

CSIR IN MEDIA



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NEWS BULLETIN

06 TO 10 OCTOBER 2023



IIIM celebrates 82nd CSIR Foundation Day

CSIR-IIIM

10th October , 2023

The 82nd foundation day of the Council of Scientific & Industrial Research (CSIR), was celebrated today at CSIR- Indian Institute of Integrative Medicine (IIIM), Jammu. Padam Shri Professor Vinod K Singh, Rahul and Namita Gautam, Chair Professor, IIT Kanpur, a distinguished luminary of Indian Science was the chief guest on the occasion and delivered CSIR Foundation lecture, “Towards Excellence in Science & Technology”. He lucidly dealt with the various opportunities, challenges and the way forward to achieve the quality and excellence in the science and technology. Prof Singh underscored the importance of good governance and the role of management, heads of institutions, young professionals.



On this occasion, chief guest also presented the mementos and “Samman Patra” to ex-employees who superannuated during last one year and who completed 25 years of service in CSIR.

Earlier, Dr Zabeer Ahmed, Director of CSIR- IIIM, presented welcome address and introduced Prof Vinod K Singh to the audience as Scientist of international repute who is one among the Indian Science Policy makers. Giving the detail of day long programme conducted as part of CSIR Foundation Day, celebrations, Director, CSIR-IIIM informed that an exhibition cum poster presentation session for scholars and startup was organized besides competition of Artificial Intelligence Model Preparation under Jigyasa by various school children were held.

The event also marked as an open day to all the school and college students. More than 500 students from various schools visited the institute. Further around 350 students from colleges associated with Cluster University Jammu, Jammu University, and SMVD University, Katra visited the exhibitions and different labs of the institute. The students also interacted with scientists and got to know about of research methodologies.

Among others, Dr G D Singh, Ex-Chief Scientist; Asha Chaubey, Dhiraj Vyas, Sumit Gandhi, Qazi Naved Ahmed (all HoDs), Vikram Singh, Sr COA, Shashank Singh, Sr Principal Scientist, Saurabh Saran, Convenor, CSIR Foundation Day Org. Committee and Dilip Kumar Gehlot, SPO were present. Dr Deepika Singh conducted the proceedings while as Er Abdul Rahim presented the vote of thanks.

Army organises educational visit for students to IIIM

CSIR-IIIM

10th October , 2023

Army Public School Damana organized an educational visit for students of class VIII, IX & XI at Indian Institute of Integrated Medicine-IIIM (CSIR) on the 82nd Foundation Day of IIIM (CSIR) here today.

There were 28 students along with the two teachers, Shashi Dogra (PGT Biology) and Kishal Kumar (TGT Science) visited different sections of the institute, where students interacted with the scientists of different departments like Biotechnology, Microbiology, Tissue Culture, Herbal Garden, Pharmacology and Chemistry. They motivated the students to involve themselves in scientific research and innovations.

Two students of class IX, Sant Baksh Sharma and Harsh Rachyal, also participated in the Artificial Intelligence Model Competition organised by IIIM, wherein the students of 12 other prestigious schools also participated, the result of which is yet to be announced.

Dr Prantik Mandal elected Fellow of INSA

CSIR-NGRI

10th October , 2023

Dr Prantik Mandal, Chief Scientist at CSIR-NGRI, has been honored with the prestigious title of Fellow by The Indian National Science Academy (INSA).

Dr Mandal has made significant contributions to the field of Earthquake Seismology, with a particular focus on intraplate earthquakes.

He has applied advanced three-dimensional modeling techniques to assess the impact of topographical variations and density irregularities on the occurrence of intraplate earthquakes in Peninsular India.

His research has encompassed diverse methodologies, including local earthquake velocity tomography, P-receiver function (P-RF) analysis, surface wave group velocity dispersion (SWD) analysis, and the joint inversion of P-RFs and SWD data to characterize both one-dimensional (1-D) and three-dimensional (3-D) velocity structures within the Kachchh rift zone in Gujarat, India.

Dr Mandal has proposed that the release of carbon dioxide (CO₂) from carbonatite melts within the asthenosphere plays a critical role in initiating seismic activity in the lower crust of the Kachchh rift zone.

In 2017, he played a pivotal role in establishing a seismic network featuring 55 broadband seismographs and 20 strong-motion accelerographs in the Uttarakhand Himalaya region.

His modeling analysis unveiled three lithospheric transverse features in the UK Himalaya, oriented in a NNE-SSW direction, exhibiting significant thinning of both the crust and lithosphere.

This configuration results in a reduction in the size of preexisting rupture areas, subsequently decreasing the likelihood of generating earthquakes with a magnitude of $M_w \geq 7.5$. Dr. Mandal has employed local earthquake seismic velocity tomography to depict the shallow north-dipping main Himalayan thrust (MHT) as a layer with low velocity in the Uttarakhand Himalaya.

With a total of 135 scientific research publications, garnering over 3,000 citations, Dr. Mandal has made a substantial impact in his field. Under his adept guidance, seven students have successfully obtained doctoral degrees in Geophysics. Additionally, he has authored two books and contributed to three book chapters, a release said on Tuesday.

CSIR-National Physical Laboratory, New Delhi organizes International Workshop on Advanced Materials and Energy Efficient Technologies to combat with climate change

CSIR-NPL

09th October , 2023

CSIR-National Physical Laboratory (CSIR-NPL), New Delhi is the National Measurement Institute (NMI) of India. CSIR-NPL is organizing a two days International Workshop on Advanced Materials Challenges and Standardization need for Net Zero Technologies from 9th - 10th October, 2023. Climate change is a critical concern globally and to mitigate its catastrophic impacts on the Earth's livelihood, the Intergovernmental Panel on Climate Change (IPCC) has recommended the global greenhouse emissions to be declined to net zero by 2050. This workshop aims to bring national and international experts and researchers together on the same platform to discuss about the advanced materials, technologies and standards being developed globally to achieve the net zero target and the challenges therein to combat with the global climate change. The eminent scientists and researchers across the globe are participating in this workshop and sharing their research expertise in the areas of energy generation, materials for energy storage, materials for energy efficient technologies and materials for circular economy for sustainable development.

The program began with the welcome address by Prof. Venu Gopal Achanta, Director CSIR-NPL. Prof. Achanta welcomed all the guests and participants and briefed about the workshop. He emphasized the role of CSIR labs in the development of various advanced materials and technologies for achieving the net zero target. He also mentioned that the workshop will be followed by VAMAS steering committee meeting-48 at CSIR-NPL from 11th October to 12th October, 2023.

Followed by Prof. Achanta's address, Prof. Fernando Castro, VAMAS Chair, NPL-UK addressed the participants and mentioned about the conceptualization of the Versailles Project on Advanced Materials and Standards (VAMAS) and its role in standardization of advanced materials and support to the world trade. He stressed upon the urgent need of net zero technologies to mitigate the climate change and its catastrophic impacts. He mentioned about

the importance of materials metrology, accurate measurements and standard organizations need to establish standards for new materials.

The chief guest of the function Dr. N. Kalaiselvi, Secretary DSIR and Director General CSIR, addressed the gathering and mentioned about the need of advanced materials for net zero technologies. She mentioned that we need to work collectively to develop advanced materials and technologies for energy generation and storage. She mentioned about the importance of Zero for sustainable development. She said net zero is not a dream but has to be the mandate of the globe. She mentioned that advanced materials have lots of challenges and we need to take those challenges as opportunities to shape our future through a time bound process. She said we have to be very careful and justify our actions for the protection of our mother nature through collective efforts. She also mentioned about the role of CSIR-NPL in standardization and development of advanced materials and technologies for net zero emission.

The inaugural program ended with the vote of thanks by Dr. S. R. Dhakate, Chief Scientist CSIR-NPL.

The program was followed by technical sessions on Materials for Energy Generation, Energy Storage and Carbon Capture by eminent speakers from various countries. The speakers mentioned about their research contributions and efforts towards development of advanced materials and technologies for achieving net zero emission.

NIO scientists detect presence of sound making fish species by using AI

CSIR-NIO

09th October , 2023

A team of scientists from the CSIR-National Institute of Oceanography (NIO), has detected presence of soniferous (grunting) fish species off Goa coast by studying and matching their sounds using Artificial Intelligence (AI)-based algorithms, which also signify the good health of Goa's marine ecology. The four species are Terapon theraps (Tiger Perch, also known as Korkoro), Sciaenidae (Croaker), and Snapping Shrimp. The discovery has been published in the Journal of the Acoustical Society of America. The study was conducted underwater from Grande Island, within the Zuari estuary during the pre-monsoon period.



The findings of the study, which otherwise would have required months to decipher, could be done much faster, using by plugging recorded sounds of the fish species into an AI-based algorithm that correctly identified four species in a matter of minutes.

“Our main objective for AI/Machine Learning (MI) based study was to identify fish sound from recorded data which we had collected using passive acoustic technique. The presence of these fish species in Goa was confirmed using passive acoustic (sensors) technique, combined with AI. We could study the primary sources of biological sounds and differentiate between marine mammals, soniferous fish (sound producing), and invertebrates,” said Bishwajit Chakraborty, former Chief Scientist of NIO, who had initiated this study.

“Using passive acoustic technique, we have extensively investigated this location to understand the underwater environment off-Goa Grande Island area. In the past, Humpback whale sounds were also recorded by CSIR-NIO from this location. Very recently, NIO also

recorded fish sound data from the Malvan area off the Maharashtra coast. Using unsupervised machine learning techniques helped us find the success of the number of fish sound identification,” Dr Chakraborty said.

While the main objective of the study was to find out the presence of these fish species, it also helped the researchers to know the health of Goa’s marine ecology.

“The presence of these fish species off Goa coast indicates the health of our coastal reef system and the overall marine ecology. If the coral reefs are dead, then the fish won’t be active and produce sound,” the veteran ocean scientist said.

He further said that more passive acoustic data must be acquired from shallow water regions, especially coral reef regions, to monitor the coral reef.

“Such studies are new in India. Only CSIR-NIO, Goa, and National Institute of Ocean Technology (NIOT), Chennai, is active in this research using passive acoustics. Programmes and funding are needed from various sources for monitoring ocean health, using remote sensing techniques,” he said.

FSSAI reconstitutes scientific panel on nutraceuticals, functional foods

CSIR-CFTRI, TKDL

09th October , 2023

The FSSAI has issued an order regarding reconstitution of the scientific panel on nutraceuticals, functional foods, dietetic products and other similar products.

The scientific panel includes Dr Avinash Sattur, retired chief scientist, CSIR-CFTRI Mysuru; Dr. K Bhaskar Reddy, director, Sri Venkateswara College of Pharmacy Chittoor; Dr. K Bhaskarachary, retired scientist, ICMR NIN Hyderabad; Dr. PR Deepa, professor, BITS Pilani, Rajasthan; Dr. Seema Puri, professor, Institute of Home Economics, University of Delhi; Dr. Uday S Annapure, Director, Institute of Chemical Technology, Mumbai; Dr. Usha Antony, dean TNJFU Chennai; Dr. Utpal Bora professor, IIT Guwahati; and Dr. Viswajanani J Sattigeri, Scientist H and Head CSIR TKDL, New Delhi.

According to the FSSAI, scientific panels provide necessary scientific opinion and assist FSSAI in development of standards.

Scientific panels are made for the purpose of developing standards through the scientific studies and for providing scientific opinions to the FSSAI to create standard accepted globally.

Currently, there are a total of 21 SPs covering aspects related to particular food commodities (called the vertical panels; e.g., milk and milk products) and aspects that span across different commodities (referred to as horizontal panels; e.g., pesticides residues in food commodities).

Published in:

[Fnbnews](#)

This year, only CSIR-certified green crackers allowed in city

CSIR-NEERI

07th October , 2023

Only green crackers certified by CSIR-NEERI would be allowed for sale and use in the city, according to the UT administration.

Vinay Pratap Singh, chairperson, district disaster management authority, in an order issued on Friday said sale and use of joined firecrackers (series crackers or ladis) even if falling under green category have been banned as they cause huge air, noise and solid waste problems. The sale shall only be through licensed traders and it would be ensured that they are selling firecrackers that are permitted, said the order.

The order further said no e-commerce website, including Flipkart and Amazon, shall accept any online order and effect sales of firecrackers within the jurisdiction of the UT.

“Crackers are not to be burst in silence zones, an area at least 100 metre away from hospitals, nursing homes, primary and district health care centres, educational institutions, courts, religious places or any others that may be declared as a silence zone by the authorities,” it added.

Published in:

[Times of India](#)

Experts share insights into marine research opportunities

CSIR-NIO

07th October , 2023

Visakhapatnam: GITAM School of Science Dean Prof Krishna informed that around 30 faculty members are working in marine and aquaculture related research areas covering feed, biofuels, waste management, bioremediation, extraction identification of novel compounds, etc. Addressing the gathering at a one-day seminar hosted by the institution's School of Science in collaboration with the National Institute of



Oceanography (NIO), Central Institute of Fisheries Technology (CIFT) and Central Marine Fisheries Research and Technology Institute (CMFRTI) here on Saturday to explore research and entrepreneurial opportunities in marine sector, he mentioned that the institution is very much interested to partner with other research organisations to strengthen the knowledge base.

U. Sreedhar, Principal Scientist and Scientist-in charge, and Dr. Madhusudhan, Principal Scientist from CIFT shared insights into harvest and post-harvest technologies carried out by ICAR-CIFT.

Coordinated by the institution's Department of Biotechnology to promote various avenues of mutual interest between the institution, Central marine and aqua research institutes of Visakhapatnam, the meeting concluded with an agreement and a road map for a collaborative research in marine, aqua and entrepreneurial activities.

VVSS Sharma, Director, NIO-Visakhapatnam, Damodar Belle Shenoy, Senior Scientist, Jagadeesan Loganathan, Senior Scientist and TNR Srinivas, senior scientist from NIO

highlighted various research and entrepreneurship activities at NIO happening in recent years in the areas of marine fungi and marine derived fungi and their bioprospecting potential of micro algae. The institution's research wing director Raja P Pappu, School of Science Principal K Vedavathi shared their ideas towards development of marine and aqua related activities at the campus.

Dr Jitendra Singh addresses the 8th CAHOTECH, Annual International Healthcare Technology Conference

CSIR-CEERI

07th October , 2023



Amidst global competition for hi-tech medical devices, India has emerged among the world's top five healthcare manufacturers, but at a much lesser cost, said Union Minister Dr Jitendra Singh today. India is manufacturing life-saving high-risk medical devices but the cost is just a fraction of the rest, he said.

The Minister was delivering the Inaugural Address at the 8th CAHOTECH, Annual International Healthcare Technology Conference, organised by Consortium of Accredited Healthcare Organizations (CAHO) in New Delhi.

Dr Jitendra Singh said the Medical Devices is considered as one of the sunrise sectors in the country and the Government under Prime Minister Shri Narendra Modi's leadership is taking every possible step to make India its manufacturing hub.

“India is set to become the global hub of medical technology and devices with the market size estimated to grow up to US\$ 50 billion by 2050 from the present \$11 Bn (approximately, ₹ 90,000 Cr),” he said. “From a market share of 1.5 per cent, we hope to increase India's market share to 10-12 per cent over the next 25 years,” he added.

Dr Jitendra Singh said, medical devices have been identified as a priority sector by the Modi Government and it is committed to strengthen the indigenously manufacturing ecosystem.

“The National Medical Device Policy 2023 and the setting up of the Export-Promotion Council for Medical Devices are aimed at making India the medical devices manufacturing hub. Besides, 100% FDI under the automatic route for both Greenfield & Brownfield setups and ‘Promotion of Medical Devices Parks’ scheme serve to catalyse research and manufacturing. Production-Linked Incentive (PLI) scheme has led to 43 critical Active Pharmaceutical Ingredients (APIs) being produced within the country which were earlier imported from abroad,” he said.

The Central Government is supporting the setting up of 4 Medical Devices Parks in the States of Himachal Pradesh, Madhya Pradesh, Tamil Nadu and Uttar Pradesh. Under the PLI scheme for Medical Devices, till now, a total of 26 projects have been approved, with a committed investment of Rs.1,206 Cr and out of this, so far, an investment of Rs.714 Cr has been achieved. Out of the 26 projects, 14 projects producing 37 products have been commissioned and domestic manufacturing of high-end medical devices has started which include Linear Accelerator, MRI Scan, CT-Scan, Mammogram, C-Arm, MRI Coils, high end X-ray tubes, etc.

Dr Jitendra Singh said, technologies such as the ones developed by the Sree Chitra Tirunal Institute of Medical Sciences and Technology, Thiruvananthapuram, like the artificial heart valve, hydrocephalus shunt, oxygenator and drug eluting intra uterine device are being manufactured only in the US, Japan, Brazil and China.

“The world class medical devices made indigenously are available to Indian patients at approximately one-fourth to one-third price of their imported counterparts. This reflects the Atmanirbhar vision of PM Modi to become self-reliant in medical devices as well as medical management,” he said. Dr Jitendra Singh said, the high-powered Magnetron developed by CSIR-CEERI (Central Electronics Engineering Research Institute), Pilani for commercial use

is a path-breaking technology for Oncologists to treat even 2 mm diameter brain tumour with precision radiation with very little side-effects.

Dr Jitendra Singh on August 1, 2023 launched India's first Indigenously developed, Affordable, lightweight, Ultrafast, High Field (1.5 Tesla), Next Generation Magnetic Resonance Imaging (MRI) Scanner in New Delhi.

“With the indigenous MRI scanner, the cost of MRI scanning is expected to reduce considerably for the common man thus allowing a wider access to the otherwise highly priced MRI scans. Additionally, the capital investment of procurement of MRI scanners from the international market will be substantially reduced which in turn will save a lot of foreign exchange,” he said.

“Almost 70% of the world's population has zero access to MRI diagnostic modality. The reason is prohibitively high capital costs which is a problem in developing countries like India. Currently there is an annual demand of less than 350 machines, but because of the several initiatives of the Government to improve healthcare access and inclusiveness, including the flagship Ayushman Bharat initiative, the annual demand is expected to more than double by 2030,” he said.

The Minister said, India will address many of these problems by making available the first indigenously developed MRI Scanner which is affordable compared to the already available machines. He said, it also offers a prospect of sharing this success with other nations in the Global South to help them to have access to affordable and dependable medical imaging solutions.

Dr Jitendra Singh said, with the handholding of Technology Development Board (TDB), Panacea Medical Technologies Pvt. Ltd., Bangalore last year launched India's first most advanced & innovative SBRT enabled Linear Accelerator (LINAC), SiddharthII, capable of performing treatment modalities like 3DCRT, VMAT, IMRT, SBRT and SRS. He said, this is

only the third brand in the world which is ready for the market beside two global giants UK and Japan.

“In line with Modi Government’s mantra of ‘Make in India’ with ‘Made for the World’, the machine can be exported to many countries in the world as the company has already received US FDA clearance,” he said.

The S&T Minister said the Government has circulated the latest draft of the Drugs, Medical Devices and Cosmetics Bill 2023 that has a provision which allows the government to regulate, restrict or ban the online sale or distribution of any drugs by notification.

“In a country with 70% population below the age of 40 and the youth of today are going to be the prime citizens of India@2047, preventive healthcare and widespread mass screening will help achieve our economy the expected rate of growth set out by PM Modi, he said.

CSIR-NCL scientist gets ICC lifetime achievement award

CSIR-NCL

06th October , 2023

Amol A Kulkarni, chief scientist at CSIR-National Chemical Laboratory in Pune, has been awarded the ICC D. M. Trivedi Lifetime Achievement Award 2022 for his contributions to the Indian chemical industry. Kulkarni's research focuses on continuous flow reactors and their applications in various fields. He has also established a microreactor laboratory in India. Pune: The Indian Chemical Council (ICC)



conferred the ICC D. M. Trivedi Lifetime Achievement Award 2022 on Amol A Kulkarni, chief scientist, CSIR-National Chemical Laboratory (CSIR-NCL) in Pune.

“The award recognises Kulkarni’s exceptional contributions to the Indian chemical industry (education and research). ICC is an apex national body of Indian chemical industry, representing various sectors, including petroleum, refining and petrochemicals, fertilisers, pesticides, dyes, pharmaceuticals, paints, inorganic and organic chemicals and speciality chemicals etc, CSIR-NCL release stated. ICC was established by Acharya PC Ray and BD Amin in 1938. Kulkarni is working at the chemical engineering and process development division of CSIR-NCL since 2005. “Kulkarni has focused his research on design and development of continuous flow reactors and explores their applications for continuous syntheses of pharmaceutical intermediates, dyes, perfumery chemicals and nanomaterials. He has established the first-of-its-kind microreactor laboratory in India instrumental in several scalable continuous processes for crucial organic compounds and inorganic functional materials,” the release stated.

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[Hindustantimes](https://www.hindustantimes.com)

Call to focus on neglected diseases

CSIR-NIIST

06th October , 2023

In a world where neglected diseases have the potential to become pandemics, it is very critical for India and Africa to control them effectively as all of these diseases occur in Asia and Africa, according to Krishna M. Ella, executive chairman, Bharat Biotech International Ltd.

Delivering the Foundation Day lecture at the CSIR-National Institute for Interdisciplinary Science and Technology here on Friday, Dr Ella said it was significant to note that in vaccine national security, India was on par with the US and Europe. And India's clinical trials on Covid-19 vaccines were the world's largest, next to the US.

Dr Ella, who is also chairman, Research Council, CSIR-NIIST, said Bharat Biotech was the first one to isolate Chickungunya virus infection through indigenously developed vaccine when it spread in Kerala in 2006.

Chairman and managing director, IREL, Mumbai, Deependra Singh was the Guest of Honour at the function. Director, CSIR-NIIST, Thiruvananthapuram, C. Anandharamakrishnan, presided.

“The Zika virus spread from Madagascar to Brazil. We made a global pattern of it. Now we are doing phase-3 efficacy trials in Philippines, Thailand, Columbia and Guatemala,” said Dr Ella.

Dr Ella noted that the entire emerging markets depended on Indian vaccines and India was the third country in the world to complete efficacy trial.

Observing that innovation is the key for the future, Dr Ella said creating an ecosystem for youngsters in the country was vital, as a combination of skill sets and knowledge made the

difference. According to him, Indians are creating unicorns globally and Indians dominate the list of non-US born unicorn founders in the US. Dr Ella stressed that the keys for India's next century innovation included stable economy, digitalisation, infrastructure, evolving, and changing of ecosystem.

He also inaugurated the Food Architecture Lab of CSIR-NIIST and released the annual report of the institute.

MoUs signed by CSIR-NIIST with NIF-India and Vibha Vani, Kerala State Pollution Control Board, Peekay Steels, MKN Bricks and Blue Metals (P) Ltd, Hydronest and Sree Chitra Thirunal College of Engineering were exchanged at the function.

The gold medal for the best PhD Thesis and merit awards for students were distributed on the occasion. NIIST employees who completed 25 years of service and retired employees of 2022-23 were also felicitated.

Free camp in Bengaluru for people with Motor Neurone Disease

CSIR-IGIB

06th October , 2023

Dr. Shyama Narang Foundation, in association with BRAINS Superspeciality Hospital, is conducting a free camp for patients with Motor Neurone Disease (MND) and Amyotrophic Lateral Sclerosis (ALS) on its premises in Jayanagar. The camp, which will include consultation, evaluation and counselling, opened on October 3 and will go on till October 30, between 10.30 a.m. and 4 p.m. on all days except Sundays. In addition, free genetic testing will also be done in association with CSIR-Institute of Genomics and Integrative Biology, New Delhi. This testing will enable the identification of genetic variety and subgroups, predict prognosis and transmission, as well as the futuristic possibility of drug discovery or drug repurposing. Details can be had on 9148080000.

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