

CSIR IN MEDIA



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CSIR

भारत का नवाचार इंजन

The Innovation Engine of India

NEWS BULLETIN

16 TO 20 DECEMBER 2023



Mangalore Refinery plans to produce sustainable aviation fuel over two years

CSIR-IIP

20th December, 2023

Mangalore Refinery and Petrochemicals (MRPL) is planning to set up a 20 KLPD plant as part of its strategy to produce sustainable aviation fuel (SAF) in two years. The company is in the process of securing necessary approvals from its board for the development of the SAF plant.

Subsequently, MRPL will take about two-and-a-half years to build the plant at an estimated cost of around Rs 450 crore. The company has also undertaken a survey with subject matter experts to identify sources for the required quantities of feed for target SAF production.

With this, MRPL intends to support the government's one percent blending target. SAF refers to waste-derived aviation fuel, which is produced from various sources such as used cooking oil, agricultural waste, fats or non-food crops. It is relying on CSIR-Indian Institute of Petroleum's single-step process that converts used cooking oil or palm waste to produce SAF.

CSIR-Indian Institute of Petroleum has produced more than 14,000 litre of SAF on a pilot basis in Dehradun, and the fuel has been approved for use in Indian Air Force aircraft with a 10 per cent blend since 2021. The process for securing the ASTM International certification is underway. Once approved, the fuel can be used by airlines.

Published in:

[Projects Today](#)

CSIR-NGRI hosts outreach event for IISF-2023

CSIR-NGRI

19th December, 2023

CSIR-The National Geophysical Research Institute (CSIR-NGRI) on Tuesday organized an outreach event in preparation for the India International Science Festival (IISF)-2023, scheduled to take place in Faridabad from January 17 to 20, 2024.

Over 200 participants, including students, teachers from schools/colleges in twin cities of Hyderabad and Secunderabad, and research scholars from various institutions/universities across India, attended the program. The event aimed to foster scientific thinking among young minds and celebrate creativity in science. During the inaugural address, Chief Guest Dr R K Chadha highlighted CSIR-NGRI's research activities, spanning from historical to present times. He stressed the significance of instilling scientific thinking in young minds to realize the vision of a developed India in its Amritkal.

GLN Murthy, Vijnana Bharati (VIBHA), Telangana Coordinator, provided details about IISF, outlining sessions for young students, educators, entrepreneurs, and scientists. The festival will center around the five pillars of 'Azadi Ka Amrit Mahotsav': Freedom Struggle, Ideas@75, Achievements@75, Actions@75, and Resolve@75. The theme for IISF 2023 is "Celebrating Creativity in Science," and Murthy encouraged students and teachers to actively participate.

Engaging talks and discussions on topics such as earthquakes, climate change, and geothermal energy garnered a positive response, especially from young students. A poster exhibition showcased CSIR-NGRI's technologies, processes, products, and achievements. The institute's Open Rock Museum also served as an intriguing attraction for the visiting students. Dr Prakash Kumar, the institute's Director, welcomed the gathering and addressed press and media inquiries regarding IISF-2023.

Published in:

[Uni India](#)

NBRI two-day flower show on Jan 20-21

CSIR-NBRI

19th December, 2023

The CSIR-National Botanical Research Institute (NBRI) will host its annual 'Rose and Gladiolus' show on January 20-21.

The major attractions of the show will be gladiolus and rose germplasm, plants for sale and commercial stalls selling plant care related and plant-based products.

“Like every year, the event will be held on weekend so that people in large numbers can enjoy the show.

Those keen on exhibiting their collections can drop an email at nbri.bg@gmail.com or call our chief scientist SK Tewari at 0522-2297961,” said spokesperson of NBRI Rajat Rastogi.

Published in:

[Times of India](#)

Health Tips: आपके जूते कर रहे आपको बीमार? रिसर्च में हुआ खुलासा

CSIR

19th December, 2023

आज के दौर में लोग ब्रांड के जूते को अक्सर तरजीह देते हैं। लोग कीमत के साथ अपनी पसंदीदा आकार के जूते को देख कर ही लेते हैं। लेकिन क्या आपको मालूम है जिस जूते को ज्यादा तरजीह दे रहे हैं वो आपको बीमार कर रही है। एक्सपर्ट्स के अनुसार जूते का सही चयन न करने की वजह से युवाओं में नॉकनिक, फ्लैटफिट, अर्थराइटिस और घुटने की दिक्कत जैसी हेल्थ प्रॉब्लम हो सकती है। एक रिसर्च में यह भी पाया गया है कि जूते को कंफर्ट के मुताबिक न खरीदने के कारण 23 प्रतिशत से ज्यादा युवा समय से पहले ही अनफिट हो जाते हैं।

रिसर्च में क्या पाया गया

एक रिसर्च के दौरान जूतों को किस आधार पर चुनना चाहिए इसको लेकर 15-25 साल तक के हजार से 15 सौ के खिलाड़ियों से सवाल पूछे गए। जिसमें पाया गया कि शरीर के बैलेंस और पैरों के आकार के मुताबिक जूता चयन न करने से पैरों में परेशानियां होने लगती है। जो आगे चल कर काफी दिक्कत देती है। जिसमें घुटने की दिक्कत, अर्थराइटिस, नॉकनिक, बोलैंग और फ्लैटफिट की समस्या होना आम बात है। इसके कारण 25 प्रतिशत से ज्यादा प्लेयर युवा होते ही अनफिट हो जाते हैं।

बच्चों को बड़ा जूता दिलाने की आदत गलत

इस रिसर्च में यह भी पाया गया है कि माता-पिता द्वारा बच्चों को बड़ा जूता दिलाने की आदत गलत है। इसके कारण बच्चों के पैरों का ग्रोथ काफी हद तक प्रभावित होता है, जो आगे कई परेशानियां देती है। रिसर्च में बताया गया कि CSIR की लैब चैन्नई इंडियन फुटवियर के साइज पर अध्ययन कर रही है। जिस तरह विदेशों में कंपनी कस्टमर्स के पैरों के हिसाब से जूते बनाती है, वैसा ही यहां करने का इरादा किया जा रहा है।

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Indianews

Hyderabad researchers can now forecast pandemic

CSIR-CCMB

19th December, 2023

Researchers from Hyderabad can now predict the possible onset of a pandemic like a fresh Covid wave two weeks in advance. Yes, you read it right!

The wastewater surveillance system developed by researchers from the city-based Centre for Cellular and Molecular Biology (CCMB) can now forecast a pandemic or a fresh surge of bacterial or viral infections two weeks in advance.

The surveillance system, under successful implementation in Prayagraj, Uttar Pradesh and first tested in Hyderabad during the first Covid wave, found a correlation between surveillance results and test results two weeks later, suggesting that wastewater surveillance can be used for early detection of the disease. Through it, the researchers also highlighted the potential to use wastewater surveillance systems to understand antimicrobial resistance and to monitor diseases during large events.

The effectiveness of wastewater surveillance was first tested in August 2020 in Hyderabad by a team of researchers led by the then CCMB Director Dr R K Mishra. Recently, a senior scientist from CCMB Dr Archana Bhardwaj Siva along with local administration implemented the early warning capability of wastewater surveillance in Prayagraj.

Wastewater surveillance involves monitoring wastewater to gain insights into the presence and concentration of disease-causing pathogens in communities. The wastewater samples are usually collected from STPs and open drains. Besides detecting SARS-CoV-2, the system also identifies the polio virus, pathogens like adenoviruses, hepatitis A and E viruses, rotaviruses, bacteria and parasites like E. coli, Salmonella, Shigella, Ascaris, and Giardia.

In a paper, Dr Archana said they were exploring the possibility of incorporating wastewater

surveillance as one of the tools for disease monitoring in the upcoming Kumbh Mela 2025 during which Prayagraj is expected to host over 400 million pilgrims from around the world.

Other applications of wastewater surveillance include the usage of it in some countries to track illicit drug use among their population. The wastewater-based epidemiology also has the potential to estimate socio-demographic characteristics and consumption patterns in an area, the senior scientist said.

3-Day Millet Fest Begins In City

CSIR-CFTRI

19th December , 2023



The three-day Siridhanya Sambhrama (The Millet Diversity Festival) began at Nanjaraja Bahadur Choultry on Vinoba Road in city this morning. The festival will be open for public from 10 am to 8 pm till its conclusion on Dec. 21. As part of International Year of Millets-2023, Sahaja Samrudha has organised the event in association with Department of Agriculture, SWISSAID and Research Institute of Organic Agriculture (FiBl), under the CROPS4HD (Consumption of Resilient Orphan Crops for Healthier Diets) Project.

Rare Millet Varieties

As many as 1,000 varieties of traditional millets including Korallu, Same, Navane, Oodalu, Sajje, Haraka, dryland treasured crops of pulses, greens and vegetables are being displayed. It also shows seed diversity and food products and provides opportunities to interact with seed savers from different regions. The saplings of various fruit bearing plants are also being sold at the fest. It will be a unique experience for visitors from Mysuru and other cities, to witness such a kind of a festival that has some of the rare millet varieties that one has never seen or heard of — Black and Red Foxtail Millet, Red Jowar, Milky and Black Little Millet and the list is endless. The traditional equipment earlier used in the households like cudgels, sickles,

winnowing fan made of bamboo, winnowing basket made of metal, shovel among others are on display, at the entrance of the Choultry.

The make-shift kitchens preparing hot rotis in a range of plain, herbal to spicy is another attraction of the festival. The art of making Ragi Shavige (Vermicelli) will also be demonstrated. The 'Finger Millet' is a healthy cereal and this shavige is going to be a new way of using the cereal in one's diet. The instant and healthy food can be enjoyed for breakfast or on any time of the day. Millet seed threshing is a drudgery for women and the threshing machine is here for all to see and try your hand at.

Sessions for knowledge

Sessions by experts in the field of millet production, seed saving, processing, by-products and value addition are also organised. The traditional ragi harvest — 'Ragi Kana' — which is a revival of an old ritual of harvest where farmers gather and heap their harvest of ragi and together celebrate the year's bounty, can also be seen here.

'Instant Foods' that are simple, fast and convenient food, hygienic and ready to cook items like breakfast, health drinks and instant mixes of traditional products that are prepared with small millets and ready to eat cookies, snacks, bakery foods are being brought to you from all over the State that is prepared by women micro enterprises, well researched range of products by University of Agricultural Sciences (UAS) Dharwad, Small Millet Department, University of Agricultural Sciences (UAS), Bengaluru, Agro Enterprises, Institutes like Indian Institute of Millets Research from Hyderabad with their 'Eatrite' brand, Central Food Technological Research Institute (CFTRI) and Defence Food Research Laboratory (DFRL) from Mysuru have a range of products that can be bought and easily placed in your daily diet.

G. Krishna Prasad and Seema Prasad, Founders of Sahaja Samrudha and actor Akshatha Pandavapura were present.

Published in:

[Starofmysore](http://Starofmysore.com)

IISF 2023 Outreach Programme of CSIR-NIScPR

CSIR-NIScPR

18th December , 2023



CSIR-National Institute of Science Communication and Policy Research (CSIR-NIScPR) organized the outreach event for India International Science Festival (IISF), in New Delhi today. So far eight editions of India International Science Festival have been successfully celebrated since 2015. This year the ninth edition will be celebrated from 17-20 January 2024 at DBT RCB-THSTI campus, Faridabad, Haryana. Several scientific institutions across the nation have organised the outreach programmes and more are scheduled this month.

The mega science festival aims to honour and highlight the scientific achievements in Science, Technology and Innovation by the country. The primary objective is to connect science with the society.

The distinguished guests at today's outreach event were Dr Raj Mehrotra, Curator 'F', National Science Centre; Dr Tripta Thakur, Director General, National Power Training Institute and Shri Praveen Ramdas, Secretary, Vijnana Bharati, Vibha India. While addressing the event, Dr C.V. Singh, Jigyasa programme explained about the India International Science Festival to the students. He also explained about the Jigyasa programme and Jigyasa Division

that is present at all the CSIR labs to provide the right guidance to students so that they can joyfully choose science as a profession in future.

Dr Raj Mehrotra, the Chief Guest of the outreach event, welcomed all and said that “do something that your classroom does not allow you,” besides emphasising not to ignore classroom. He spoke about the application of rational thinking and then believe in things. He said “this century belongs to information, the more information you have, the more aware you are.” “Be as informed as you can be.” He also shed light on National Council of Science Museums (NCSM) and highlighted “to be scientifically tempered is important” and “channelising the Yuva Shakti, the youth of the nation, in Amritkaal.” Finally, he moved to his experiment of viewing air through a fun activity for school students and other audience. Wireless Electricity was the experiment of the day!

In the welcome address of the second session of the IISF 2023 outreach programme, Dr Ranjana Aggarwal, Director, CSIR-NIScPR talked about the IISF and its relation with science, saying that life is incomplete without science. She added that the event is organised in the form of festival so that everyone in the society even if he or she is a farmer, or an artisan, a scientist or an entrepreneur, connects with science in a joyful manner. The festival acts as a bridge (linkage) between science and society. She invited everyone to come, join and experience the marvels of science at the mega science festival.

Shri Praveen Ramdas, Secretary, Vijnana Bharati spoke about the message IISF conveys. He said that IISF is a festival to popularise science among all the segments of the society in the form of various ways through planned events.

Dr Tripta Thakur, Director General, National Power Training Institute (NPTI) addressed the audience by talking about the traditional science and how India can become a Vishwa Guru through traditional science and not leaving Bharatiya spirit. In addition, she spoke about the importance of Science in Amritkaal. Shri Kuldeep Dhatwalia, Sr. Consultant, Science Media Communication Cell (SMCC) briefed the audience about the Media Conclave programme to be

held for two days at IISF. Dr Parmanand from CSIR NIScPR briefed the audience about Vigyanika event at IISF. Vigyanika is being jointly coordinated by National Innovation Foundation (NIF) India, an autonomous institute of DST and CSIR NIScPR.

The informative outreach event ended with a vote of thanks by Dr Manish Mohan Gore, Scientist, CSIR NIScPR.

Fortified rice key to address malnutrition: experts

CSIR-NIIST

18th December , 2023

Fortified Rice Kernels (FRKs) are crucial for the country to collectively address malnutrition and anaemia as they have been scientifically proven nutritious, cost-effective, scalable and sustainable, said experts at a meeting today. They were speaking at a stakeholders meet on FRKs organised by CSIR-National Institute for Interdisciplinary Science and Technology (CSIR-NIIST) on its campus at Pappanamcode here.



In his inaugural address through videoconferencing, Dr H.N. Mishra, Emeritus Professor (Food Technology), IIT Kharagpur, said fortification has emerged as an efficient and cost-effective alternative in the pursuit of a comprehensive strategy to eradicate micronutrient malnutrition.

Calling for an urgent intervention, Dr. Mishra said as per World Health Organisation (WHO) data, about 37% of pregnant women and 40% children under five globally suffer from iron deficiency. As per the National Family Health Survey 2021, about 58% of children, 57% of women and 22% of men in India are anaemic.

Distribution through PDS

“To address anaemia and micro-nutrient deficiency, the Government of India allocated a total Budget outlay ₹174.64 crore for a period of three years from 2019-20 as part of a pilot scheme under PM’s POSHAN Abhiyaan. It envisages distribution of fortified rice through the public distribution system,” he said.

Dr. Mishra said the initiative has reached around 12 crore children and 10.3 crore women across the country. The government aims an outreach to 50 crore beneficiaries under the scheme by 2024. Commodities that are being fortified in India are milk, oil, wheat, rice and salt.

According to him, effective implementation of the fortification of rice programme requires quality control, quality analysis, regulatory standard and coordination among stakeholders.

Dr C. Anandharamakrishnan, Director, CSIR-NIIST, in his presidential address, said currently, there are 18,227 rice mills equipped with rice-nutrient blending infrastructure, indicating a widespread capacity for producing fortified rice.

Health benefits

Citing that grain fortification has the potential to reduce anaemia and improve iron and vitamin levels, Dr C Anandharamakrishnan said CSIR-NIIST would come up with its own FRK soon.

“Since food security is a concern, we need healthier products and focus on fortification of grains. To balance over-nutrition and under-nutrition, we need to look for alternative proteins,” he said.

Highlighting the business potential of FRK, Dr C. Anandharamakrishnan said the fortified rice market was expected to grow at a compound annual growth rate of 6.3% and reach a market size of \$28.4 billion by 2027.

Speaking on ‘Production of fortified rice and quality control at rice mills,’ Milli Asrani, Programme Policy Officer, Food Technology, United Nations World Food Programme, New Delhi, said the fortification of rice provided an opportunity to add micronutrients lost during milling and polishing. It also helps add other micronutrients such as iron, zinc, folic acid, vitamin B-12 and Vitamin A.

Noting that milling of rice removes fat and micronutrient rich bran layers to produce the commonly consumed starch white rice, she said polishing further removes 75-90% of Vitamin B-1, Vitamin B-6, Vitamin E and Niacin.

Commenting that food fortification is a global intervention that addresses the issue of micronutrient deficiencies, Ms. Asrani said it was scientifically proven, cost-effective, scalable and sustainable.

“Food fortification is the practice of increasing the micronutrient content to improve the nutritional quality of the food supply. Currently, there are more than 600 FSSAI-registered FRK manufacturers in the country. Iodisation of salt is an example of successful food fortification in India,” Ms Asrani said.

Dr. U Anuja, Head, Department of Community Medicine, Government Medical College, Thiruvananthapuram was among those who spoke.

CSIR-IIIM celebrates Foundation Day in Jammu

CSIR-IIIM

18th December , 2023

CSIR–Indian Institute of Integrative Medicine (CSIR-IIIM), Jammu celebrated its 83rd Foundation Day on Monday. Dr. Shakti Kumar Gupta, Executive Director and CEO of All India Institute of Medical Sciences (AIIMS), Jammu, was the Chief Guest on the occasion and delivered Foundation Day Lecture entitled, “Leveraging Technology for Enhancing Medical Research in Healthcare”.



The retirees S&T staff of CSIR-IIIM, students and faculty members drawn from different institutions of Jammu besides members of civil society also attended the daylong event.

Dr. Shakti Gupta in his lecture talked about future technological innovation in the field of medical sciences, starting from Internet-of-Things (IoT) enabled Smart Hospitals, Patient self-check-in kiosks, Smart Operation Theatres, Remote monitoring, 3D printed bones, using AI and predictive medical technologies etc.

On sideline of the function, while talking to media persons, he appreciated the high end research carried out at CSIR-IIIM and emphasised for a close collaboration to evolve a synergy in the working. He also said the AIIMS, Jammu and CSIR-IIIM have already signed MOUs and in near future would be formulating the join research Projects.

Earlier, Dr Zabeer Ahmed, Director of CSIR- IIIM, in his welcome address introduced the Chief Guest to the audience as a visionary Medical Professional and Hospital administrator of international repute. He termed Dr. Shakti Kumar Gupta as an able administrator and

institution builder and has been bestowed with the great responsibility as executive director and CEO of AIIMS, Jammu. Dr. Zabeer also informed the audience regarding the scientific achievements of the Institute in past one year and deliberated on the future trajectory and plans for the next year.

Giving the details of programmes conducted as part of IIIM Foundation Day celebrations, Director, CSIR-IIIM said that during the past fortnight, various sports activities such as Cricket, Volleyball and Badminton tournaments, tug-of-war, musical chairs, etc., were organized as a part of celebrations.

He also informed the august gathering that, today morning, along with the curtain raiser event of India International Science Festival, an open day was organized for school and college students, wherein more than 600 students from various schools visited the institute. The students also interacted with scientists and got to know about of research methodologies.

During the event, scientists and students who had patented various technologies and products, during the previous year, were also felicitated.

Students who deposited maximum numbers of cultures to Col. Sir RN Chopra Microbial repository at CSIR-IIIM were also felicitated. Highest number of cultures were deposited by Mohd Murtaza, while Abid Bashir was at the second number. Javed Ahmed Tali deposited maximum number of compounds to the Institutional compound repository, while Ria Gupta was at the second position.

During the event, prizes were distributed to the winners of various sports events.

Punjab's first tulip garden to come up at PAU, Ludhiana

CSIR-IHBT

18th December , 2023

Come February and flower lovers will be able to witness tulips at the state's first tulip garden in Punjab Agricultural University (PAU), Ludhiana. Taking inspiration from the initiative of the Council of Scientific and Industrial Research (CSIR)-Institute of Himalayan Bio-resource Technology (IHBT), the PAU came up with an idea of having its own tulip garden.



The CSIR-IHBT worked on tulips agro technology for five years and were able to grow some bulbs by creating similar temperature conditions. Besides these were grown by around 25 farmers of Lahaul and Spiti in Himachal Pradesh.

As the PAU has its own research station in Keylong, Himachal Pradesh, the authorities would multiply tulips and re-plant them in October again.

Dr Parminder Singh, head, Department of Floriculture and Landscaping, PAU, said, “We have planted 2,000 bulbs in the flower bed with eight different varieties of tulips. These have been procured from Holland through a private firm in Delhi. We are expecting the flowers to bloom by February.”

He said, “These plants required a specific temperature to produce where nights are colder. We are anxiously waiting for February and expecting some beautiful tulips.”

Students develop solution for arsenic-free drinking water

CSIR-IICT, CGCRI

18th December, 2023

A group of Bihar-based students through Navmarg Research and Innovation Private Limited have developed Magnetic Arsenic Removal Technology, a device, that is ready for installation in arsenic-affected regions of the country.

The research-based startup is supported by the Kilkari Bihar Bal Bhawan, department of education, Bihar. Currently, it operates from Manipal Academy of Higher Education, where two core members Arpit Kumar and Shambhavi are students. Arpit is a first-year BSc atomic and molecular physics student while Shambhavi is a first-year engineering student.

Arpit told TOI: “The novel technology works on the principle of molecular magnetism, repelling the diamagnetic arsenic ions and making them adhere to the device. It was developed in collaboration with research and development labs, the Science Department of Bihar Bal Bhawan Kilkari, the education department, and the Training-cum-Research Center Pranjal of the Bihar government.” Other students in this project, include Abhijeet Kumar, a class 12 student in Bihar and Akshat Adarsh, a postgraduate geology student at TERI, New Delhi.

“The technology has secured five patents at the national and international levels. Further, Bihar’s public health and engineering department, Unicef Bihar, and the ICICI Foundation supported the research studies. The technology’s minimal sludge and waste generation and its environment-friendly approach underscore its potential as a cost-effective and eco-conscious solution. This innovative solution has been approved by the department of drinking water and sanitation, Ministry of Jal Shakti, India for use in centrally governed regions and other states. It is validated by CSIR – IICT and CSIR –CGCRI in field trials. The technology will soon be available on the GeM portal for procurement through outsourcing. The pilot trials were conducted in arsenic-affected villages in Bihar, treating 29 lakh litres of water,” said Arpit.

On December 8, 2023, the product's sales promotional rights were transferred to Stellarin Ventures Pvt Ltd in Raipur. "At present, there are two models, which include a community unit costing up to Rs 1.9 lakh with a 10-year validity and a municipal unit that costs up to Rs 12 lakh with a 15-year validity. The domestic (household) model of this technology costing up to Rs 15,000 will be launched by January," said Arpit.

Chhattisgarh's last purebred wild buffalo, 21-year-old 'Chhotu' fights for survival

CSIR-CCMB

17th December, 2023

Despite millions spent on conservation efforts, only one purebred wild buffalo, the state animal of Chhattisgarh, remains within the boundaries of Udanti Sitanadi Tiger Reserve in the Gariaband district of the state.

Named 'Chhotu,' the 21-year-old buffalo has reportedly turned partially blind after a confrontation with a hybrid wild buffalo, shedding light on the challenges faced by the conservation initiatives. This revelation came to light after following a letter from the office of the deputy director at Udanti Sitanadi Tiger Reserve to the Principal Chief Conservator of Forests (PCCF), referencing a communication from the Central Zoo Authority (CZA).

According to the letter, the remaining buffaloes in the reserve are hybrids, released into the jungles in adherence to the CZA's directive to maintain genetic purity and exclude hybrid buffaloes from the breeding plan.

In March 2023, the Centre for Cellular and Molecular Biology (CCMB) and the forest department had proposed incorporating hybrid buffaloes into the breeding plan. However, the CZA's letter contradicted this proposal. Udanti Sitanadi Tiger Reserve's deputy director, Varun Jain, emphasized in his letter to the PCCF that 'Chhotu' is the sole remaining purebred male wild buffalo in Udanti Sitanadi, rendering the confinement of hybrid buffaloes in the zoo irrelevant, given their exclusion from the breeding plan as advised by the CZA.

Highlighting forest department's initial plan which included bringing buffaloes from Assam and Chhattisgarh for a breeding program but CZA's objection to breeding with hybrids prompted a change in approach, Local wildlife enthusiast Nitin Singhvi alleged that feeding supplements for the confined hybrid buffaloes were discontinued in August 2023, leading to 11 out of 20 breaking the enclosure due to hunger.

Singhvi further said that 'Chhotu' sustained eye injuries during a fight with another buffalo in the enclosure, resulting in partial blindness. Additionally, hybrid buffalo 'Prince' is completely blind and has been kept in a separate enclosure, while 'Anand' is reported to be unwell. Presently, only a handful of purebred forest buffaloes are reported to be free-roaming in Central India, mainly residing in Maharashtra's Gadchiroli's Kolamarka Conservation Reserve, occasionally crossing the Indravati River into Chhattisgarh.

Deputy director Varun Jain clarified that all hybrid buffaloes were released into jungles after the CZA's exclusion from the breeding plan, asserting their good health. Plans are in place to extract semen from 'Chhotu' and inject it into female buffaloes from Assam to obtain purebred buffaloes. Jain refuted claims that 'Chhotu' is the last purebred state buffalo, stating that 10-15 such buffaloes have been spotted in the Indravati Tiger Reserve.

However, Singhvi challenged the forest department's claims, alleging that the buffaloes were kept hungry, leading to their escape. He emphasized the need for adult and fertile males and females in a breeding program, questioning the department's assertions. In response, the Forest Department rejected these allegations, calling them baseless.

They accused some NGOs of raising funds in the name of wild buffalo without contributing significantly to conservation efforts. The breeding center at Udanti Sitanadi, established in 2008, incurs an annual expenditure of approximately Rs 10 lakh, which is expected to decrease to Rs 1-2 lakh due to the release of 18 hybrid forest buffaloes from the enclosure.

Guntur-based company obtains U.S. agency certificate for PM10 monitor

CSIR-NPL

17th December, 2023

A Guntur-based company, Vasthi Instruments Pvt Ltd, got the United States Environmental Protection Agency (US EPA) certification for its new model V.air-9009 introduced for real time atmospheric particulate matter monitor for PM10 with beta attenuation. This US EPA certification is crucial for monitoring Particulate Matter 10 (PM10) in air quality.

Launching the certificate at an event here on Friday, Venugopal Achanta, Director of CSIR-NPL, and Shankar G. Aggarwal, Senior Scientist at CSIR-NPL, observed that it was a rare honour to get this certification in monitoring the air quality.

Founders of Vasthi including Katta Prakash Babu (CEO), Gosala Ananda Rao (Chairman) and G. Alex (Partner in Vasthi) explained that the device V.air-9009 introduced by their company continuously measures the particulate matter concentration of ambient particulate collected on a glass filter tape with a time resolution of 1 hour. The V.air-9009 uses an in-line sampling geometry that measures beta attenuation across the filter media while simultaneously sampling particles.

Mr. Prakash said that the US EPA certificate was the global standard to monitor the PM10 in air quality. He said that Vasthi was the first company in India to get this certificate, which was very complicated procedure. He said that it would be beneficial to all kinds of industries across the country. Mr. Ananda Rao said that they were going to expand their services based on this certificate in USA and other countries in 2024.

Published in:

[The Hindu](https://www.thehindu.com)

Sand mining; Five-member committee appointed to evaluate feasibility of amendment

CSIR-NIIST

17th December, 2023

A proposal to amend the Kerala Protection of Riverbanks and Regulation of Removal of Sand Act, 2001 is under review to facilitate sand mining in the state's rivers. A committee led by the Law Secretary and comprising five members has been formed to evaluate this proposal's viability and suggest necessary amendments. The anticipated amendment aligns with the directives outlined by the Union Ministry of Environment. The move aims to address the severe shortage of sand, crucial for construction purposes by potentially providing a substantial quantity for the next three years. The Institute of Land and Disaster Management (ILDMD) conducted a sand audit in 32 rivers two years ago, discovering sand deposits in 17 rivers. This audit revealed an estimated production potential of at least 300,000 tons of sand weekly.

The ILDM's audit report has been submitted to the National Institute for Interdisciplinary Science and Technology (NIIST) for a final evaluation with a mandate to grant approval only after their comprehensive analysis. Additionally, plans are in place to conduct further sand audits in 12 additional rivers. Following the significant 2018 flood which inundated various rivers and water bodies with excessive sand impacting water flow adversely, a proposed guideline stipulates that sand extraction permissions should be based on district-level survey reports. The revised process dictates that each river requires a separate environmental permit for sand extraction. Subsequently, an approved mining plan must be formulated and the respective local governing bodies will auction the mining rights, providing a potential revenue source. Minister of Revenue Department, K Rajan clarified that although the possibility of amending the law is being explored, it has not yet reached ministerial consideration. He emphasized the need for detailed assessments before any conclusive decision-making.

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[Kerala Kaumudi](#)

“Biochar and Bio-resources” workshop at IIMT

CSIR-IMMT

17th December, 2023

As part of its Diamond Jubilee year celebration, the CSIR-Institute of Minerals and Materials Technology (IMMT), Bhubaneswar, organised a national workshop on Biochar and Bio-resources on December 14-15. The workshop was inaugurated in the presence of chief guest Principal Secretary, Department of Agriculture and Farmers’ Empowerment, Dr Arabinda Kumar Padhee, Director, CSIR- IMMT Dr Ramanuja Narayan as guest and dignitaries from various sectors including corporate, industry and start-up and NGO, etc.

The event was organised in collaboration with IBBN, GIZ, Biochar Crusader which are actively supporting the activities related to Biochar and bio-resource management for sustainable agriculture and environment. Director, CSIR, IMMT, Dr Ramanuj Narayan welcomed all the collaborators, sponsors (Gold-Sanjivani Agro-Machinery, Nagpur and Silver-Circonomy, Singapore) and participants from various organisations spread across India.

Dr Narayan shared information about recent formation of Task Force on Biochar utilisation under Ministry of Steels, Government Of India and highlighted the emerging scope of R and D towards carbon neutral India. On the occasion, Chief Scientist Dr N K Dhal and CSIR-IMMT CRTDH Co-ordinator Dr Yatendra Singh Chaudhary shared their opinions. Kshitij Urs from IBBN and RK Mehta from Biochar Crusader shared their work about the Biochar and Bio-resource theme. The workshop consisted of both practical and case-study oriented deliberations by renowned resource persons from various corporates, industries and institutes. In the workshop, various methods such as trench, drum and continuous rotary pyrolysis system of Biochar production was also demonstrated to the participants.

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Published in:
[Daily Pioneer](#)

Outreach prog for Int'l Science Festival held

CSIR-IMTECH

16th December, 2023

The Institute of Microbial Technology (IMTECH) on Friday organised an outreach programme for the promotion of India International Science Festival (IISF) 2023 to be held from January 17 at Faridabad, Haryana. The theme of the 9th edition of the IISF is 'Science and Technology Public Outreach in Amrit Kaal'.

The science festival aims to provide a platform to students, teachers, scientists, researchers, industry professionals, entrepreneurs and science communicators to showcase their work. Around 200 school students from the Tricity participated in the outreach event with their teachers and mentors.

The students got an opportunity to visit various labs in the IMTECH and interact with scientists to understand various facets of microbiology and biotechnology.

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

During the outreach programme, Prof Jayanti Dutta, deputy director, UGC-Human Resource Development Centre, Panjab University, emphasised that science should be fun which would bring back the joy of discovery in the field.

IMT's conference on Sustainability and Management Strategy begins

CSIR-NEERI

16th December , 2023

The Institute of Management Technology, Nagpur's two-day 8th International Conference on Sustainability & Management Strategy started on Friday. The event is being organised in collaboration with California State University San Bernardino (CSUSB), United States and Council of Scientific and Industrial Research-National Environmental Engineering Research Institute (CSIR-NEERI), Nagpur. The Centre



for Sustainability, Growth, and Development Committee at IMT Nagpur orchestrated the conference, commencing with the ceremonial lighting of the lamp and a soulful rendition of the Saraswati Vandana. Dr Gajavelli V S, Conference Chair for ICSMS 2023, Professor, Economics and General Management, welcomed the participants, setting the tone for the insightful discussions that followed. Dr Bigyan Verma, Director of IMT Nagpur, delivered the inaugural address, emphasising the significance of sustainability and management strategies in the contemporary global landscape. Distinguished keynote speaker Dr Vipin Gupta, Professor and Co-Director of the Centre for Global Management at California State University, San Bernardino, enlightened the audience on the theme “Self-awareness Dimension for the Sustainability of Digital Transformation.” Dr Vipin Gupta delved into a thought-provoking discourse on the classes of self-organising leaders, ideal followers, and the diverse types of entities during his presentation.

He explored the qualities essential for a leader and organiser, shedding light on the science of the ‘Ideal’ and its belief that every cell holds significance for the collective potential. Dr Gupta also touched upon the science of reality and religion, viewing religion as a dimension borrowed from the past to divine the future, aligning with the spirit of reason within time. Dr

Elizabeth A Castillo, Assistant Professor of Sustainable Management at CSUSB, shared her expertise on “Integrated Reporting as a Strategy Tool for Sustainable Value Chain.” During her presentation, Dr Castillo provided insights into the intricate flow of energy within tropic levels. She delved into the concept of integrated reporting, emphasizing its significance in the Indian context. She discussed the strategic potential and functional benefits of integrated reporting, offering valuable perspectives on its implications for research, teaching, and practical application. Furthermore, she explored a case study on the Balboa Park Cultural Partnership, illustrating the application of integrated reporting guiding principles. Dr Castillo’s discussion encompassed the nuanced aspects of integrated reporting, shedding light on its relevance and impact within the broader landscape of organisational practices and reporting methodologies.

Dr Atya Kapley, Head of the Environment Biotechnology and Genomics Division at CSIR-NEERI, Nagpur, delivered a compelling talk on “Closing the loop for a sustainable ecosystem,” emphasising the stark reality of climate change. Dr Kapley discussed how climate change has profoundly affected life on Earth, stressing the interconnectedness of all species and the need for humans to align with the natural world. She addressed issues through the lens of metagenomics, shedding light on the impact of biowaste entering water sources and disrupting ecosystems. She highlighted the significance of distinguishing between good and bad bacteria, pointing out the repercussions of antibiotic resistance due to the improper disposal of biowaste. She also emphasised the lack of rules implementation and data availability as contributing factors to our current environmental state. Dr Anup Kumar, Associate Professor, Operations Management, proposed the vote of thanks. The conference aimed to provide an interdisciplinary forum for professionals, academicians and administrators to present their views and assess the extent of collective action to encourage cooperation on the path to sustainable solutions.

National conference at NBRI concludes with discussions, prize distribution

CSIR-NBRI

16th December , 2023

On the concluding day of the three-day national conference on recent trends and challenges in green chemistry, pollution control and climate change [GPCC-2023] on Saturday, multiple oral and poster presentations on topics such as pollution and mitigation, climate change, green chemistry, and environmental biotechnology were awarded first and second prizes.



The conference was jointly organised by Council of Scientific and Industrial Research-National Botanical Research Institute (CSIR-NBRI), Lucknow and National Environmental Science Academy (NESA), informed Pankaj Kumar Srivastava, senior principal scientist & organizing secretary of the conference. Over 80 oral presentations, 110 poster presentations and 13 keynote addresses were made by the eminent subject experts of the country with over 200 participants from 19 states representing more than 70 universities, he added.

“Topics such as the presence of microplastics in various ecosystems, metallic nanoparticles in agriculture, risk and health dangers of heavy metals pollution in vegetables, conservation approaches for our water ecosystem and many more were discussed,” he said. “The reports and conclusions of the conference will be communicated to stakeholders for further necessary action plans,” Srivastava added. Amrit Abhijat, principal secretary of the urban development department, government of Uttar Pradesh and chief guest of the function distributed various prizes to the winners and congratulated them.

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[Hindustan Times](https://www.hindustantimes.com)

NGRI celebrates birth anniversary of Birsa Munda

CSIR-NGRI

16th December, 2023

National Geophysical Research Institute (NGRI) has celebrated the Janjatiya Gaurav Divas (JGD) on the birth anniversary of Birsa Munda to celebrate tribal pride and pay tribute to tribal freedom fighters. In this connection, a student-scientist interaction programme was organised with Jigyasa at NGRI. In all, 40 students from the Government Tribal Welfare Ashram School, Bowenpally, Secunderabad, visited NGRI on December 13. This event aims to make them aware of the various R and D activities of CSIR-NGRI.

On this occasion, the 40 students visited various research labs at NGRI and interacted with the Scientists at the institute. Dr K Rama Mohan, Nodal Officer of the JGD celebrations, explained to the students the opportunities for various fellowships offered by CSIR and different government ministries of India.

In a related programme earlier, chief guest Professor Ashok Kumar, Osmania University, delivered a talk on “Role of Science and Technology in Tribal Uplift.” He deliberated that we need more interventions for the development of tribal populace in various sectors like Education, Agriculture and Health.

Dr Prakash Kumar, Director, CSIR-NGRI, motivated the students to choose their career in Science research, which has immense value and need for the development of a country, particularly to the tribal people’s uplift.

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[Pynr](#)

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