

CSIR IN MEDIA



सीएसआईआर

CSIR

भारत का नवाचार इंजन

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NEWS BULLETIN

06 TO 10 SEPTEMBER 2023



In Gujarat, seaweed food packs to fight use of plastic

CSIR-CSMCRI

10th September , 2023

One weed and an endless sea of possibilities - that's the seaweed which Gujarat has in abundance all along its huge coastline. Tapping its multifarious resources, the Central Salt, and Marine Chemicals Research Institute (CSMCRI), Bhavnagar has developed a biodegradable seaweed plastic film that has the potential to change the use of harmful plastic in everyday items.

From edible crockery items to temperature storage materials - phycocolloids derived from seaweeds can be developed into films naturally which can create biodegradable packaging materials for food items. Films can be used especially for the storage of perishable food items replacing thermocol. What's more, it can also keep food items cool or hot, maintaining the required temperature.

Kamlesh Prasad, senior principal scientist of CSMCRI said, "We have made this biodegradable film of anti microbial nature, so that perishable items can be stored in pouches made by this film. It has anti-bacterial properties and because of that, perishables items like biscuits, aachar etc can sustain longer periods inside seaweed pouches." The benefit of seaweed is that it's an approved edible item and thus, after finishing off food, you can eat the cutlery too. This film has one per cent water, but if it's modified to hydrophobic material, it has the potential to replace the multilayer plastic that is highly used in namkeen packaging giving civic bodies nightmares across the cities regarding its disposal.

Scientists have made a solid form of the film that can make cutlery items like disposable spoons, dish, glass, etc which will have to be moulded into the required shapes. The scientists are now working with the industry to make it cost-effective and for commercial production.

Published in:
[Times of India](#)

‘Shock’ treatment to plants to stimulate growth

CSIR-IICT

10th September , 2023

The symbiotic relationship between plants and microbes can generate low voltage at the plant rhizosphere (soil around the roots) region and this can be harnessed to stimulate the growth of the plant, say scientists of the CSIR-Indian Institute of Chemical Technology (IICT).

In the latest research work, scientists S. Venkata Mohan and D.K. Yeruva reported a nature-based method to stimulate plant growth and photosynthetic activity by channelising the electron flux in the plant rhizosphere area to create an electrical stimulus in their study on two model legumes — *Vigna Radiata* (mung bean) and *Cicer Aarietinum* (chick pea).

The in situ bio-potential was harnessed by strategically placing electrode assemblies in the plant rhizosphere where microbes and plant root cells prevail, which creates an ideal environment for microbial metabolism releasing protons and electrons leading to a potential gradient.

This low electric field has led to accelerated growth parameters with relatively higher plant height, node number, leaf area, flowering, podding, fresh and dry weight by the end of the vegetative phase, said the study.

Early flowering and podding showcased the rapid transitioning of the vegetative to the reproductive phase by 18 days, compared to the usual 40 days. The low electrical stimuli regulate plant physiological activities, influencing gene expression, nutrient flow, Co₂ fixation, and gas exchange during photosynthesis.

Improved electron mobility was observed leading to the active transfer of nutrients and electrons across the cell membranes to the chloroplast pigments. This improved the rate of electron transport, and stimulated the production of various enzymes in the photosynthetic

reaction centre. This also resulted in improved carbon fixation efficiency while the presence of electrodes influenced gene expression patterns and abundance of different kinds of proteins enabling active transport of water, small molecules and nutrients.

Scientists said the technique has immediate and promising prospects for nursery-raised plantlets, transplanted crops, and for augmenting phytoremediation for effective pollution removal. Using low-cost electrodes and conductive materials within the soil rhizosphere could make this process feasible under field conditions.

The use of electrical stimulation for plant growth though at a nascent stage, could become a viable method for sustainable agriculture with further research though different plants may respond differently to electrical stimulation, observed the scientists.

The study, “In situ self-induced electrical stimulation to plants: Modulates morphogenesis, photosynthesis and gene expression in *Vigna radiata* and *Cicer arietinum*”, was published in the recent edition of *Bio-electrochemistry Journal*.

AIC-CCMB organises symposium on Integrated Phase –I trials

CSIR-CCMB

10th September , 2023

Atal Incubation Centre-Centre for Cellular and Molecular Biology (AIC-CCMB) is organizing a hybrid symposium on 'Integrated Phase I Trials Solutions for Emerging BioPharmas: Addressing Development Challenges and Accelerating Timelines' on September 27.

Featuring as key speakers in the symposium will include Dr Jagannath Kota, Director, Translational Medicine, Novartis Institutes for BioMedical Research, Dr Kiran Marthak, Director, Medical and Regulatory Affairs, Veeda Clinical Research, Dr Rajiv P Bharadwaj, Head, Analytics, Veeda, Dr Suchita Markan, ICMR and other senior scientists.

For details: info@veedacr.com or aic.ccmb.res.in

Published in:

[Telangana Today](#)

CSIR-NEERI

9th September, 2023

150 students benefit from Neeri's lecture on AI



CSIR-National Environmental Engineering Research Institute (CSIR-Neeri) organized an expert lecture on 'Artificial

Intelligence (AI) for Everyone' under the 'Jigyasa' programme. The lecture was delivered by **Manish Kurhekar** of Visvesvaraya National Institute of Technology (VNIT). Kurhekar elaborated the **concept of AI** to school children in a simple language to draw their interest towards the subject. He highlighted the **different domains** where AI plays a major role and how it help solve environmental problems. **Atul Vaidya**, director of Neeri, inspired the students to become contributors to the ever-evolving world of AI. Around **150 students** from **Kendriya Vidyalaya-CRPF**, Rahi Central School and Radiance School attended the lecture.

Published in:

Times of India, The Hitavada

Millets have a role to play in tackling lifestyle diseases: Veena George

CSIR-NIIST

08th September , 2023

The younger generation should be encouraged to include millets in their diet, Health Minister Veena George said on Friday, emphasising the role of millets in tackling lifestyle diseases.

Ms. George was speaking after inaugurating the 'Eat Right Millet Mela' organised by the Food Safety and Standards Authority of India - Southern Region (FSSAI) at the CSIR-National Institute of Interdisciplinary Science and Technology (NIIST) at Pappanamcode in the district.

The Minister also announced plans to hold a millet food festival for promoting millets in the State. The United Nations declared 2023 the International Year of Millets acknowledging their importance. While Kerala is ahead in the health sector, lifestyle diseases pose a significant challenge to the State. Millets can play a role in the State's efforts to tackle them, Ms. George said.

While facilities for medical treatment have increased in the State, the number of patients also have gone up. This underscores the importance of prevention of diseases, she said. The event was organised in collaboration with NIIST and the Food Safety department.

Food Safety Commissioner V. R. Vinod presided. Sheetal Gupta, Joint Director, FSSAI, Kochi, Deputy Director K. N. Dhanya, NIIST Director C. Anandharamakrishnan, Roy Stephen, Dean, Agricultural College, Vellayani, Ward Councillor Soumya and Millet Mission coordinator P. K. Lal were present.

Published in:

[The Hindu](#)

CSIR-CDRI collaborates with ESSCEE Biotech India Pvt. Ltd. for biomedical research

CSIR-CDRI

08th September , 2023

As an important development towards scientific research, CSIR-CDRI, Lucknow has now signed an agreement with ESSCEE Biotech India Pvt. Ltd. for the development of a modified quencher. A quencher is a substance which is primarily intended for biomedical applications in research. Traditionally, these quenchers were solely imported from abroad. But the institute will be able to acquire these quenchers as now they will be developed locally.

Published in:

[Knocksense](https://www.knocksense.com)

NMC, NEERI test 'Jal Dost' in Ambazari lake

CSIR-NAL, NEERI

08th September , 2023

The Eichhornia weeds in Ambazari Lake are spreading like a virus, polluting the prime water body of the city. To contain further growth of the weed in the lake, Nagpur Municipal Corporation (NMC) has been taking steps yet it failed to find a foolproof solution to the problem. Coming to NMC's rescue, National Aerospace Laboratory (CSIR-NAL) and National Environment Engineering



Research Institute (CSIR-NEERI) developed a weed removing machine -- 'Jal Dost'. The machine was handed over to the civic body recently. NMC conducted a trial run of 'Jal Dost' on Thursday. The machine came handy for it as it removed a large quantity of Eichhornia weeds from Ambazari lake. The trial of 'Jal Dost' was conducted in presence of Dr Abhijit Chaudhari, Municipal Commissioner and Administrator; and Dr Atul Vaidya, Director, CSIR-NEERI. Aanchal Goyal, Additional Municipal Commissioner; Dr Kartikeyen, CSIR-NAL; Prakash Warade, Assistant Commissioner; Dr Shweta Banerjee, Superintending Engineer, Environment Department; Dr Gajendra Mahalle, Deputy Commissioner, Solid Waste Management Department; Ravindra Bundhade, Executive Engineer; Ujjwal Lanjewar, Executive Engineer; Dr Atya Kaple, Senior Scientist, CSIR-NEERI; Dr Mahendra Patil; Sangeeta Goyal; Sharda Kusankar; Dr Anshuman Khardenwis; Sandeep Lokhande; Chandrakant Gabhane; Kaustav Chatterjee; Surbhi Jaiswal; Mehul Kosurkar; Bishnudev Yadav; Priya Yadav; Shriya Joge; and Kajal Pillai also were present.

The growth of Eichhornia weeds in Ambazari Lake has been a matter of concern for the civic body. NMC had started removing the weeds from the lake in the month of April but to no avail. The Eichhornia weeds have a variety of negative impact once introduced into a

freshwater environment. It forms dense, impenetrable mats which clog waterways, making boating, fishing and almost all other water activities, impossible. “Sewage entering into the lake from MIDC side is the main reason behind the spreading of this weed. We have informed senior officials of MIDC to stop the source of sewage that has been entering in the lake,” Dr Gajendra Mahalle, Deputy Municipal Commissioner, Solid Waste Management Department, NMC told The Hitavada.

“A team of fire and emergency department is performing the weed removal work from last more than one month. With the help of a boat, the fire men are removing the weeds. Now this state-of-the-art machine will speed up the process,” said Dr Mahalle. “Despite using such machines the complete removal of Eichhornia will take some time. Our teams are working hard and soon we will get rid of it,” said the Deputy Municipal Commissioner. However, according to environment experts, there is a need to block the entry of sewage that has been entering into the lake. This will help contain further growth of the weed. Without identifying its root, it is quite impossible to get rid of it, he added.

हिमालय को बचाने के लिए सीएसआईआर-आईआईपी ने इको फ्रे हिमालय के सुरक्षा चक्र की मजबूती से घटेंगी आपदाएं



■ डॉ. हरेन्द्र सिंह बिष्ट, निदेशक
सीएसआईआर आईआईपी देहरादून

हिमालय अपनी सांस्कृतिक महत्ता, अद्वितीय पारिस्थितिक तंत्र, वनस्पतियों, जीव-जंतुओं व इको टूरिज्म के सामर्थ्य के लिए जाना जाता है। यह भारतीय उप महाद्वीप के जल स्रोत, जलवायु नियामक और प्राकृतिक आदाओं के न्यूनीकरण में महत्वपूर्ण भूमिका निभाता है। भारत व विश्व कल्याण के लिए इस प्राकृतिक धरोहर का संरक्षण बेहद जरूरी है।

सीएसआईआर - आईआईपी देहरादून ने हिमालय के संरक्षण व जलवायु परिवर्तन के न्यूनीकरण के लिए कई तरह के अनुसंधान और

हिमालयी समुदाय का सामाजिक-आर्थिक विकास

कौशल विकास केन्द्र से जरिए वैकल्पिक आजीविका से जुड़े कौशल व ज्ञान के साथ हिमालयी आबादी व खासकर महिलाओं के सामाजिक-आर्थिक विकास से जागरूकता पैदा करने का प्रयास किया जा रहा है। यह प्रयास समुदाय में जलवायु परिवर्तन व संरक्षण को लेकर जागरूक करने के लिए भी है। कृषि अपशिष्ट से प्राप्त अवशोषक स्वच्छता उत्पाद पारम्परिक उत्पादों की तुलना में एक पर्यावरण अनुकूल विकल्प है। इससे लैंडफिल कचरे को कम किया जा सकता है।

सफल पहल की हैं। हम अपने प्राकृतिक संसाधनों पर दबाव कम कर हिमालय, ग्लेशियर, झीलों और पर्यावरण को बचा सकते हैं। सीएसआईआर-आईआईपी के कुछ महत्वपूर्ण अनुसंधान और विकास संबंधी प्रयास ये हैं :

जैव ईंधन: नवीकरणीय स्रोतों जैसे कृषि अवशेष, अखाद्य तेल, वन बायोमास से निर्मित जैव ईंधन और बायोमास पेलेट्स से जीवाश्म ईंधन पर निर्भरता कम हो जाती है।

कम धुएं वाली भट्टी: आईआईपी द्वारा विकसित ये गुड़ भट्टी संयंत्र 25 फीसदी तक ईंधन की बचत और उत्पादन क्षमता में 15 फीसदी की वृद्धि करती है।

पीएनजी बर्नर: हमारे द्वारा विकसित पीएनजी बर्नर ऊर्जा की खपत कम करता है। इससे ग्रीन हाउस गैस उत्सर्जन कम होता है।

टूजी इथेनॉल: इसका उत्पादन गैर खाद्य फीडस्टॉक जैसे कृषि और वानिकी अवशेषों से होता है। आईआईपी ने ऑटोमोटिव क्षेत्र में टूजी इथेनॉल के उपयोग को बढ़ावा देकर स्वच्छ व अधिक सस्टेनेबल परिवहन ईंधन के प्रयोग की दिशा में मजबूत कदम बढ़ाया है। इन सभी प्रयासों और इसके पर्यावरणीय लाभ के अलावा देश को कार्बन ऑफसेट कार्यक्रमों से कार्बन क्रेडिट भी मिलेगा। हिमालय के सुरक्षा कवच की मजबूती से आपदाओं में भी कमी आएगी।

तालाबों की सफाई के लिए मिला 'जलदोस्त'

नागपुर: शहर के तालाबों की सफाई एक बड़ी चुनौती बनी हुई है. इसकी सबसे बड़ी वजह पानी की सतह पर पनपने वाली जलकुंभी है. इसके निवारण के लिए अब नीरी ने मनपा की मदद की है. गुरुवार को 'जलदोस्त' एयर बोट को अंबाझरी तालाब में उतार कर खरपतवार को हटाने और कचरे को निकालने का परीक्षण किया गया. इस स्वदेशी मशीन को नेशनल एरोस्पेस लेबोरेटरी, बेंगलुरु ने विकसित किया है.

इस अवसर पर एनएएल के डॉ. कार्तिकेयन ने बताया कि साधारण बोट की तुलना में यह बोट अलग है. यह बोट एयर प्रोपेलर से आगे बढ़ता है. यह मशीन विमान प्रौद्योगिकी और हाइड्रिड समुद्री प्रौद्योगिकी पर चलती है. जो उन तालाबों में भी काम करती है जहां मानव सहायता से खरपतवार को निकालना असंभव है. यह मशीन 5-6 लोगों का काम एक साथ करती है. मनपा आयुक्त ने कहा कि मनपा खरपतवार को हटाने के लिए लगातार काम कर रहा है. जिसके लिए उन्होंने विभिन्न प्रयास किए. राष्ट्रीय एरोस्पेस प्रयोगशाला



की मदद से विकसित 'जलदोस्त' मशीन का उपयोग प्रायोगिक आधार पर किया जा सकता है और भविष्य में जरूरत पड़ने पर इसमें सुधार किया जाएगा. परीक्षण के दौरान सीएसआईआर-नीरी के संचालक डॉ. अतुल वैद्य, मनपा अतिरिक्त आयुक्त आंचल गोयल, मनपा सहायक आयुक्त प्रकाश वराडे, अधीक्षक अभियंता डॉ. श्वेता बनर्जी, ठोस अपशिष्ट प्रबंधन विभाग के उपायुक्त एवं निदेशक डॉ. गजेंद्र महल्ले आदि मौजूद थे.

मशीन की खासियत

- डीजल से चलने वाला यह बोट 10 घंटे तक काम करता है.
- एक बार में 1 टन कचरा निकाल सकता है.
- ₹20 लाख की कम लागत में बनी है.
- तालाब से खरपतवार और कचरा निकालकर पानी में ऑक्सीजन की मात्रा बढ़ाएगा. इससे जलीय जीवों को राहत मिलेगी

FSSAI issues updated list of 11 labs recognised as reference ones

CSIR-CFTRI, IITR, NIIST

07th September , 2023

The FSSAI has issued an updated list of 11 laboratories notified and recognised as 'Reference Laboratories'. The Food Authority has issued an order in this regard after the period of validity /recognition was over in June this year.

The FSSAI shall soon sign a MoU (Memorandum of Understanding) with these laboratories.

The order says that FSSAI has granted approval to the food laboratories as National Reference Laboratories (NRL) in accordance with Regulation 3 of the Food Safety and Standards (Recognition and Notification of Laboratories) Regulations, 2018, for specified areas mentioned alongside each NRL.

The labs include Export Inspection Agency (EIA), Cochin, for Genetically Modified Foods, CSIR- Central Food Technological Research Institute (CFTRI), Mysore, for Health Supplements, Nutritional Information, Punjab Biotechnology Incubator, Punjab, for Sweets and Confectionery, sweetening agents including honey, ICAR- National Research Centre for Grapes, Pune, for Pesticides and Mycotoxins, National Dairy Development Board (NDDB) Centre for Analysis and learning in Livestock & Food (CALF) Ltd. Anand, Gujarat, for Dairy, Dairy Products and Dairy Analogues, ICAR- Central Institute of Fisheries Technology (CIFT), Cochin, Kerala, for Fish and Fish Products, CSIR-Indian Institute of Toxicology Research (IITR), Lucknow, for Chemical Risk Assessment, ICAR- National Dairy Research Institute, Karnal, for Foods for Infant Nutrition, Probiotics and Prebiotics, ICAR - Indian Institute of Horticultural Research, Bengaluru, for Fruit and Vegetable Products, CSIR- National institute for Inter-disciplinary Science & Technology (CSIR-NIIST), Thiruvananthapuram, for Contaminants (heavy metals, PCBs, Dioxins and process generated contaminants, etc.), and Food Testing Laboratory, NIFTEM-Thanjavur, for Cereal and Cereal Products.

Apart from this, the Export Inspection Agency lab in Chennai is given Ancillary National Reference Laboratories status for food microbiology.

According to the FSSAI, each reference laboratory shall be a resource centre for provision of information for certified reference materials and reference materials. The labs shall also develop standards for routine testing procedures and reliable testing methods along with providing technical support in the area of competence and evaluating the performance of other notified laboratories.

The NRLs shall also coordinate the exchange of information amongst notified food laboratories and collaborate for data generation among the network of notified food laboratories and referral food laboratories and collate the data related to their specific domain.

CSIR-IHBT

7th September, 2023

सीएसआईआर पालमपुर और आयुर्वेद विभाग में समझौता



बैजनाथ। सीएसआईआर पालमपुर और आयुर्वेद विभाग हिमाचल प्रदेश के बीच विभिन्न गतिविधियों को लेकर एक समझौता ज्ञापन पर हस्ताक्षर किए गए हैं। आयुर्वेदिक कालेज पपरोला के प्रधानाचार्य प्रो. विजय चौधरी ने बताया कि एमओयू के अंतर्गत विभिन्न पहलुओं जैसे गुणवत्ता युक्त औषधीय पौधों को सीएसआईआर से

लेने के लिए प्रदेश की तीनों आयुर्वेदिक फार्मसीयों की गुणवत्ता के मानकों को स्थापित करना, औषधीय पौधों की खेती से जुड़े प्रशिक्षण और सीएसआईआर और आयुर्वेदिक कालेज पपरोला के बीच अनुसंधान को सुदृढ़ करने के लिए सहयोग को बढ़ावा देना है। आयुर्वेदिक कालेज के प्रधानाचार्य प्रो. विजय चौधरी ने इस मौके पर खुशी व्यक्त करते हुए बताया कि शैक्षणिक गतिविधियों में दोनों संस्थाओं के मध्य कान्फ्रेंस, वर्कशाप, सेमिनार और ट्रेनिंग में सहभागिता को बढ़ावा देना, स्नातकोत्तर छात्रों के लिए प्रयोगशाला के प्रयोग, अनुसंधान परियोजनाओं का संयोगात्मक सूत्रीकरण करना, आपसी हित के क्षेत्र में संयुक्त अनुसंधान कार्यों का निर्वहन तथा उपरोक्त उद्देश्यों की पूर्ति के लिए फेकल्टी का आदान-प्रदान को भी इसमें शामिल किया गया है।

Corporates urged to finance R&D projects from CSR funds

CSIR-NGRI

06th September , 2023

CSIR-NGRI chief scientist Mahendra Darokarn asserted that the premier research institute was very capable of delivering industry-relevant scientific solutions and was also open for collaborations with the corporates, on Wednesday.

Participating in the ongoing 'One Week One Lab' programme at the institute in the presence of several scientists and others, he invited them to allocate their respective CSR (Corporate Social Responsibility) funding for research and development initiatives of the institute.

Director of the institute Prakash Kumar shared insights of the 62-year journey and highlighted the wide array of services provided by CSIR-NGRI to its diverse stakeholders and the nation. He also gave a glimpse of the recent research activities and future research directions.

Earlier, former Director Harsh K Gupta described the journey of the setting of the seismological observatory at the institute conforming to the specifications of the worldwide standard seismograph network. He spoke about the several geo-scientific studies carried out like the air-borne and 'Borehole Seismic' measurements. These studies have highlighted the recurring and swarming of the earthquakes and tectonic framework of the region.

National Remote Sensing Centre (NRSC) director Prakash Chauhan observed that the scientific fraternity could learn about the Indian Lunar exploration programmes in great detail. He spoke about the exciting findings and discoveries from the Chandrayaan Missions. The latest Chandrayaan Mission - 3 had confirmed the presence of hydration on the Moon.

Texas University distinguished professor V.P. Singh said water security is one of the grand

challenges that mankind is facing at present. For this, several geo-scientific studies are being carried out, and the recent developments in data science, tools of analysis, and advanced modelling technologies resulted in various emerging fields like social hydrology, echo hydrology, remote sensing hydrology, etc.

Indian Institute of Science, Bengaluru's associate professor Atreya Ghosh talked about the reconstruction theory of plate tectonics, the rapid flight motion of the Indian plate and so on. With the help of supercomputers and numerical simulations, one can understand the challenges mentioned earlier in a better way, she said.

Top officials and scientists from various organisations like the Nuclear Power Corporation of India Limited (NPCIL), Geological Survey of India (GSI), NMDC, ONGC and others participated in the scientific sessions, said a press release.

FSSAI to organise 'Eat Right Millet Mela' on Friday at NIIST

CSIR-NIIST

06th September , 2023

The Food Safety and Standards Authority of India-Southern Region (FSSAI) is organising a millet festival at the CSIR-National Institute for Interdisciplinary Science and Technology (NIIST) at Pappanamcode on Friday.

The 'Eat Right Millet Mela' is being organised in collaboration with NIIST and the Food Safety department, Government of Kerala. The one-day event features talks by experts, an 'Eat right talent hunt' and a millet exhibition and sale.

Health Minister Veena George will inaugurate the festival. Commissioner of Food Safety V.R. Vinod will preside.

The UN had declared 2023 as the 'International Year of Millets' to highlight and promote millets that have a high nutritional significance.

FSSAI, the country's apex food regulator, is organising the festival as part of the national-level effort to position India as the global hub of millets.

The event is meant to enable citizens to make healthy food choices by incorporating millets into their diet, according to the FSSAI. It would provide a platform for stakeholders including government, food business operators and consumer organisations to sensitise the public on the importance of millets, it said.

Published in:

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

Union Minister Dr Jitendra Singh says, Indian Youth today is no longer a prisoner of aspiration because a host of new openings available now beckon him with opportunities of livelihood as per his inherent aptitude.

CSIR-NIScPR

06th September , 2023



Union Minister of State (Independent Charge) Science & Technology; MoS PMO, Personnel, Public Grievances, Pensions, Atomic Energy and Space, Dr Jitendra Singh said, Indian Youth today is no longer a prisoner of aspiration because a host of new openings available now beckon him with opportunities of livelihood as per his inherent aptitude.

A lot of this has been possible because of groundbreaking reforms brought by Prime Minister Narendra Modi, including StartUp policy, National Education Policy (NEP) 2020, Space sector and Drone deregulations, new geospatial policy, National Research Foundation etc, he said.

Addressing the KAMP Pratibha Utsav-2023 in New Delhi, Dr Jitendra Singh said, this is the Best Times happening in India and the successful launch of Chandrayaan-3 has sparked global aspirations in Indian students. He said, Chandrayaan-3 was followed by Aditya L1, the first space based Indian mission to study the Sun and a couple of days from now India will be hosting the historic G20 Summit Meet in Delhi and the credit for all these goes to our visionary Prime Minister Shri Narendra Modi.

Dr Jitendra Singh said PM Modi also brought in the new National Education Policy (NEP-2020) which supplements Start-Up ecosystem with the promise to open new career and entrepreneurship opportunities for students and youth in India.

Dr Jitendra Singh said, the provision of multiple entry/exit option is something to be cherished as this academic flexibility will have a positive impact on the students related to the availing of different career opportunities at different times, depending upon their intrinsic learning and inherent aptitude. The Minister also said that this entry/exit option can be opted in future for the teachers as well, giving them career flexibility and upgradation opportunities as is done in some western countries and the USA.

Saying that one of the objectives of NEP-2020 is de-linking degree from education, Dr. Jitendra Singh said that linking degrees with education has taken a heavy toll on our education system and society as well. One of the fall-outs has been an increasing number of educated unemployed.

Referring to 9 years of Modi rule, Dr Jitendra Singh pointed out that apart from formal jobs, lakhs of opportunities and avenues were created outside the government sector for the youth of the country, be it Start-ups, Mudra Scheme, PM SVANidhi.

Dr Jitendra Singh said, this is all the more evident that after the opening up of the Space sector by Prime Minister Shri Narendra Modi in June 2020, the number of Space Startups sky-rocketed from merely 04 to 150 Startups and most of them being led by science students, researchers and entrepreneurs.

Dr Jitendra Singh said that there were just around 350 Startups before 2014, but after PM Modi gave the clarion call from the ramparts of the Red Fort in his Independence Day address and rolled out special Startup scheme in 2016, there has been a quantum jump with over 1.25 lakh Startups now and more than 110 Unicorns. Similarly, he added that in the Biotech sector, from 50 odd Startups in 2014, we now have 6,000 Biotech Startups.

Dr. Jitendra Singh felicitated the young achievers and said that he always believed in catching the talent young and advised the KAMP to focus on students from class V to class X to get the desired results. He complimented the organisers for designing the course in a more scientific fashion with 8 fundamental issues ranging from Aptitude to Mathematics to Mechanical Engineering. He also underlined the right kind of Mentorship for students.

In the welcome address, Dr. Ranjana Aggarwal, Director, CSIR-NIScPR said, "One Week One Lab" campaign is a unique platform that enables each CSIR laboratory to unveil its legacy, technological breakthroughs, and success stories to a diverse array of stakeholders in our society." She added that one week one lab campaign is the brainchild of the Minister of S&T Dr. Jitendra Singh. His support and vision have been instrumental in making this campaign a reality."

The One Week One Lab programme of CSIR-NIScPR will run from 11th September to 16th September 2023, during which CSIR-NIScPR will open its doors to the public and invite them to visit its departments and witness its academic and research initiatives. The programme will also include popular lectures, demonstrations, workshops, puppet shows, quizzes, competitions, and exhibitions on various topics related to science communication and S&T based policy research. It allows each of the 37 CSIR laboratories, spread across the country, to showcase their work and achievements.

Govt to set up red mud processing pilot plant by Dec 2024 to extract more REEs

CSIR-IMMT, NML

06th September , 2023

In VIEW of the importance of Rare Earth Elements (REE), the Government of India will establish a state-of-the-art pilot plant to process 100 kg of Red Mud and extract REE from this aluminium waste. The plant is expected to be operational by December 2024.



Top institutions, including Jawaharlal Nehru Aluminium Research Design and Development Centre (JNARDDC), Nagpur; CSIR Institute of Metal and Materials Technology (CSIR-IMMT), Bhubaneswar; CSIR-National Metallurgical Laboratory (CSIR-NML), Jamshedpur; and National Aluminium Company Ltd (NALCO) have teamed-up to process 100 kg of red mud in the plant which will allow them to optimise REE extraction from waste. Red mud is a kind of aluminium waste, which is highly hazardous for nature and human health. City-based JNARDDC is the only institution in the country that invented a technology to extract REE from red mud and also to reuse red mud for other commercial activities.

“About 35 to 40 per cent of the processed bauxite ore goes into the waste in the form of red mud. The aluminium industry in India produces 5 million tonnes of red mud annually. 10 kg red mud contains about 0.5-0.8 per cent of REE which can be recovered through scientific process,” Dr Anupam Agnihotri, Director, JNARDDC told ‘The Hitavada’.

Dr Agnihotri said that the upcoming pilot plant would make them capable of processing ten times more red mud than they were currently processing. “We are currently processing 10 kg of red mud in our lab to extract REE. The plant will allow us to process 100 kg of red mud. With this, we can extract more rare earth elements,” he said. “We are reusing just 1% of red

mud. The remaining 99% is dumped as waste. Under the 'Atmanirbhar Bharat' mission, the R&D institutions will work together to extract REE from this waste to reduce our dependence on Chinese imports," he added. "Scandium is one of the strategic element in the group of rare earth elements, which is utilised in space and defence technologies in large number. India produces 10 million tonnes of red mud per annum in which we can extract about 4,000 tonnes of Scandium per annum," said Dr Agnihotri.

CSIR-IHBT

6th September, 2023

सीएसआईआर -आईएचबीटी पालमपुर के शोध छात्रों ने किया संगोष्ठी का आयोजन

● कहा, ज्ञान अर्जित करना ही पर्याप्त नहीं है बल्कि उसका सदुपयोग भी करना चाहिए

सवेरा न्यूज/जसवंत कठियाल

पालमपुर, 6 सितंबर : सीएसआईआर -आईएचबीटी पालमपुर के शोध छात्रों ने शिक्षक दिवस के अवसर पर शोध, राजस्व, परिवर्तन- हिमालयी जैवसंपदा में वैज्ञानिक नवोन्मेष विषय पर सातवीं छात्र संगोष्ठी श्रृंखला 2023 का आयोजन किया। इस अवसर पर मुख्य अतिथि प्रो. राजेन्द्र सिंह सांगवान, पूर्व निदेशक एवं कुलपति, एसीएसआईआर एवं तथा पूर्व सीईओ, आईएचबीटी - नवोन्मेषी एवं अनुप्रयुक्त जैव प्रसंस्करण केंद्र, मोहाली ने अपने संबोधन में कहा कि ज्ञान अर्जित करना ही पर्याप्त नहीं है बल्कि उसका सदुपयोग करके कुछ नया करना समय की आवश्यकता है।



कार्यक्रम में उपस्थित संस्थान के वैज्ञानिक, उपस्थित बच्चे व अन्य।

इसके लिए टीम भावना, सकारात्मक सोच एवं चुनौतियों का सामना करने की आवश्यकता होती है। गुरु नानक देव विश्वविद्यालय, अमृतसर के जैव प्रौद्योगिकी विभागाध्यक्ष डा. प्रताप कुमार ल ने मुख्य संभाषण दिया तथा सीएसआईआर-आईएचबीटी से जीएनडीयू तक की यात्रा के बारे में

भी बताया। संस्थान के निदेशक डा. सुदेश कुमार यादव ने वैज्ञानिकों और शोध छात्रों को संबोधित करते हुए राठ ट्रीय शिक्षक दिवस की शुभकामनाएं दी। डा. सुदेश ने जैवार्थिकी के उन्नयन में संस्थान की विभिन्न वैज्ञानिक उपलब्धियों पर प्रकाश भी डाला। इस कार्यक्रम में

कुल 24 मौखिक एवं फ़्लैश प्रस्तुतियां हुईं। वैज्ञानिक उपलब्धियों से संबन्धित प्रदर्शनी का भी आयोजन किया गया, चंद्रयान का मॉडल आकर्षण का केन्द्र रहा। विभिन्न प्रतियोगिताओं और सेमिनार में श्रेष्ठ प्रस्तुति के लिए विजेताओं को पुरस्कार प्रदान किए गए। इस अवसर पर राजकीय आयुर्वेदिक महाविद्यालय, पपरोला तथा डीएवी कालेज, कांगड़ा के साथ शैक्षणिक आदान- प्रदान के लिए समझौता ज्ञापन किया गया। इसके अतिरिक्त 3 उद्यमियों के साथ सामग्री हस्तांतरण तथा संस्थान की शोध सुविधाओं के उपयोग पर समझौता ज्ञापन किया गया। संगोष्ठी का आरंभ वृक्षारोपण और समापन सांस्कृतिक कार्यक्रम से सरस्वती वंदना से हुआ।

Published in:

Dainik Savera, Aaj Samaj, Amar Ujala, Dainik Jagran, Punjab Kesari

CSIR-NPL

5th September, 2023

Collaboration agreement with CSIR-NPL for 'Development of Bipolar Graphite Plates' for Fuel Cell Applications



A group photograph taken during the Agreement exchange

IndianOil signed an agreement with Council of Scientific and Industrial Research (CSIR) - National Physical Laboratory (NPL), New Delhi on September 4, 2023 for the development of 'Bipolar Graphite Plates' using IndianOil Needle Coke for Proton Exchange Membrane (PEM) Fuel Cell applications. PEM Fuel Cell technology is emerging globally as a viable technology for energy production which can also contribute immensely in enabling 'Hydrogen Economy' in-line with the strategic plan of Government of India. 'Bipolar Graphite Plate' is the critical hardware component of PEM Fuel Cell with key functions of fuel/oxygen distribution, heat & water management etc. At present, this component is not being manufactured in India and is sourced from abroad for conducting research in this area. IndianOil is in the process of setting up a grass root NecoMax Unit at Paradip Refinery for production of Needle Coke primarily aiming at production of graphite electrodes for steel industry. The development of this new application of using Needle Coke for fabrication of 'Bipolar Graphite Plates' for PEM Fuel Cell could potentially open a new market segment for Needle Coke which will be produced by IndianOil. The signing of this agreement is a significant step towards the Hydrogen economy by indigenous production of 'Bipolar Graphite Plates' for PEM Fuel Cell. The agreement was signed in the esteemed presence of Mr Debasis Bhattacharyya, ED I/c (R&D), Mr Ameet Gohain, ED (Finance), Dr Madhusudan Sau, ED (RT), Dr C Kannan, ED (CT & TPF), and other senior team members from IndianOil R&D. The CSIR-NPL team was led by Dr Kamlesh K Maurya, Head (BDG) and Dr Sanjay R Dhakate, Chief Scientist & Head Advanced Materials Devices and Metrology Division. **(Deepak Taneja, DGM (Corp Comm), R&D Centre)**

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