverse application areas within technical textiles, encompassing 2 projects each in Protech, Meditech, and Mobiltech, along with 1 project each in Buildtech, Smart Textiles, and Sustainable Textiles.

Leading the charge on these approved projects are research institutions and bodies such as CSIR-NAL, ATIRA, NITRA, IIT Delhi, ICT-Mumbai, NIT-Jalandhar, and Colorjet India Ltd., among others.

In addition to the project approvals, Goyal conducted a comprehensive review of various components under the National Technical Textiles Mission.

This included assessing the progress of sanctioned R&D products, evaluating the status of applications as per General Guidelines for Enabling Academic Institutes in Technical Textiles Education in India (Round-II), overseeing the implementation of Quality Control Orders issued by the Ministry of Textiles, and examining patent guidelines for R&D, among other aspects. Outreach activities and events under NTTM were also scrutinised during this review.

The meeting, attended by Minister of State for Textiles, Darshana Jardosh, and senior officials from diverse ministries, marked a collaborative effort to ensure the success and advancement of the National Technical Textiles Mission.

CSIR - National Institute of Oceanography (NIO) Initiates Month-long Oceanographic Certificate Course for Colombo Security Conclave (CSC) Member Countries

CSIR-NIO

19th January , 2023

In a significant step towards fostering collaboration and capacity building in the field of Oceanography, CSIR - National Institute of Oceanography (NIO) has commenced a month-long certificate course for the member countries of the Colombo Security Conclave (CSC). The inaugural session of this pioneering initiative took place on January 15, 2024.



This educational endeavor is a direct outcome of the maiden CSC Oceanographers and Hydrographers conference, which transpired in Goa and Hyderabad in November 2022. Following this conference, scientists from CSC nations jointly conducted two expeditions in the Indian Ocean Region from June to September 2023. Another joint expedition in the Antarctic, launched in December 2023, is currently underway.

During the inaugural address, Prof. Sunil Kumar Singh, Director of CSIR-NIO, emphasized the crucial role of littoral nations in comprehending the complexities of the Indian Ocean Region. The month-long certificate course is being coordinated by Dr Manguesh Uttam Gauns, Senior Principal Scientist & Head, Biological Oceanography Division.

Participants in the course will delve into various facets of Oceanography, addressing the profound impacts of climate change on the Indian Ocean and around the world. The program includes interactive discussions, the exchange of best practices, and hands-on project work to enhance practical knowledge.

The course is anticipated to facilitate a rich exchange of ideas and contribute to the growing body of knowledge in Oceanography. The engagement aims to enhance the capabilities of the participating nations in addressing environmental challenges, fostering sustainable practices, and promoting scientific cooperation.

"Vigyanika 2023: Celebrating Science and Literature at IISF 2023"

CSIR-NIScPR, NEIST

18th January , 2023

Vigyanika : Science Literature Festival is being held as a part of India International Science Festival 2023. The inaugural ceremony on 18th January 2024 began with the Welcome address by Prof. Ranjana Aggarwal, Director, CSIR-National Institute of Science Communication and Policy Research (CSIR-NIScPR), New Delhi. Prof. Aggarwal highlighted the importance of scientific temper and CSIR-



NIScPR's commitment to foster scientific awareness. Emphasising the importance of science communication in Indian languages through diverse mediums like puppetry and poems, she underscored Vigyanika's role as a platform for networking among scientists and science enthusiasts. Dr. Dinakar M. Salunke, Former Director, ICGEB and DBT-RCB, Dr. Subhra Chakraborty, Director, National Institute for Plant Genome Research, New Delhi, and Shri. A Jayakumar, Vijnana Bharati, were the distinguished guests of the inaugural ceremony. Prof. Salunke emphasised the importance of increasing scientific temper and acknowledged that the gap between common masses and scientists should be bridged through various inclusive efforts such as Vigyanika. Dr. Subhra Chakraborty, underscored Vigyanika's role in fostering discussions on science, aligning with the goals of the New Education Policy 2020 to integrate varying fields such as science and literature in education. She also highlighted development of new innovative technologies that are capable of making India a technologically competent country and the need to take these technologies to the public through science communication channels.

Prof. Ranjana Aggrawal, Director of CSIR-NIScPR while addressing the gathering in Vigyanika event at IISF 2023

Shri A Jayakumar discussed the rich literary tradition of India, which covered a wide range of topics from science to diplomacy. He recognised the contribution that events such as Vigyanika make to the dissemination of science among the general public and bring together of the contemporary science and literature, which have long been interwoven in Indian knowledge systems. The inaugural session was concluded with the Vote of Thanks by Dr. Paramananda Barman, CSIR-NIScPR.

Scientific Session-I with the theme of Science and Technology Public Outreach in India began with an introduction by the Chair Prof. B. N. Jagatap, Senior Professor, IIT Bombay, who advocated the importance of citizen participation in science which can be achieved through science communication efforts that encourage evidence-based science and scientific way of thinking in everyday life. The Keynote Address by Prof. Dinakar M. Salunke highlighted the need to extend scientific research from labs to the general populace, emphasising the historical contributions of Indian scientists. Using India's recent achievements in space and vaccine technology as examples, he also discussed the significance of funding innovative scientific endeavours while including indigenous efforts. Using the example of interacting with patients in a medical setting, Prof. Uma Kumar, AIIMS, New Delhi, discussed the significance of training in scientific communication which could affect how individuals perceive emerging technologies or developing drugs and vaccines. She emphasised that in order for science communication initiatives to be successful, local leaders and innovative technologies must be included and socio-cultural factors should be taken into account. Prof. Gobardhan Das, Jawaharlal Nehru University, stated the need to communicate science in languages other than English so that language is not a barrier. Prof. K. C. Bansal, Former Director, ICAR-NBPGR, gave a talk on genome editing and GM crops.

Panel discussion I on the theme Apni Bhasha Apna Vigyan: Strengthening Science–Communication in Indian Languages was the next session. This stimulating session was chaired by Padma Shri Chamu Krishna Shastry, Chairman, Bharatiya Bhasha Samiti and featured discussions from experts in various Indian languages including Tamil, Assamese, Punjabi, Manipuri, Malayalam, and Odiya. The panellists for the session were Prof. V. P. N.

Nampoori, Dr Neelima Jerath, Dr. H. B. Singh, Dr. Uthra Dorairajan, Dr. Mantu Bhuyan and Prof Saroj Kant Barik. During the discussion, the experts stressed the importance of scientific communication in Indian languages in order to cross language barriers and strengthen communication. The panel discussion was followed by the release of an Assamese magazine, Bigyan Lahar, a collaborative initiative by CSIR-NIScPR and CSIR-NEIST, and then the release of a Tamil flip book “Treasures of Indian Tradition: A Journey through Scientifically Validated Indian Traditional Knowledge” as a part of CSIR-NIScPR’s SVASTIK initiative.

There was a parallel session cum Workshop on popular science writing by Shri Hasan Jawaid Khan, Former Chief Scientist, CSIR-NIScPR, and Dr. H. S. Sudhira, Director, Gubbi Labs.

Scientific Session II included presentations by various speakers from across the country focusing on the topic Science Communication in India: Current Trends, Opportunities and Challenges, which was chaired by Dr. Paresh K Joshi, Reader, TIFR-HBCSE.

Along with the scientific sessions, there was an exhibition by CSIR-NIScPR showcasing its publications and by SVASTIK, a CSIR initiative to disseminate scientifically validated Indian traditional knowledge. The event concluded for the day with a cultural programme on the confluence of arts and science.

Know-How Technology on “Bamboo Composites” transfers on the Day-2 of IISF 2023

CSIR-AMPRI, NIIST, CRRI, CLRI, NEIST

18th January , 2023



One of the unique and extraordinary mega science festival — India International Science Festival (IISF 2023) is being organized during 17-20 January 2024 in Faridabad, Haryana. During the second day of this science festival on 18 Jan 2024, the Know-How Technology on “Bamboo Composites” was transferred to a well-known materials manufacturing company, M/s Asili Bamboo Products, Meerut, in the presence of Dr. Avanish Kumar Srivastava, Director, CSIR-AMPRI, Bhopal, and Mr Akshay Joshi, Director, M/s Asili Bamboo Products, Meerut. On this occasion various other dignitaries were also present, namely Mr Md. Ali Shah, Sadhana; Dr. C. Anandharamakrishnan, Director, CSIR-NIIST Trivandrum; Prof. Manoranjan Parida, Director, CSIR-CRRI, New Delhi; Dr. B. Chandrasekaran, Former Director, CSIR-CLRI; Prof. Sudhir Singh Bhadauria, Director, UIT RGPV Bhopal; Shri Mayank Mathur, RC Member from CSIR-Headquarter; Dr. J.P. Shukla, Chief Scientist; Mr. Somnath Mazumder, CoA; Dr. J.P. Chourasia, Head PPD, CSIR-AMPRI; Dr. Sandeep Singhai, Head Business Development; Dr. Sarika Verma, PI and Principal Scientist; Dr. Neeta V.M. Khalkho, Sr. Principal Scientist, CSIR-AMPRI; and Dr. Satanand Mishra, Principal Scientist, CSIR-AMPRI, Bhopal.

Know-How Technology Transfer of “Bamboo Composites” on 18 Jan 2024 to M/s Asili

Bamboo Products, Meerut, in the presence of Dr. Avanish Kumar Srivastava, Director, CSIR-AMPRI, Bhopal and Mr Akshay Joshi, Director, M/s Asili Bamboo Products, Meerut along with other dignitaries.

The industrial product, bamboo composites, has been developed using environment friendly technique by natural and versatile resource bamboo. Bamboo has been declared as grass and it proliferates rapidly with no stringent rules and regulations imposed for its growing, cultivation, propagation and cutting. Within 3-4 years, the bamboo gets matured can be utilised for developing into bamboo composite, unlike teak wood, which requires 30-40 years to grow. Bamboo is also an excellent absorber of CO₂ and releases oxygen in large amount (approximately 35%) which helps to cure global warming. The bamboo composite product resembles teak wood with better durability & dimensional stability, high strength, density, mechanical strength, fire resistance, moisture resistance, and natural & aesthetic appearance.

The technology of manufacturing bamboo composites, developed by CSIR-AMPRI, has sequential steps like cutting of bamboo poles to desired sizes, splitting to strips, removal of knots, chemical treatment for protection against microbial/natural degradation, its conversion to fibrous form without damaging the natural strength of bamboo fibers, coating of adequate pre-polymer, which is followed by compaction under appropriate heat and pressure to obtain a composite sample of the desired shape. The final shape may be a moulded article, plain sheet, thick boards, beams, etc. These shapes can be further machined for the final finished product.

After the successful trials at industrial level, panel boards, beams, pillars, partitions, doors, window frames, roof, floorings etc., were developed, and a “Demonstration Structure (AMPRI’s Bamboo Composite Committee Room “Baithak”),” made up of bamboo composites has been erected in the campus of CSIR-AMPRI Bhopal in January 2022. It has a hexagonal base erected with a Peak height of 13’ 8”, a Max span of 24’ 8”, and a Floor area of 253 sq. ft. It includes walls, roofs, floors, beams, poles, doors, and window frames of bamboo composites. Using AMPRI’s bamboo composite technology recently, a similar structure has been erected at CSIR-NEIST, Jorhat, Assam.

Due to its unique characteristics, the developed bamboo composite can also be used in various other sectors, especially in Aerospace. Therefore, bamboo can create future products similar to wood with a ten times faster harvest cycle, and with the growth in farming and cultivation of bamboo, the generation of employment, especially in rural areas will be improved. The technology has the potential to attract and encourage micro, small and medium enterprises, start-ups, etc., and thus, supports in achieving sustainable goals by contributing to Aatmanirbhar Bharat, Swasth Bharat Abhiyaan, Swachh Bharat Abhiyaan.

CSIR-CSMCRI and KAMP: Nurturing the Minds of Tomorrow with their Scientific Excursion for Over 100 Students

CSIR-CSMCRI, NIScPR

18th January, 2023

On January 17th, 2024, a Scientific Excursion at the CSIR-Central Salt and Marine Chemicals Research Institute, Bhavnagar, Gujarat, was conducted by Knowledge and Awareness Mapping Platform with more than 100 students from Delhi World Public School, Rajkot, Gujarat and Narayana E Techno School, Mumbai.

This excursion provided the students with a unique opportunity to delve into the world of science, technology, and innovation. It aimed to instil a passion for scientific exploration and discovery within the students.

Initially, the students were briefed about CSIR-CSMCRI, Bhavnagar, by Dr. Doongar R Chaudhary (Principal Scientist and CSIR-Jigyasa Coordinator CSIR-CSMCRI, Bhavnagar). After that, experienced scientists and researchers from CSIR-CSMCRI inspired the students in their scientific pursuits through an interactive lab visit and various engaging lectures. During this excursion, the students received the opportunity to interact and learn from various scientists from CSIR-CSMCRI, like Dr. Gopal R. Bhadu, Dr. Anshul Yadav, Mr. Rishikesh Chormare, Dr. Bhupendra Kumar Markam.

Within the labs the students learnt several new things, in a practical manner with respect to Carbon Hydrogen Nitrogen Sulphur (CHNS), Ion chromatography, Inductive Coupled Plasma, X-ray fluorescence, Thermogravimetric analysis, Differential Scanning Color Matric, Particle Size measurement, crude oil extraction and various other things related to the area of Salt and Marine.

Towards the end of the session, Mr. Aniket Arora (Outreach Coordinator, KAMP) expressed his gratitude to Dr. Kannan Srinivasan (Director, CSIR-CSMCRI) and Dr. Doongar R Chaudhary (Principal Scientist and CSIR-Jigyasa Coordinator CSIR-CSMCRI, Bhavnagar). He

also mentioned the importance of such events and how KAMP believes that such experiential learning is the key to fostering students' deep interest in and understanding of science & other developments in India. Additionally he informed the students about the upcoming activities like the online Knowledge Sharing Sessions, Scientific Excursions for students as well as Continuous Professional Development for teachers to explore, discover, and engage with various scientific disciplines in a real-world setting at various eminent CSIR laboratories/Research Organisations in India.

About CSIR-CSMCRI

Council of Scientific and Industrial Research – Central Salt and Marine Chemicals Research Institute, a premier research institute, specializes in marine resource research with key focuses on salt and marine chemicals, membrane-based desalination, catalysis for marine organic chemicals, specialty inorganic materials, renewable energy, and waste-to-wealth processes. The institute also engages in plant molecular biology and biotechnology, emphasizing seaweeds, microalgae, and halophytes. Their research extends to saline waste management, environmental impact assessment, and human resource development through sustainable innovations, contributing to societal and national well-being with a commitment to fostering a circular economy.

About KAMP

Knowledge and Awareness Mapping Platform is an Initiative and Knowledge Alliance of the Council of Scientific & Industrial Research (CSIR) - National Institute of Science Communication and Policy Research (NIScPR) and industrial partner M/S Nysa Communications Pvt. Ltd. (NCPL), it intends to develop creativity, meaningful learning, critical reading, and thinking skills that bring out the inherent abilities of the students

IISF 2023 Inauguration Ceremony

CSIR-NIScPR

17th January , 2023



Faridabad, 17 January 2024. “The India International Science Festival 2023 is being celebrated for three key reasons among many others and these three reasons are the successful landing of India’s Chanrayaan-3 on the South Pole region of the Moon; Second COVID Vaccine development by India and Third Aroma Mission.” Dr. Jitendra Singh, Union Minister of State (Independent Charge) for Science & Technology said this during the inaugural ceremony of the IISF 2023 at the Translational Health Science and Technology Institute (THSTI)-Regional Centre for Biotechnology (RCB) Joint Campus, Faridabad today. He further added that India is the first country to make a successful DNA vaccine in a short period of time. We have now reached to the fifth position in the fastest growing economies of the world. India has become a country to attain global repute with the strength of science, technology, and innovation. Hon’ble Minister Dr. Jitendra Singh addressed the huge gathering and focused on the five revolutionary decisions made by the Government of India within a couple of years, namely the Space reforms through the Public-Private Partnerships, National Quantum Mission, Anusandhan-National Research Foundation (NRF), National Geospatial Policy, and National Education Policy (NEP). Dr. Singh also added in his address during the inaugural ceremony of IISF 2023 that for the national development by science and technology, we are

now focusing on the Indian Solutions to Indian Problems, Indian Data for Indian Research, Indian Doctors for Indian People, and Public-Private Participation.

17th January 2024 is the first day of the most-awaited mega science festival-that is IISF 2023. Since 2015, after the eight editions of the festival, the ninth edition is more interesting, with everyone excited about the events to be held after the inauguration is done. The big area was filled with people of every age group and different sections of society satisfying the ultimate goal of the IISF. This reflects the “Celebration of Science by All.” This year’s theme is- “Science and Technology Public Outreach in Amrit Kaal.”

Other dignitaries of the inaugural ceremony were Shri Moolchand Sharma, Cabinet Minister of Higher Education, Transport, Mines and Geology, and Elections, Government of Haryana; Prof. Ajay Kumar Sood, PSA to the Gov. of India; Prof. Abhay Karandikar, Secretary, DST; Dr. M. Ravichandran, Secretary, MoES; Dr. N. Kalaiselvi, Secretary, DSIR & DG, CSIR, Dr. Rajesh S. Gokhale, Secretary, DBT; Ms. A. Dhanalakshami, Joint Secretary, DST; Shri Shivkumar Sharma, National Organising Secretary, Vijnana Bharati (VIBHA).

While addressing the event, DST Secretary, Prof. Abhay Karandikar welcomed all the National and International guests coming from 23 countries to the India International Science Festival (IISF) 2023. He said that the festival has become the beacon for the scientific achievements from all over the country. He also explained the importance of IISF 2023 along with the brief introduction of the events scheduled on the four days from 17-20 January 2024 to the audience. He also added that our young students and researchers gets inspired and motivated by the scientific progress our country has made and contribute to make India the global leader.

During the inaugural session, the IISF Programme Guide and IISF News Bulletin’s Regional Languages Special Editions were released by the dignitaries. These language editions were brought out in seven Indian languages (Malayalam, Bangla, Haryanvi, Bhojpuri, Hindi, Marathi and Urdu). The Science Media Communication Cell (SMCC) of CSIR-National

Institute of Science Communication & Policy Research (NIScPR) has prepared, designed and published these language editions of the IISF News Bulletin. Shri Moolchand Sharma, Cabinet Minister, Government of Haryana said that country gets progress through the exchange of knowledge and innovative ideas. The India International Science Festival is the right platform for S&T based knowledge sharing.

Prof. Ajay Sood, Principal Scientific Advisor (PSA) to the Govt. of India said that the vision of IISF 2023 is to ensure science not only in the books but accessible to the public in many interesting and intellectual ways. He added that IISF provides extensive opportunities to get a deeper understanding of scientific disciplines through its events and programmes with many verticals of science and technology.

Dr. Shivkumar ji, National Organising Secretary, Vijnana Bharati (VIBHA) India greeted the audience and the other dignitaries present. He emphasised on our Indian tradition and values that has science embedded in them and said that science is a festival. He further stated that the science festival is organised with an aim to think and implement on how science in the labs should reach or become available to the society and be useful to the general public.

All the dignitaries on the dias were presented by the Dr. P.S. Goel, Chairman, Programme Committee, IISF 2023, the cow dung pot and mitti cool water bottle invented by a grassroots innovator justifying one of the mega science event's objective of taking science grassroots innovations to society.

The inauguration ceremony concluded with a vote of thanks by Dr. Arvind C. Ranade, Director, National Innovation Foundation (NIF) India and Chief Coordinator, IISF 2023. The NIF-India, an autonomous organisation of the Department of Science and Technology (DST), Govt. of India is the coordinating and implementing organisation of IISF 2023.

The events scheduled for the first day of IISF 2023 include Student Science Village, Face to Face with New Frontiers of Science & Technology, Science through Games & Toys, Students

Innovation Festival – Space Hackathon 2023, State S&T Ministers and Centre and State S&T Secretaries and Officials Conclave, Education for Aspiring India – National Science Teachers Workshop, Young Scientists' Conference, New Age Technology Show, National Social Organisations and Institutions Meet (NSOIM), Science, Technology and Innovation Exhibition, and India International Collaboration followed by a Cultural programme.

The mega science festival will be celebrated from 17-20 January 2024 at the joint campus of the Department of Biotechnology (DBT)-Regional Centre for Biotechnology (RCB) & Translational Health Science and Technology Institute (THSTI), Faridabad (Haryana).

The grand festival of science aims to honour and highlight the scientific achievements in Science, Technology, and Innovation by the country with the primary objective of connecting science with society.

The Science Media Communication Cell (SMCC) at CSIR-National Institute of Science Communication & Policy Research (NIScPR) is coordinating and facilitating the media publicity of the India International Science Festival (IISF) 2023. The key objective of the SMCC is to disseminate and showcase R&D breakthroughs and scientific achievements of India on various platforms of media. For more information, please visit <https://niscpr.res.in/> or follow us at @CSIR-NIScPR.

At Ayodhya temple, 'Surya Tilak' for Lord Ram on every Ram Navami

CSIR-CBRI, NGRI

17th January , 2023

Every Ram Navami, an intricate network of lenses and mirrors will be used to channel a ray of sunlight in the sanctum sanctorum of the Ram temple in Ayodhya and converged on the forehead of Ram Lalla as "Surya Tilak". The event on the ninth day of the Chaitra month will mark Lord Ram's birth. The "Surya Tilak" system has been designed by scientists at the CSIR-Central Building Research Institute (CBRI) and it will channel the ray on the idol's forehead from 12 noon for about six minutes.



The idol will be placed in the sanctum sanctorum of the upcoming temple during a consecration ceremony (Pran Prathista) on January 22.

"To achieve this, an optical lens will be placed on the third floor of the temple which will channel the ray to the ground floor through a series of reflectors placed in pipes," Chief Scientist at the CBRI, R Dharamraju, told PTI.

The "Surya Tilak" was designed by a team of scientists led by S K Panigrahi.

Senior Scientist at CBRI Debducta Ghosh said the Indian Institute of Astrophysics gave inputs based on astronomical observations and also contributed to the mechanical and structural design for the "Surya Tilak".

CSIR-labs were among the institutes that were involved in studies to carry out the structural analysis of the temple's design to make it able to withstand strong earthquakes and also the impact of rains, harsh winters and scorching summers.

The CBRI was involved in conducting the 3D structure analysis of the temple design and it also suggested some modifications, Ghosh said. "The sizes and shapes of the domes of the temple also were modified based on inputs provided by the CBRI," he said.

Ghosh said CSIR-National Geophysical Research Institute at Hyderabad conducted the seismic hazard analysis of the temple site through ground penetration radar study and multichannel analyses of surface waves. "The temple can withstand an earthquake of 8 magnitude," Dharamraju said, adding that Ayodhya is located near the Himalayan region which is a known seismic zone.

He said the CBRI will also install a series of sensors at the temple for its constant monitoring as the it will be exposed to rain, and extreme temperatures during summers and winters.

The CSIR-CBRI has displayed a model of the Ram temple at the India International Science Festival, which began here on Wednesday at the Translational Health Science and Technology Institute here.

New efficiency record set in indoor light harvesting

CSIR-NIIST

17th January, 2023

In a technological milestone, scientists at CSIR-National Institute for Interdisciplinary Science & Technology (CSIR-NIIST) have set a new efficiency record of 35.6% in indoor light harvesting using dye-sensitized solar cells (DSCs), which can provide a sustainable alternative to one-time use primary batteries and reduce environmental pollution.

C Anandharamakrishnan, director, CSIR-NIIST, said the integration of DSCs into IoT (Internet of Things) systems offers a sustainable solution by creating self-powered devices that operate for extended periods without the need for battery replacements.

“It will reduce the environmental pollution resulting from the disposal of billions of dead and used batteries annually. It will be a boon for consumer electronics and portable devices he added.

This remarkable feat marks a significant advancement in indoor photovoltaic technology as DSCs are emerging as the leading indoor light harvesting technology. Their unique semi-transparent nature, coupled with an array of colours and designs, opens avenues for innovative applications, including integration into glass facades, greenhouses, and architectural installations within indoor spaces, he pointed out.

Led by Suraj Soman, scientist at the Centre for Sustainable Energy Technologies (C-SET), employed a novel dual-species copper electrolyte approach. Copper is not only abundant but also environment-friendly, which enhances its commercialization potential, compared to conventional iodine electrolytes.

Narayanan Unni, head of C-SET at NIIST, pointed out that powering electronic devices and releasing self-powered IoTs through indoor light harvesting would lead to a greener and more

sustainable future, by reducing the number of throw-away primary batteries. Anandharamakrishnan said CSIR-NIIST is presently engaged in translating this technology by developing innovative self-powered prototypes and products as well as exploring new applications to significantly reduce dependence on primary batteries, contributing to a reduced carbon footprint and thus addressing climate change.

CSIR-IIIM Jammu concludes workshop on science communication, research writing

CSIR-IIIM

17th January, 2023

The seven-day workshop on 'Latest Trends in Scientific, Medical, and Regulatory Writings: Upscaling Skills in Science Communication and Bridging the Gap between Academia And Industry' concluded at CSIR-Indian Institute of Integrative Medicine Jammu. Sponsored by SERB under the Accelerate Vigyan Scheme, the workshop aimed to encourage high-end scientific research and enhance skills in scientific document preparation, fostering connections between industry and academia.

Dr Zabeer Ahmed, Director CSIR-IIIM, Jammu, inaugurated the workshop on January 9, 2024. The event featured sessions on scientific, medical, and regulatory writing conducted by scientific staff from CSIR-IIIM, Jammu, as well as external experts from the industry and academic institutions, including Dr SG Ramachandra, Chief Research Scientist, IISc Bengaluru, Dr Kanica Kaushal, AP, ILBS, New Delhi, Dr Ravinder S, AVP, Axis Clinical Ltd, Dr Eshita Sharma, and Dr Lalit Kanodia AVP, TATA 1MG.

The valedictory session, presided over by Director CSIR-IIIM, emphasized the need for institutional integration to achieve novel scientific pursuits. He announced the Institute's plans to increase the frequency of such workshops and conveyed best wishes to the participants. Certificates were awarded to the participants, expressing gratitude for their successful participation. Dr Love Sharma, Scientist and workshop coordinator, extended thanks to the organizers and participants. Dr Mir Mahmood Asrar, Scientist, conducted the session, and Dr Kancherla Prasad, Senior. Scientist, proposed the formal vote of thanks. The workshop received patronage from Dr Zabeer Ahmed, Director, CSIR-IIIM, Jammu, and co-patronage from Er Abdul Rahim, Chief Scientist & Head, RMBD&IST.

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