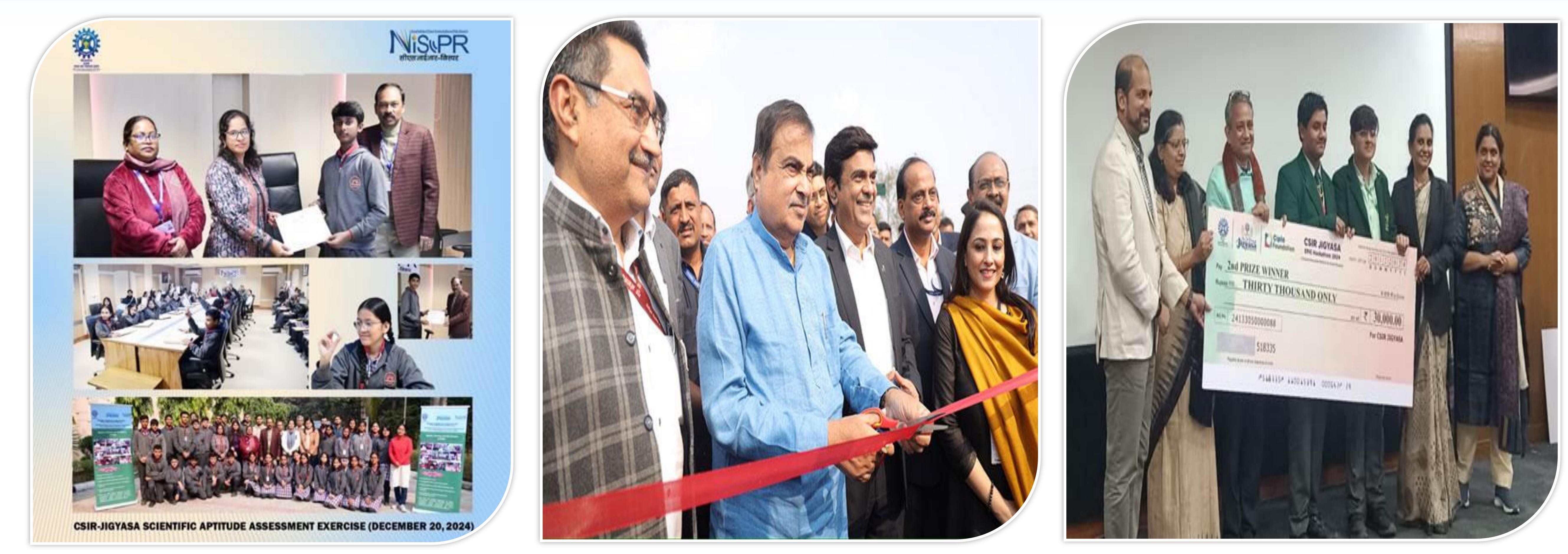




The Innovation Engine of India

NEWS BULLETIN

21 TO 25 DECEMBER 2024



Compiled by Science Communication and Dissemination Directorate (SCDD), CSIR, Anusandhan Bhawan, New Delhi



AMR Frontline Workshop at CSIR – CCMB on Dec 26 2024 – Hyderabad





The AMR Frontline Workshop at CSIR – CCMB on December 26, 2024, is part of the "MedSRT" program, offering a month-long research training opportunity for 30 MBBS students from colleges across the country. This workshop features a dynamic lineup of expert speakers and engaging activities aimed at enhancing participants' understanding of antimicrobial resistance. Two exciting new additions, "AMR Battle Bingo" and "The Resistance Riddle: Breaking the AMR Code," an interactive Escape Room experience, promise to combine fun with learning to reinforce key concepts effectively.









Spring Dales Kathua Shines at Aerofest 2024 by NAL Bangalore



25th December, 2024

The talented team of Spring Dales English School, Changran, Kathua comprising of Rishabh, Kavya Krishna, and Mrigan, guided by their mentor Sakshi Sharma, achieved a remarkable milestone by securing a spot in the top 20 teams at Jigyasa's Aerofest 2024, organized by CSIR-NAL. The Jigyasa-Aero Fest, a three-day national event, was organized by Jigyasa, CSIR-National Aerospace Laboratories, Bangalore.

Their groundbreaking research on sustainable air propulsion systems led them to Bengaluru, where they explored the cutting-edge facilities of CSIR-NAL and DRDO campuses. They delved into advanced labs, interacted with top scientists, and participated in an array of exciting events, including the Aero Quiz, Aeromodelling, and Project Presentations.

Adding to their achievements, the team secured second place in the cultural event. The team comprising of Shrnya, Rashi and Rupanshu under the guidance of mentor Ms Pooja Mahajan was also selected amongst Top 20 teams of India last year and participated in Aerofest 2023 at NAL Bangalore. It was a feast to acquire knowledge in the aerospace field for the students & it ignites the students ideas to design, develop & prepare the project report on "Aircraft Propulsion Systems" along with the 20 great schools(like PMSHRI KV Tirumalagiri Secunderabad -Telangana, Perunthalaivar kamarajar government girls higher secondary school, Chennai, PM SHRI Kendriya Vidyalaya Khanapara, Podar International School, Chandkheda, Ahmedabad, Sunbeam Lahartara, Varanasi, Jawahar Navodaya vidyalaya bengalore urban etc.) of the country.

Published in:







Around 830 School Students across the country performed DNA isolation at 33 CSIR Labs





A scientific activity was carried out by the Council of Scientific and Industrial research (CSIR) in its laboratories across the country. CSIR is one of the largest S&T organisations of the Nation. A Delhi based constituent laboratory of CSIR namely Institute of Genomics and Integrative Biology (IGIB) coordinated the activity by connecting simultaneously to all the other laboratories of CSIR through online mode. The event was inaugurated by Dr. Souvik Maiti, Director, CSIR-IGIB. Dr. Geetha Vani Rayasam, Head, CSIR-HRDG. On the occasion, a number of senior scientists from various CSIR labs, teachers and school students were also present. About thirty school students of class 9 at each of the participating CSIR laboratories isolated DNA from their own saliva using the DNA isolation kits under the guidance of Dr. Beena Pillai, Chief Scientist and Dr.Arya Sidharthan, science communicator from CSIR-IGIB. Through this exercise, the studentslearned about the scientific principles of cell structure and chemical nature of DNA. Finally, the students were given a short questionnaire designed to evaluate their understanding of scientific principles, and assess their scientific aptitude. The outcome of the pilot study of scientific aptitude assessment followed by a larger study, is expected to help not only the students in making STEM career choices suited to their aptitude but also policy makers in designing curriculum and align with New Education Policy 2020.



In the scientific event, around 830 students joined the live interaction from 33 CSIR labs located across the country. At CSIR-IGIB, students of KendriyaVidyalaya No.1, Air Force Station, Hindan, Ghaziabad participated in the activity. Theyalso visited the laboratories and

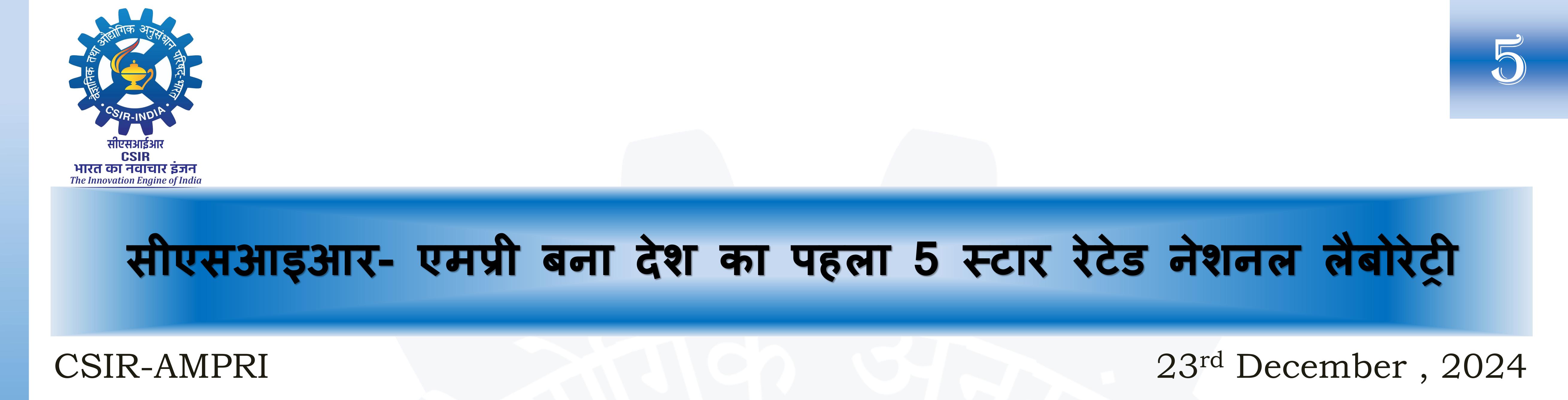




interacted with scientists. This scientific aptitude assessment was carried out under the CSIR-Jigyasa platform which is a flagship outreach program that connects school students to scientists at CSIR labs and so far from 2017 onwards about 10 lakhs school students have participated in the program.

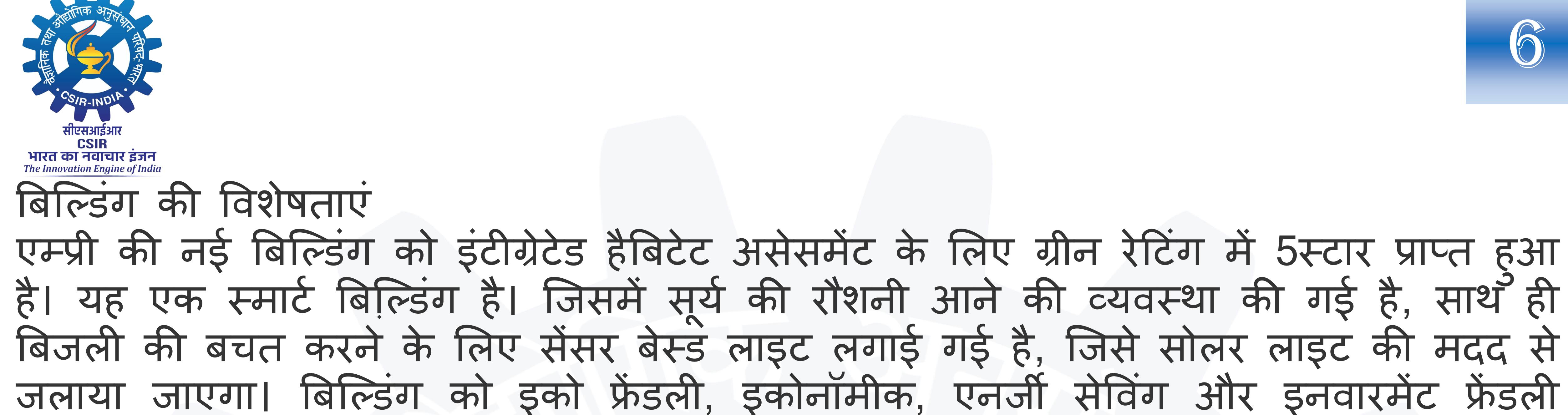






इको फ्रेंडली, इकोनॉमीक, एनर्जी सेविंग और इनवारमेंट फ्रेंडली बिल्डिंग भोपाल. एम्प्री की नई बिल्डिंग को इंटीग्रेटेड हैबिटेट असेसमेंट के लिए ग्रीन रेटिंग में 5 स्टार प्राप्त हुआ है। भवन का कुल क्षेत्रफल 13428 वर्ग मीटर है। परिसर में एक एडमिन और रिसर्च ब्लॉक शामिल है। अंग्रेजो के अक्षर डबलू के आकार की बिल्डिंग के भूतल पर विभिन्न प्रयोगशालाएं, विभाग और कमरे, लिफ्ट, रिसेप्शन आदि बनाए गए हैं। पहली मंजिल में वैज्ञानिकों के लिए 75 कमरे, एक निदेशक कक्ष, योजना कक्ष और प्रदर्शन प्रभाग साथ ही प्रदर्शनी हॉल, अनुसंधान विद्वानों के लिए एक आम बैठने की जगह, सेवा कक्ष, सम्म्मेलन कक्ष और बैठक हॉल मौजुद है। दूसरी मंजिल पर डिजिटल लाइब्रेरी, मीटिंग रूम और स्टाफ रूम के साथ वरिष्ठ अधिकारियों के कार्यालय हैं। इसके अलावा, प्रयोगशाला ब्लॉक में विद्वानों के लिए बैठने की जगह भी है। परिसर में सभी अत्याधुनिक सुविधाओं के साथ एक सर्विस ब्लॉक और एक कैंटीन ब्लॉक भी है। यह परिसर 15 केएलडी सीवेज उपचार संयंत्र, 102500 लीटर की भूमिगत भंडारण क्षमता वाला एक व्यापक जल आपूर्ति नेटवर्क और एक वर्षा जल संचयन प्रणाली से भी सुसज्जित है। 11 एकड़ में बने इस परिसर को बनाने के लिए 7982लाख रु. की लागत लगी है। इस अवसर पर सीएसआइआर की डॉयरेक्टर जनरल डॉ. एन. कलैसेल्वी ने बिल्डिंग का उदघाटन किया।

नए प्रयोगशालाओं की सुविधाओं से लैस नई इमारत में एचपीएलसी लैब और बायोमिमेटिक्स और बायोमटेरियल्स लैब, ग्राफीन सेंटर की 3डी प्रिंटिंग सुविधाएं, सेमी-ऑटोमैटिक हॉट प्रेस और हाइड्रोलिक प्रेस सुविधा, एडवांस्ड रेडिएशन शील्डिंग और जियो-पॉलीमेरिक मैटेरियल्स और गामा रेडिएशन पैनल सेंटर, एक्स-रे शील्डिंग टाइल्स, बांस कम्पोजिट, बांस समग्र संरचना "बैठक, बायो ग्रीन कम्पोजिट, पराली कम्पोजिट, रमन स्पेक्ट्रोस्कोपी सुविधाएं होंगी। सीएसआइआर के डॉयरेक्टर डॉ. अविनाश कुमार श्रीवास्तव ने बताया कि यह एक इको फ्रेंडली, इकोनॉमीक, एनर्जी सेविंग और इनवारमेंट फ्रेंडली बिल्डिंग है। जिसको बनाने के लिए एमप्री के इन हाउस सामग्रियों का भी इस्तेमाल किया गया है। जिसकी वजह से ग्रिहा से बिल्डिंग को 95 पाइंट प्राप्त हुए हैं। फलोरिंग के लिए शागवान की जगह बांस का इस्तेमाल किया गया है।



बनाया गया है। इसके निर्माण के लिए बाहर से कुछ भी नही मंगवाया गया है। साथ ही पेड़-पौधे, मिट्टी भी प्रंगन की ही इस्तेमाल की गई है। बिल्डिंग में प्राकृतिक सौंद्रयकर्ण का भी खास ध्यान रखा गया है। फर्श के निर्माण के लिए सागवान की जगह बांस मिश्रित टाइलों का इस्तेमाल किया गया है। साथ ही एक्सरे रेडीएसन शिल्यिंग टाइलों का भी इस्तेमाल किया गया है। आनेवाले समय में लकड़ियों की जगह पराली कंपोजिट का इस्तेमाल भी किया जाएगा। कैंपस के रोड़ को बनाने के लिए इन हाउस कॉक्रिट और सिमेंट का इस्तेमाल किया गया है।

इस प्रकार ग्रिहा से मिलती है रेटींग

ग्रिहा बिल्डिंग के डिज़ाइन, निर्माण, और संचालन से जुड़े कई पैरामीटरों पर आधारित होता है। जिसके लिए बिल्डिंगों को अंक दिए जाते हैं। ग्रिहा के तहत, किसी प्रोजेक्ट को रेटिंग क्राइटेरिया को पूरा करने के बाद अंक दिए जाते हैं, इन अंकों को जोड़कर, प्रोजेक्ट को फ़ाइनल रेटिंग दी जाती है।









Inauguration of Asia's first highway with bio-bitumen surface: Giant leap towards sustainable road infra



22nd December, 2024

Union minister for road transport and highways, Nitin Gadkari, inaugurated a 1km stretch of Asia's first highway with a biobitumen blended surface. The trial patch begins near the 'Kamptee 22Km' milestone on Jabalpur-Nagpur route. The project will help cut pollution from stubble burning as the source of bio-bitumen comes from easily available crop stubble, which farmers can sell instead of torching the residue.



Calling it his dream project, Gadkari hoped if the technology takes off, air pollution will be reduced dramatically. Stubble is already fetching Rs 2,500 per tonne in Punjab and Haryana, he said. As it replaces the conventional bitumen, by 15%, it is expected to reduce the cost of road building. There are projections that it can cut imports of petroleum bitumen by at least Rs 4,500 crore initially. Along with bio-bitumen, it also has 10% rubber powder content, further cutting the proportion of petroleum bitumen.

However, the project's success is still two years away. Central Road Research Institute (CRRI), a govt body, will observe whether the road withstands heavy traffic and changing seasons. The bio-bitumen will pass the endurance test, if the road does not deflect beyond 0.4mm during the period, said a CRRI scientist.

CRRI will eventually submit a report on the results on the basis of blending and then take it forward, Gadkari told reporters after the inauguration. Once the report is submitted, bitumen manufacturers will be asked to frame a policy to purchase lignin for blending. Currently, 40-





grade bio-bitumen, which is stronger than the conventional product, has been made, he said. For Gadkari, it is also the first step towards achieving the goal of sourcing raw material for bitumen from farmers.

The bio-bitumen has been made by Praj Industries, a private sector industrial biotech company, in association with CRRI. The Jabalpur highway pilot project was undertaken after another experiment by Praj and CRRI on a service road at Halol in Gujarat yielded favourable results. It withstood 2.5 years and three monsoon seasons, and the results have been satisfactory. Rather, it has emerged 40% stronger compared to conventional bitumen, said the company officials.

Here is how the entire bio-bitumen cycle works. The making of ethanol out of crop stubble, as well as compressed biogas (CBG), generates lignin as a byproduct. Lignin can be used as a

raw material for making bio-bitumen. The bio-bitumen is then blended into the conventional bitumen. The technology developed by Praj has enabled blending up to 15%.

Gadkari said as many as 400 CBG projects are coming up within the country and this will generate demand for biomass in the form of crop residue. Making CBG with biomass will also generate lignin as a byproduct, which will be further refined to make bio-bitumen. A range of feedstock, from rice straw to bamboo, can be used, he said. The country requires bitumen of Rs 90,000 crore. Of this, the commodity worth Rs 50,000 crore is imported. Making it out of lignin will not only cut imports, but also reduce the cost by Rs 8/kg, he said. The use of

rubber powder will also give a boost to another industry, he said.

Published in:

Times of India



Hyderabad's Dr. B.R. Ambedkar Vegetable Market Yard, or Bowen pally market, has always been a hive of activity. But recently, the buzz was not just about the arrival of a variety of vegetables from near and far. The noise and bustle of customers and tractors moving goods blends with the whirring motors of a waste-to-power plant located within the market.

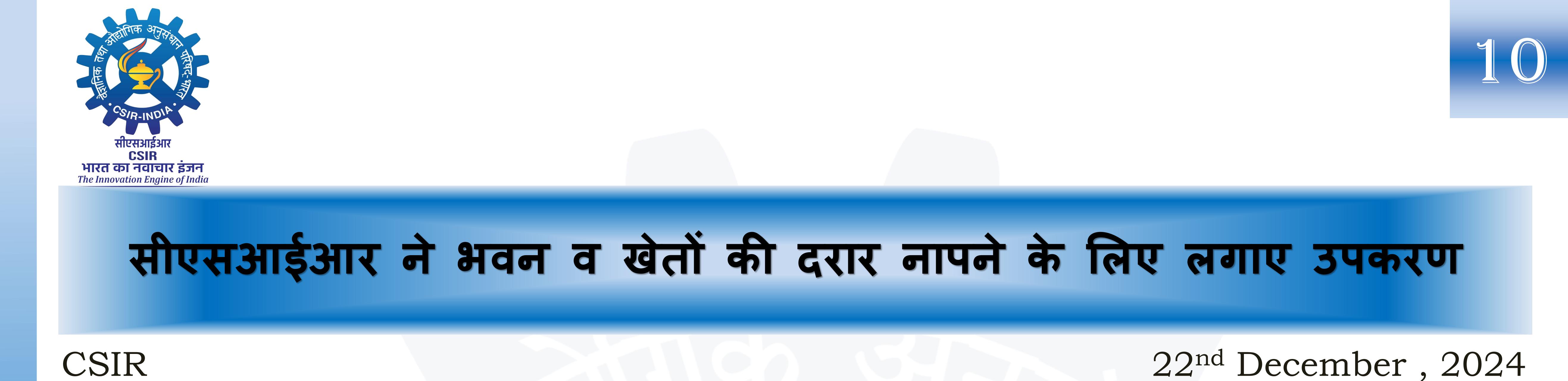
The anaerobic gas lift reactor-based plant was developed by the CSIR-Indian Institute of Chemical Technology (IICT), the State Department of Marketing, and Ahuja Engineering Services at a cost of ₹3 crore. It has a capacity to produce up to 800-1,000 units of electricity a day using 10 tonnes of waste.

The market produces three or four tonnes of organic waste every day. This waste is first placed on conveyor belts which carry it to shredders. After shredding, the waste is converted into a slurry and is put into large containers or pits. These are high-rate biomethanation technology-based reactors.

The reactors start the process of anaerobic digestion, where organic waste is converted into biofuel. The fuel is then put into biogas generators that converts it into electricity. The electricity generated from the plant powers more than 100 street lights, 170 stalls, an administrative building, and the market's water supply network — giving the market committee substantial savings in power bills.

The plant produces biogas, which is being used to replace LPG cylinders in canteens. Bio manure generated is sold separately as organic fertilizer. Currently, the plant produces 300 units of power and 60 kg of biogas every day. **Published in:**





लखवाड़ बांध परियाेजना का निर्माण शुरू होने के बाद से बांध स्थल ग्राम पाली में स्थित घर-मकान, सार्वजनिक मार्ग व खेत खलिहानों में आ रही दरारों की जांच केंद्रीय वैज्ञानिक एवं औद्योगिक परिषद (सीएसआईआर) ने शुरू कर दी है। जांच को पहुंची वैज्ञानिकों टीम ने मौका मुआयना करने के साथ घरों में आई दरारों पर विशेष प्रकार के उपकरण लगाने के साथ खेतों की मिट्टी के नमूने भी एकत्रित किए। क्षेत्र की प्रमुख लखवाड़-व्यासी जल विदयुत परियोजना के लिए बन रहे लखवाड़ बांध का निर्माण शुरू होने के साथ ही ग्राम पाली स्थित भवन व रास्तों में दरार आने लगी थीं। इसके साथ ही खेतों में भी दरार आने या भूस्खलन की स्थिति उत्पन्न हो गई थी। पाली-कंडरियाज विकास समिति ने दरार संबंधी समस्या को जलविद्युत निगम से लेकर प्रदेश सरकार उठाया। समिति का आरोप है कि बांध के निर्माण के लिए पहाड़

तोड़ने के लिए उपयोग किए जा रहे विस्फोटकों से भवन व खेत-खलिहानो में दरार आ रही हैं।

उधर, समस्या को लेकर लगातार ग्रामीणों के मुखर रहने के बाद केंद्रीय वैज्ञानिक एवं औद्योगिक परिषद की टीम ने गांव का दौरा किया। इस दौरान उन्होंने दरारों की समस्या का गहनता से निरीक्षण करने के साथ भवनों में आई दरारों पर विशेष प्रकार के उपकरण लगाए। इसके साथ ही टीम ने भूस्खलन व दरार की समस्या से प्रभावित खेतों की मिट्टी के नमूने भी आवश्यक जांच के लिए एकत्रित किए। समिति के अध्यक्ष जोध सिंह रावत व कोषाध्यक्ष सरदार सिंह ने बताया कि भवनों में उपकरण लगाए जाने के बाद से निर्माण कंपनी कम शक्ति वाले विस्फोटकों का प्रयोग कर रही है। जबकि इसके पहले सुरंग बनाने व पहाड़ तोड़ने के लिए बेहद खतरनाक विस्फाटकों का इस्तेमाल किया जा रहा था। समिति ने सरकार से ग्रामीणों के घर-मकान व अन्य संपत्तियों की सुरक्षा के लिए आवश्यक कदम उठाए जाने की मांग की है। जांच करने वाली टीम में मुख्य वैज्ञानिक डाॅ. मनोजीत समाला, शशांक भटनागर, डाॅ. सुमन कुमार, मनीष, हेमंत कुमार, वैभव मित्तल शामिल रहे। इस दौरान पुष्कर सिंह, अजीत, प्रदीप सिंह रावत, शुभम रावत, आदेश चौहान आदि ग्रामीण भी उपस्थित रहे।

Published in:

Amarujala





India's two leading ocean research institutions are in Goa



21st December, 2024

Being a destination for spice trade during the olden days, Goa has had a rich maritime history spanning centuries. So, it is but natural that the State has a long-standing seafarers' tradition and is also home to two noteworthy oceanographic institutions where scientists are at the forefront of conducting scientific research on marine life and ocean dynamics.

FIRST INDIAN OCEAN EXPEDITION

The First International Indian Ocean Expedition (IIOE-1) was carried out between 1959 to 1965 from Kochi (Kerala). A total of 46 research vessels, both Indian and foreign, and researchers from 13 countries participated in the expeditions and collected various marine samples. This was the initiation of large-scale oceanographic investigations in India.

Subsequently, on January 1, 1966, the National Institute of Oceanography (NIO) was founded in Goa. It is located at Dona Paula where the Mandovi and Zuari rivers meet the Arabian Sea.

NATIONAL INSTITUTE OF OCEANOGRAPHY

Subsequently, on January 1, 1966, the National Institute of Oceanography (NIO) was founded in Goa. It is located at Dona Paula, North Goa, where the Mandovi and Zuari rivers meet the

Arabian Sea.

The NIO is one of the 39 constituent institutions, governed by the Council of Scientific & Industrial Research (CSIR, New Delhi), that study an array of scientific issues such as pharma products, leather, food, metallurgy, mining, natural products, instrumentation and many more.

NIO EXHIBITS

A section on marine archaeology, at NIO, showcases artefacts collected from the ancient sunken city of Dwarka (Gujarat), tusks of elephants recovered from ancient ships that sunk





off Goa in the Arabian Sea and lead ingots from old ships that capsized offshore of Poompuhar (Tamil Nadu), in the Bay of Bengal. It is also home to an aquarium that showcases tropical fish and live coral. NIO also houses an aquarium that showcases tropical fish and live coral



RESEARCH VESSELS

Scientists work in state-of-the-art laboratories and use specialised analytical instruments. NIO has two research vessels, RV Sindhu Sadhana and RV Sindhu Sankalp that are fully equipped to collect various oceanographic data and samples for analysis.

KNOW ABOUT OCEANOGRAPHY

Groups of students can visit and view the displays in the foyer area of NIO after seeking prior permission. If there is a specific subject interest, then the visitors are taken to particular laboratories where they can interact with scientists.

NIO is open to the public on January 1 (Foundation Day) and September 26 (CSIR Foundation Day). On these days, short movies related to CSIR, NIO and oceanography are screened, talks are delivered on fascinating subjects and about careers in oceanography.

NIO is open to the public on January 1 (Foundation Day) and September 26 (CSIR Foundation



NATIONAL CENTRE FOR POLAR AND OCEAN RESEARCH The National Centre for Polar and Ocean Research (NCPOR) was founded on May 25, 1998, by the erstwhile Department of Development (now known as Ministry of Earth Sciences or MoES).

Built atop a hill at Sada, Vasco-da-Gama, one can get a stunning panoramic view of the Arabian Sea and some of the offshore islands from NCPOR. Formerly, it was called the





National Centre for Antarctic and Ocean Research (NCAOR) as studies were carried out concerning Antarctica and the Southern Ocean.

After India launched the Artic programme in 2008, the institute was renamed. Research related to the Himalayan mountains (the third pole) is also undertaken here.

THINGS OF INTEREST AT NCPOR

At NCPOR, visitors can see exhibits and photographs of ice-breaker ships and the research works being undertaken. A life-size stuffed penguin welcomes you.

The centre has several advanced research instruments and equipment and also a laboratory where ice-cores from Antarctica are stored at sub-zero temperatures.

The annual expedition to Antarctica is launched from NCPOR for which an ice-breaker ship is chartered for a few months from abroad.

NCPOR has several advanced research instruments and equipment and also a laboratory where ice-cores from Antarctica are stored at sub-zero temperatures. VISIT NIO AND NCPOR

CSIR-NIO and NCPOR are open from Monday to Friday, between 9 am to 5.30 pm, and are closed on national holidays. Entry is free. However, prior booking through the internet or

phone calls can facilitate the visit of groups of people and students.

Whether you are a science student or a curious visitor, an hour or so spent at these two marine science institutions would be rewarding, revealing and an eye-opener about India's capabilities in research, inventions and innovations in the vast domain of oceanographic studies.

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Tremors felt in Bapatla and Prakasam districts of Andhra Pradesh



21st December, 2024

Tremors were felt in some villages of Bapatla and Prakasam districts in Andhra Pradesh on Saturday (December 21). Though the residents panicked for some time, the district authorities informed no loss of life or property.

As per CSIR-NGRI Hyderabad records, an earthquake of 3.1 magnitude on the Richter scale struck Addanki in Bapatla district. Tremors were felt in other parts of the district and parts of Prakasam district.

The tremors were felt in Polavaram, Sankarapuramu, Pasupughallu, Ulaghallu, Maarella and

Kamampadu villages in Mundlamooru mandal, as well as Lakkavaram, Sivaramapuramu, Rambhadrapuram, Gangavaram, Ramanalavaripalem, Korrapadu, Thurakapalem and Dhosakayalapadu villages in Thalluru mandal for a few seconds at 10.22 a.m. on Saturday.

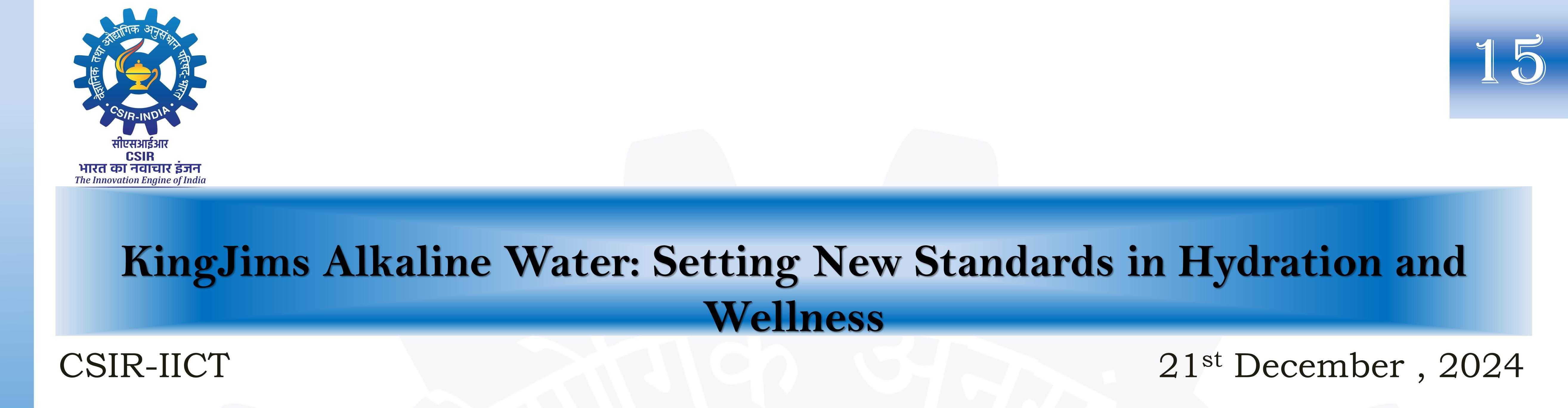
Sensing the tremors, school students and residents came out of their houses.

National Disaster Response Force (NDRF) 10th Battalion Commandant, V.V.N. Prasanna Kumar told The Hindu that the control room staff received an alert about the tremors in

Prakasam district. "We are closely monitoring the situation and will take appropriate measures," he added.

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Since its establishment in 1999, KingJims Alkaline Water Private Limited has been a trailblazer in the bottled water industry, revolutionizing hydration and wellness. The company made its first significant breakthrough in 2001 when its laboratory finalized the advanced formula and developed its proprietary ionizer machine. This innovation, driven by Swiss scientists, set the stage for a global transformation in the way people approach hydration.

KingJims' journey of excellence began with the launch of its first alkaline water in Turkey, Switzerland, Spain, Australia, France, the UK, and Canada. The brand expanded its operations to India in 2018, introducing its renowned alkaline water to Indian consumers and solidifying its position as a global leader in wellness.

At the heart of KingJims' success lies its Swiss-engineered technology, officially named "KingJims Swiss Technology." This innovative approach ensures the water is not only pure but also enriched with essential minerals, providing an optimal pH balance that enhances the body's natural hydration and boosts its defense against acidity and toxins.

KingJims is a pioneer in introducing cutting-edge technologies that set industry benchmarks

such as AFS Technology, H2Boost Technology, the Sintering Process, the Largest Platinum-Coated Titanium Plate, and a Built-in TDS Controller. These technologies ensure unparalleled water quality, durability, and consistency, meeting the highest standards of performance and reliability.

KingJims' commitment to health doesn't end with the purchase of its products. Customers benefit from personalized water level combinations tailored to their specific health requirements, thanks to a Dedicated Water Coach. KingJims ionizers are developed in collaboration with CSIR-IICT, Ministry of Science & Technology, Govt. of India, and are





specifically tailored for Indian water conditions, lifestyle, and habitat. This collaboration reflects KingJims' focus on innovation and its commitment to meeting local needs with worldclass solutions. KingJims devices ionize up to 18 Trillion Molecules per second, ensuring consistent and efficient results backed by AFS Technology. This tech-driven approach guarantees that every drop of KingJims water is infused with purity, health, and vitality.

With over 500,000 healthy Indians trusting KingJims Alkaline Water Ionizers, the company has firmly established itself as India's No.1 Alkaline Water Ionizer brand.

The company owes its remarkable achievements to its Founder and CEO, Mukesh Shastri Kanoria, whose unwavering vision has driven KingJims' growth. Under his leadership, the company has earned numerous accolades, including the Best Health Innovation Award 2022, further cementing its reputation as a trusted name in health and wellness.

KingJims adopts eco-friendly packaging solutions and practices across its operations, reducing its carbon footprint and promoting environmental responsibility.

KingJims Alkaline Water is more than just a beverage – it's a commitment to health, innovation, and sustainability. Whether you are a consumer seeking better hydration or an entrepreneur looking to make a difference, KingJims invites you to join a movement that prioritizes wellness and environmental stewardship.

About KingJims Alkaline Water Private Limited Founded in 1999, KingJims Alkaline Water Private Limited is a premium bottled water brand dedicated to enhancing health and wellness. Utilizing state-of-the-art Swiss technology and eco-friendly practices, the company delivers high-quality alkaline water that supports better hydration and overall well-being. Recognized for its excellence and innovation, KingJims continues to lead the way in the health-focused beverage industry.

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CSIR JIGYASA EPIC Hackathon 2024





20th December, 2024

The finale event of the CSIR Jigyasa EPIC Hackathon was organised on December 20, 2024 at the CSIR-IGIB, South Campus, New Delhi. The event was inaugurated by Dr. Souvik Maiti, Director, CSIR-IGIB. Dr. Geethavani Rayasam (Head, CSIR- HRDG), Dr. D. Shailaja (Chief Scientist, CSIR-IICT) and Mr. Anurag Mishra (Head,Cipla Foundation) were among the dignitaries.



The event started with the poster presentation of the EPIC Hackathon students who had completed their Summer internship at CSIR laboratories across India under the EPIC program. Total 35 teams and 48 students had participated in two-month summer internship at 18 CSIR laboratories across the country and out of which 29 students presented their research projects done during the summer internship. At the end of the event, the winners of the CSIR EPIC Hackathon were felicitated with prizes and certificates. Workshop on pitch deck and Innovation & Entrepreneurship were also organized for the participants.

The winner of CSIR Jigyasa EPIC Hackathon 2024 is Mr. Japteg Singh Bamrah, who received a cash prize of Rs. 50,000 for his project Solar-Mech Engine. He did his internship at CSIR-IIIM, Jammu. Mr. Uddhav Gupta& Mr. Udbhav Bandhani were the first runner-ups. They did their internship at CSIR-CSIO, Chandigarh and won a cash prize of Rs. 30,000 for their joint submission titled "Drishyamitram- Illuminating walkways for visually challenged". Ms. Shreya Vinod and Mr. Soyal Parijawon the third prize of Rs. 10,000 each for their innovative works. The title of project of Ms. Shreya Vinod was "Generating electricity from the waste heat of air conditioners" and she had interned at CSIR-CBRI, Roorkee. Mr. SoyalParija's topic was 'I-





Stetho-A wireless stethoscope' and her internship was conducted at CSIR-IMMT.

About EPIC Hackathon

Council for Scientific and Industrial Research (CSIR) launched Empowering Pupil Innovation and Creativity (EPIC) on January 5, 2024 under JIGYASA programme with an aim to provide a platform to budding youngstudents to pursue their innovation as well as nurture their potential in developing innovative solutions to address the challenges in the country through science and technology. For this year, innovative ideas from students were invited in two themes namely "One Health" and "Clean and Green Energy". Out of the 1300 students who submitted their applications, 52 students were initially selected for a two month summer internship at different CSIR labs. At the end of two months, 48 students successfully completed their internship.Cipla Foundation had partnered with CSIR-IICT for this CSIR Jigyasa EPIC Hackathon 2024 programme.









CSIR conducted Scientific Aptitude Assessment Exercise under JIGYASA program





The Scientific Aptitude Assessment Exercise under CSIR's JIGYASA programwas conducted online on 20December 2024 in which the students gathered in each of 37 constituents' laboratories of CSIR and took part in the big scientific demonstration and experiment. The event was unique because it was the first time these many students under CSIR JIGYASA program performed an



experiment simultaneously.

The event was inaugurated by Dr. Souvik Maiti, Director of the CSIR-Institute of Genomics and Integrative Biology (CSIR-IGIB), Delhi. During his inaugural address, he welcomed all the online participants and thanked them for their presence. "Education is not only attained by reading text books or giving exams, going beyond textbooks and regular curriculum is also important", DrMaiti said. He praised the importance of such events toward imparting practical skills to the students.

Dr. Beena Pillai, Chief Scientist, IGIB introduced participants with the theme of the event. Citing the example of Dr. Mitali Mukerji, a former Chief Scientist at the CSIR-IGIB with notable achievement in the field of human genomics and personalized medicine, Dr Pillai told about the importance of DNA, Genomics and Molecular Biology in agriculture, healthcare and other sectors. Students who gathered to perform DNA isolation experiments were given isolation kits and were briefed about the protocol by Dr. Arya Sidharthan. Later, she performed a practical demonstration of DNA isolation following which around 550 students isolated DNA from their saliva.





Dr.Geeta Vani Rayasam, Outstanding Scientist & Head, CSIR-Human Resource Development Group (HRDG) thanked Dr. Souvik Maiti and IGIB team for convening this event. In her address, she said that CSIR is not only plays an important role in development of scientific technologies but also human resource development in the country that aims to inculcate scientific temper. She also added that CSIR is also playing important role in effective science communication to the common people. Dr. Rayasam also asked students to think critically, go beyond textbooks and to involve in extra-curriculum activities which would also help policy makers to think about various engaging activities for students.

Dr. Suman Ray, Principal Scientist, Shri C B Singh, Chief Scientist and Ms. Pratibha convened the event in CSIR-NIScPR wherein the students of Kendriya Vidalaya, Gole Market accompanied by their teachers gathered in SV Marg campus of the CSIR-NIScPR. Ms Pratibha provided the background knowledge and cleared the doubts of students while DNA

isolation.

Almost all the students successfully isolated DNA from their saliva and happiness on their faces was a testimony to show that how excited and satisfied they were after performing this experiment. After the experiment, a questionnaire was also given to students to select winner of Scientific Aptitude Assessment Exercise.

Shri CB Singh and Dr. Suman Ray distributed participation certificates to the participants. Shri CB Singh on closing remarks thanked all the participants of the event and praised the

efforts of CSIR-IGIB, CSIRJIGYASA team and other volunteers for active participation.

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