CSIR in Media

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News Bulletin

16th to 20th December 2019

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CSIR inks MoU with France to promote S&T

CSIR-IHBT

20th December, 2019

With rise in the population size the demand for food is also increasing and expected to increase up to 59% to 98% by 2050. Looking at this emerging demand hydroponics may be seen as a better technique of agriculture. Keeping this in mind Council of Scientific and Industrial Research- Institute of Himalayan Bioresource Technology (CSIR-IHBT), Palampur is determined to develop small low cost hydroponic system which is suitable for urban agriculture and small scale said Dr. Ashish Warghat, Scientist, CSIR-IHBT. The institute organized a four-day training program on hydroponic cultivation system. "There were 43 progressive farmers, unemployed youth and students from Himachal Pradesh, Uttarakhand, Jammu, Manipur and Nagaland states participated in this programme. The participants were provided with technical knowhow and practical exposure of plant propagation in hydroponic system" told Dr Bhavya Bhargav, training organizer, CSIR-IHBT. Dr. Warghat, gave practical exposure for cultivation of herbs, spices and floriculture crops under hydroponics system. "Although the initial investment cost for setting up the hydroponics system is high but in long run it will provide better returns to farmers" he said. Dr. Sanjay Kumar, Director, CSIR-IHBT told that knowledge of modern high tech agriculture is the need of hour. It is essential to empower the youth to grow high value crops of demand under controlled system. During his talk Dr Kumar told that hydroponics offers opportunities to young farmers for startup business for the production of nutrient-rich spices, herbal and high value crops which has huge demand in the urban market.

"The practice assumes significance as the rural regions in India witnessing population shift in recent years due to animal menace and poor returns from traditional farming system. This system is perfect solution for growing plants in limited space" said Dr Kumar. Hydroponics is the technique of growing plants without soil by using water solvent which consists of mineral nutrient. Dr Sanjay Kumar said that this system provides higher yield and economic returns compared to traditional agricultural practices, because of increase in harvest cycles and balanced nutrient supply. "Urbanization led to high-density cities and scarcity of land. Hydroponic systems are engineered as a highly space and resource efficient form of farming and represent a considerable source of industrially grown produce" he said. The participants were introduced to hydroponic system and made aware about the water quality, growing systems, nutrient solutions, crop physiology and crop protection.

Dr Rakesh Kumar, Principal Scientist and Programme coordinator told that hydroponic system is not affected by weather, wild animals and any of the other external biotic or abiotic factors. In addition to these benefits hydroponic system also make less and efficient utilization of water. Furthermore, participants were also made aware about the elimination of use of artificial ripening agents, herbicides and pesticides in hydroponic system, which helps in creating nutritionally superior harvest of food products. "The overall hydroponics system market is projected to grow from USD 8.1 billion in 2019 to USD 16.0 billion by 2025, at a CAGR of 12.1%" he said.

Published in:
Business Line

CSIR-CSIO

20th December, 2019

CSIR-CSIO (ELECTROSTATIC DISINFECTION MACHINE)

CSIR-Central Scientific Instruments Organisation (CSIR-CSIO), Chandigarh transferred the technology of 'Electrostatic Disinfection Machine' to M/s. Jhosna Corporation, a Karnataka based company on December 18, 2019. The technology is developed under the CSIR Mission Mode Project "Food and Consumer Safety Solutions (FOCUS)", funded by Council of Scientific and Industrial Research (CSIR).

Published in:

The Indian Express

CSIR-CSIO

20th December, 2019

Dainik Bhaskar: 20-12-2019

अब बस-ट्रेन भी होगी 'डिसइनफेक्ट'

चंडीगढ़| बस या ट्रेन में चढ़ते हुए एक ही हैंडल पर लगातार अलग-अलग हाथ लगते हैं और फिर इन्हीं हाथों से खाना या फिर उन्हीं को छूना। इंफेक्शन का ये घर अब रोकना संभव होगा 'इलेक्ट्रोस्टेटिक डिसइन्फेक्शन मशीन' से। सीएसआईआर-सीएसआईओ ने इस टेक्नोलॉजी को वीरवार को दिल्ली में हुए एक प्रोग्राम के दौरान कर्नाटक बेस कंपनी को ट्रांसफर किया है। ये मशीन फूड एंड कंज्यूमर सेफ्टी सॉल्यूशंस (फोकस) मिशन के तहत डेवलप की गई है। इसके जरिए ट्रेनों, बसों, बस स्टैंड, रेलवे स्टेशन, अस्पताल, स्कूल या किसी भी तरह के इंस्टीट्यूट में बड़े स्तर पर डिस इंफेक्शन संभव होगा। आमतौर पर ऐसे इलाकों में फर्श तो साफ कर दिया जाता है लेकिन हैंडल या ऊपर के किसी हिस्से को साफ करना संभव नहीं होता। लेकिन सीएसआईआर की स्प्रे मशीन से ये भी संभव होगा।

Published in:
Dainik Bhaskar

CSIR develops advanced security ink to stop counterfeiting of currency notes

CSIR-NPL 19th December, 2019

In a latest research, scientists from CSIR-National Physical Laboratory (NPL) in New Delhi have come up with a security ink — which can prevent duplication of printable documents and counterfeiting of currency notes. The research, published in the *Journal of Materials Chemistry C* in October, was conducted on the principle of the fluorescence-phosphorescence technique, which emits two colours on the excitation of a single wavelength. The two colours are red and green — red at 611 nanometre (nm) is due to fluorescence, and the green at 532 nm is from the phosphorescence effect. "The advanced security feature of the ink comes from its change of pigment colour. Currently, the currency notes display only a single colour with the emission of wavelength," said Dr Bipin Kumar Gupta, senior scientist at the NPL, who led the team of researchers. "In the ambient light, the ink showcases white colour. When exposed to UV (ultraviolet) light at 254 nm, it changes the colour to red and when the UV source is switched off, it turns green," he added. The colors can be seen through naked eyes. According to researchers, the technique of dual emissive luminescent pigment for security purposes is the first-of-its-kind and never used for printing of notes or confidential documents.

Counterfeiting of currency notes

According to the Reserve Bank of India's (RBI) annual report 2018-19, the new Rs 500 and Rs 2,000 notes introduced after demonetisation are at the risk of duplication. According to the report, the duplication of a new design of Rs 500 notes is accounted to be 121 per cent and of Rs 2,000 notes to be 21.9 per cent during 2018-2019. The report also stated that about 12,728 counterfeit notes of the Rs 200 currency note, introduced in 2017, were detected. The currency notes are embedded with about 10 security features, including a three-dimensional watermark, micro lettering, security threads and colour shift pattern.

Dual emissive luminescent security ink

The main task of the team was to select compounds, which do not obstruct the formation of the colours on the excitation of the wavelength. For the production of luminescent pigment, two chemical compounds — sodium yttrium fluorite, europium-doped and strontium aluminate with europium-dysprosium — were synthesised to emit red and green colours, respectively. The fluorescence property is through sodium yttrium fluorite, while the phosphorescence is by compound strontium aluminate.

The NPL researchers used the hydrothermal synthesis method to get the red colour. In hydrothermal synthesis, a compound is crystallised from an aqueous solution at a high temperature. To get the desired features of the ink, the two pigments were admixed at a weight ratio of 3:1.

The mixture was then sintered for three hours at a temperature of 400°C. The heating process is also known as annealing. This resulted in the development of fine white powder for the single excitable dual emissive luminescent pigment. In addition, the heating process was done to ensure that the pigments stick to each other when the ink is produced.

"If we directly perform the mixing of both the phosphors (pigments) without annealing, then the individual pigments separate during ink formation and the required property of the ink to emit dual-colour is not developed," Amit Kumar Gangwar, one of the authors of the study, told ThePrint. In the last step, the powder was mixed with the polyvinyl chloride (PVC) medium to procure luminescent security ink.

"For the feasibility test of the ink, an image was printed on a non-fluorescent white bond paper using a standard screen printing technique. The results showcased the emission of red and green colours under the 254 nm UV excitation when the source was turned on and off," said Dr Gupta.

Properties and applications

To analyse the stability of the ink, the researchers conducted chemical tests with various bleaching agents like soap solution, ethyl alcohol and acetone. “We studied the durability of the ink for about six months under rigorous atmospheric conditions like humid, hot and cold. Under all conditions, it remained stable, with no changes in print quality,” said Girja Shankar, another author of the study, who monitored the ink properties.

In addition, the viscosity of ink was tested for better printing quality. It was done on both screen and offset printing to ensure the pigment properties. Apart from solving the problem of counterfeiting of currency notes, the novel ink can be used in printing documents, which have a high risk of security breach and duplication.

For example, the passport cover when seen under the UV light showcases covert emblem of India in green colour. With the new ink, it will emit two colours, which is hard to copy.
It can also be used in the pharmaceutical sector where drug companies can protect the medicines from being duplicated by printing the security features through this ink. This will ensure that there is no change in the composition of the product and that consumers get the authentic drug.

The security feature of the luminescent ink can be used in legal confidential certificates, merchandise and electronic barcodes also to avoid duplication or sale of fake products.

Published in:
The Print

CSIR inks MoU with France to promote S&T

CSIR-IICT,NCL

18th December, 2019

A Memorandum of Understanding (MoU) was signed in New Delhi between the Council of Scientific & Industrial Research (CSIR), India and the National Centre for Scientific Research (CNRS), France to establish a framework for cooperation between the two towards promotion and support of scientific and technological research. A team led by Director General, CSIR, DrShekhar C Mande met delegation from CNRS France, led by its President and CEO, Prof Antoine Petit. In view of the potentially beneficial and synergistic cooperation possibilities for translating science into technology CSIR and CNRS may explore strengthening their cooperation to foster joint innovation and transfer of technologies applicable to India or/and France and to other nations. This cooperation could include sharing good practices, promoting technology transfer and enhancing industry-academia cooperation. The broad research areas of mutual interest include biotechnology including plant and marine biotechnology; health research; environment and climate change studies; engineering science and technology; material science and technology; energy science and technology and water research.

DG, CSIR, Dr Shekhar C Mande, highlighted that India and France have been natural partners and CSIR and CNRS have had longstanding relations starting from 1975 and that CSIR labs CSIR-IICT and CSIR-NCL are currently implementing joint programmes with CNRS, which have generated several joint publications, patents and Ph.Ds. Prof A. Petit, Head of CNRS, said that CSIR is a valued and trusted partner

and believes that the MoU will boost cooperation even further and contribute to many critical areas such as health, water, energy and climate change among others and contribute towards addressing the global challenges.

Published in:
Bio Spectrum

Student-scientist connect at CSIR-CDRI

LUCKNOW: A batch of 50 students of Kendriya Vidyalaya, Shahjahanpur, accompanied by four teachers, visited the CSIR–Central Drug Research Centre, Lucknow on Tuesday and interacted with the scientists and researchers there as part of 'Jigyasa' -- a six-hour programme organised under the aegis of the scientific social responsibility of the institute.

Chief Scientist Vinay Tripathi briefed them about the CSIR–CDRI and its contributions in different branches of science and technology.

Scientist Dr Sanjeev Yadav discussed in detail the 'journey of a molecule to becoming medicine'. He explained to the students how the team work of scientists and researchers from disciplines like chemistry, biology and pharmaceutical sciences come together to convert a new chemical entity into a 'potential candidate drug' and then a drug.

In the molecular structure biology division, Dr Saman Habib explained to the students the work done on various molecular aspects of drug discovery and development. She also demonstrated some tools and techniques of molecular biology.

Later, the students visited the laboratory animal facility where researchers explained to them the role of animal models in drug discovery. "We are grateful to the CSIR–CDRI authorities for providing our students the opportunity to visit their labs and observe the facilities here," said a teacher accompanying the students. HTC

Students at the CSIR-Central Drug Research Centre, Lucknow on Tuesday, as part of a student-scientist connect programme. HT

Published in:
Hindustan Times

छात्रों ने जानी अणु की औषधि बनने तक की शोधयात्रा

सीडीआरआई में छात्रों ने किया दौरा, वैज्ञानिकों से किया संवाद

लखनऊ (एसएनबी)। केन्द्रीय विद्यालय ओसीएफ शाहजहांपुर के छात्रों व शिक्षकों ने मंगलवार को केन्द्रीय औषधि अनुसंधान संस्थान (सीडीआरआई) का दौरा किया तथा संस्थान के वैज्ञानिकों से संवाद किया तथा प्रयोगशाला का दौरा कर वहाँ चल रहे शोधकार्य को नजदीक से देखा। इस दौरान विद्यार्थियों ने एक अणु की औषधि बनने तक की शोधयात्रा की जानकारी प्राप्त की।

इस दौरान संस्थान के मुख्य वैज्ञानिक विनय त्रिपाठी, ने छात्रों व शिक्षकों का स्वागत करते हुए जिज्ञासा कार्यक्रम, सीएसआईआर और सीडीआरआई के बारे में बताया तथा विज्ञान और प्रौद्योगिकी की विभिन्न शाखाओं में इसके योगदान के साथ-साथ औषधि अनुसंधान एवं विकास में योगदान के बारे में जानकारी दी। उन्होंने भारतीय फार्मा इंडस्ट्री के विकास के परिप्रेक्ष्य में संस्थान के योगदान के बारे में भी चर्चा की। संस्थान के वैज्ञानिक डा. संजीव यादव ने अणु की औषधि बनाने तक की शोधयात्रा विषय पर एक रोचक व्याख्यान दिया।

उन्होंने बताया कि कैसे रसायन विज्ञान, जीव विज्ञान और फार्मास्युटिकल विज्ञान जैसे विभिन्न विषयों के वैज्ञानिक और शोधकर्ता एक साथ एक टीम के रूप में मिलकर कार्य करते हैं तथा एक नई रासायनिक इकाई (एनसीई) के विभिन्न पहलुओं पर शोध कर उसे एक महत्वपूर्ण संभावित उम्मीदवार औषधि (केंडीडेट ड्रग) में परिवर्तित करने के पश्चात अंत में एक औषधि के रूप में इसे बाजार तक लाते हैं। इसके पश्चात सविता त्रिपाठी एवं सुशील लोहानी ने दल को विभिन्न प्रयोगशालाओं का दौरा करवाया। मोलिक्युलर बयोलॉजी डिवीजन में डा. समन हबीब ने दवा की खोज और विकास के विभिन्न आणविक पहलुओं के बारे में बताया।

छात्रों ने प्रयोगशाला जन्तु सुविधा का भी भ्रमण किया तथा डा. राजदीप गुह्य व हंसदा से औषधि अनुसंधान एवं विकास में विभिन्न जन्तु मॉडल जैसे माइसए रैट, हेमेस्टर, गिनी पिग एवं रिहसस मंकी की भूमिका एवं उनकी उपयोगिता के बारे में विस्तार से जानकारी ली, साथ ही विभिन्न सुविधाओं एवं जन्तु मॉडल और उनकी हैंडलिंग का भी प्रदर्शन भी देखा। उन्होंने विभिन्न प्रकार की मशीन जैसे कि रियल टाइम पीसीआर, विभिन्न माइक्रोस्कोप व क्रायोप्रिजर्वेशन टेकनीक का व्यावहारिक ज्ञान प्राप्त किया।

केन्द्रीय विद्यालय शाहजहांपुर के छात्रों ने देखी सीडीआरआई में शोधशाला।

Published in:
Rashtriya Sahara

Sixth plastic bank set up in Doon

CSIR-IIP 18th December, 2019

A sixth plastic bank was opened in Dehradun on Tuesday by the Council of Scientific and Industrial Research - Indian Institute of petroleum (CSIR-IIP), in association with Gati Foundation, an NGO. The bank is situated at Indian Council of Agricultural Research (ICAR) - Indian Institute of Soil and Water Conservation (IISWC). The city already has plastic banks at Drishti Eye Institute, EII Honda Showroom, Hopetown Girls School, Regenta Hotel and Col Brown Cambridge School. The launch of a sixth plastic bank at ICAR was done to mark Swachhta Pakhwada.

Sanat Kumar, senior scientist at CSIR-IIP, said that IIP researchers had developed a technology to convert plastic to diesel. "The IIP has been converting polyolefinic waste into diesel for the past few months. This type of waste accounts for about 70 per cent of total plastic waste in the country and is the least bio-degradable. The diesel we produce at IIP is of automotive grade and can be used in various classes of vehicles," said Kumar. Anoop Nautiyal, founder chairperson Gati Foundation, which works with the IIP to create a supply chain of plastic waste, said, "The city getting its 6th plastic bank is a big step towards addressing the massive problem of plastic waste in Indian cities. I appealed to the residents and community organizations to collect plastic waste in the plastic banks, so it can be used to make diesel at the plant in IIP."

"Gati Foundation so far has been able to supply more than 1000 kg of plastic waste to the IIP from the five community-driven plastic banks in the city. We will continue our efforts," Nautiyal added.

Published in:
The Times of India

CSIR-CEERI

18th December, 2019

लॉन टेनिस स्पर्धा शुरू, भुवनेश्वर पिलानी व हैदराबाद ने जीते मैच

Jhunjhunu News - पिलानी. जीत का प्रयास करते खिलाड़ी। भास्कर न्यूज | पिलानी सीएसआईआर-सीरी पिलानी में प्रो. एमएस थैकर लॉन टेनिस...

Dec 18, 2019, 10:22 AM IST

पिलानी. जीत का प्रयास करते खिलाड़ी।

भास्कर न्यूज | पिलानी

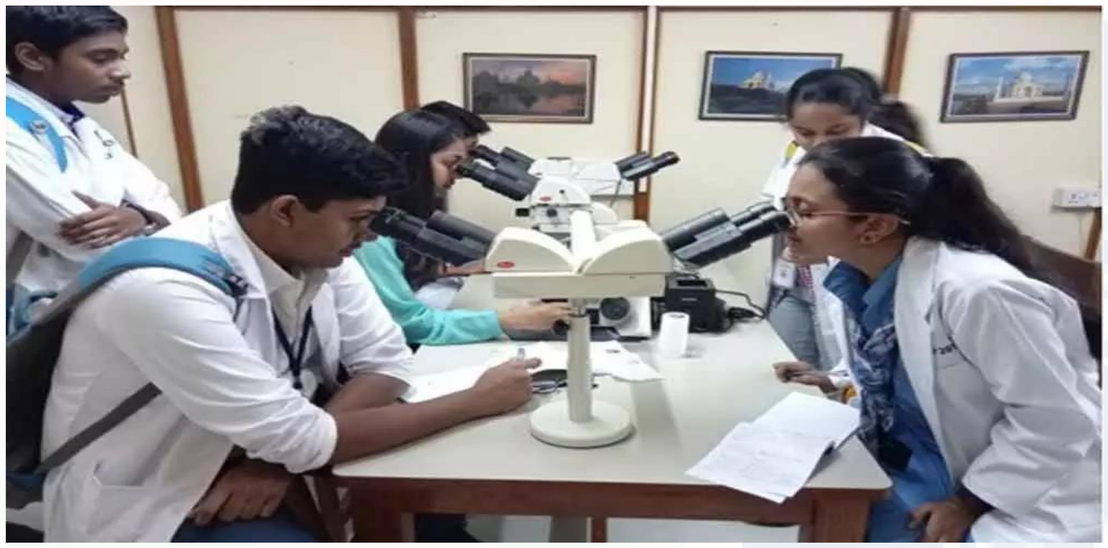
सीएसआईआर-सीरी पिलानी में प्रो. एमएस थैकर लॉन टेनिस प्रतियोगिता शुरू हुई। मुख्य अतिथि सीएसआईआर स्पोर्ट्स प्रोमोशन बोर्ड के अध्यक्ष व सीएसआईआर-आईआईटीआर लखनऊ के निदेशक प्रो. आलोक धावन एवं विशिष्ट अतिथि सीएसआईआर स्पोर्ट्स प्रोमोशन बोर्ड के सचिव डॉ. आरके सिंहा थे। हिंदी अधिकारी रमेश बौरा ने अतिथियों का स्वागत करते हुए प्रतियोगिता की जानकारी देते हुए बताया कि 20 दिसंबर तक चलने वाली प्रतियोगिता में सीएसआईआर हैदराबाद, चैन्नई, पुणे, बैंगलूरु, कारैकुडी, भुवनेश्वर, रुड़की, लखनऊ व मैसूर सहित अन्य स्थानों की 14 टीमें भाग ले रही है। दीपांजन मोइत्रा, डॉ. शोभना चौधरी, पीके खन्ना, वीरेंद्रसिंह सहित अन्य लोग मौजूद थे। संयोजक डॉ. जेएल रहेजा ने आभार व्यक्त किया। आज हुए मैचों में आईआईएमटी भुवनेश्वर ने एनसीएल पुणे को, सीरी पिलानी ने सीबीआरआई रुड़की को, आईआईसीटी हैदराबाद ने सीईसीआरआई कारैकुडी को, सीएफटीआरआई मैसूर ने एनएएल बैंगलुरु को हराकर अगले चरण में प्रवेश किया।

Published in:
JhunJhunu News

Programme for school students at Centre for Cellular and Molecular Biology

CSIR-CCMB

17th December, 2019



For the Seventh consecutive year, Centre for Cellular and Molecular Biology (CCMB) will conduct a two-week young innovators program (YIP) at CCMB. During the programme, students from 20 to 25 schools across grades eight to ten will be trained on scientific methodology, and will be encouraged to be keen and curious. The participants will also interact with active scientists at CCMB Labs, and will be given a hands-on experience on research. The programme will be start from December 31 to January 13, 2020. The screening test participants will also get to attend a popular science lecture by Dr VM Tiwari, Director, CSIR-National Geophysical Research Institute, on water management strategies. Those who want to participate in programme can find the details at http://portal.ccmb.res.in/ccmb_yip/. The aspiring participants should register by Dec 21.

The participants will be selected on the basis of a test. The test to choose the YIP 2020 participants this year will be conducted on December 26, at the CSIR-Indian Institute of Chemical Technology auditorium.

Published in:
The Hans India

CSIR-CSIO

17th December, 2019

CSIR-CSIO

Five-day-long skill development programme begins at ISTC

At the Indo-Swiss Training Centre on Monday. *Express*

Chandigarh: A five-day long skill development programme on 'Basic and Advanced Skill for Water Testing and Analysis' commenced on Monday at the Indo-Swiss Training Centre (ISTC) of the Council for Scientific and Industrial Research and Central Scientific Instruments Organisation (CSIR-CSIO) in Chandigarh.

The programme, which aligns with Government of India initiatives such as the Jal Shakti Abhiyaan, the National Water Mission and the Jal Jeevan Mission, will be attended by the faculty and students from organisations across India. Some of the organisations participating in the programme includes, IIT Roorkee, Central University of Jharkhand, Guru Nanak Dev University, Centre for Incubation Innovation Research and Consultancy, Bengaluru, Chandigarh University, and Panjab University.

In the inaugural address, Director CSIR-CSIO Professor RK Sinha greeted the participants and informed them about the advances the CSIR-CSIO had made in different domains of science and technology. He also highlighted the training programmes which the ISTC at CSIR-CSIO had been conducting under the CSIR-integrated Skill Initiative. **ENS**

Published in:
The Indian Express

CSIR-NIO,IIP

17th December, 2019

NIO-IIP collaborate to make fuel from microplastics

BY SHASHWAT GUPTA RAY
shashwat_ray@gomantaktimes.com

PANAJI: With tonnes of floating marine microplastics posing huge risk to entire human food chain, CSIR lab Indian Institute of Petroleum, Dehradun has collaborated with sister CSIR lab National Institute of Oceanography (NIO) to collect microplatics and convert it into fuel.

"We source the dirty plastics from in and around Dehradun, wash it, dry it and convert into agglomerates like pellets in pre-treatment plant. These are then put into a process plant to convert it into fuel. So, we have the expertise in converting plastics into fuel," Director CSIR-IIP Anjan Ray told GT.

He was speaking on the sidelines of 85th Annual General Meeting of Indian Science Academy (INSA) 2019 which got underway at NIO Goa on Monday.

"Dealing with marine plastic is however different from plastics found on land. These are already washed and breakdown into microplastics. These microplastics pose threat to not only the marine ecology but to human food chain," Ray said.

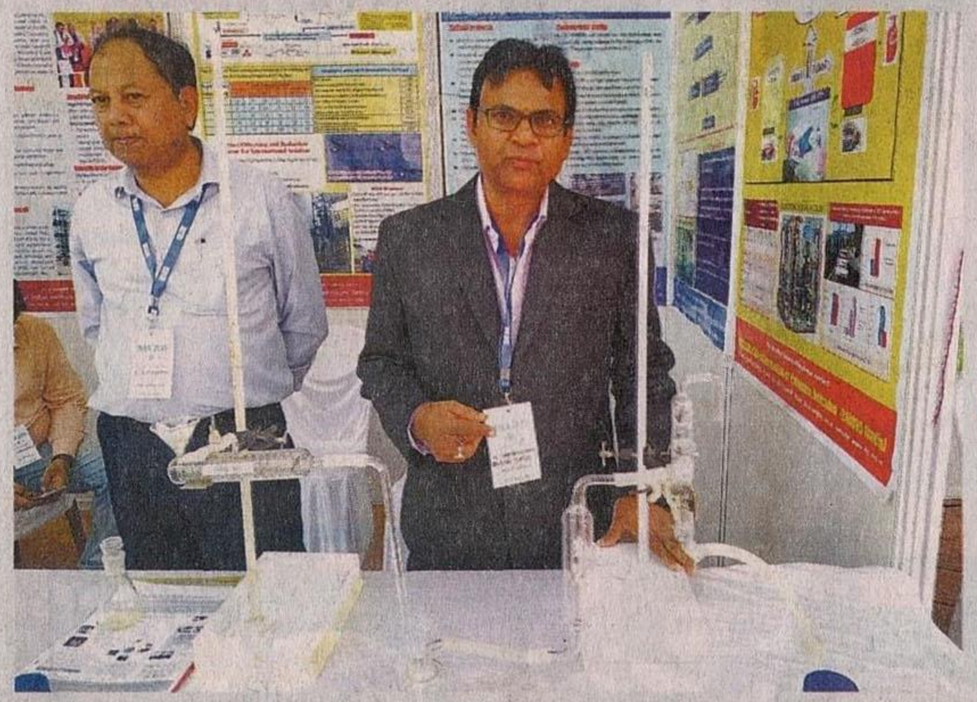
In this background, IIP is looking for a collaboration with NIO for collecting the plastics from the sea and bring it on shore.

"NIO understands marine behaviour very well. It has the resources to collect plastics from sea."
- Anjan Ray,
Director CSIR-IIP

"NIO understands marine behaviour very well. It has the resources to collect plastics from sea," Ray said.

Union Minister for Science and Technology, Dr Harsh Vardhan and Chief Minister of Uttarakhand, Trivendra Singh Rawat inaugurated a waste plastics to diesel plant in Dehradun on August 27.

The plant has been set up in IIP whose scientists will process waste plastics into fuel.



Principal Scientist, Head, Waste Plastics Conversion- Process Technology Area IIP Dehradun demonstrates the technology for converting plastics into fuel during the ongoing three day meeting of Indian National Science Academy at NIO, Monday.
Pic: SHASHWAT GUPTA RAY

"The IIP Dehradun has just started a pilot plant its campus which can convert 1000 Kg plastic into 800 litre diesel per day, " Principal Scientist, Head, Waste Plastics Conversion- Process Technology Area IIP Dehradun Ajay Kumar informed.

"We will collect the plastics through our ships and bring it to the shore using nets."
- Sunil Kumar Singh,
Director, CSIR-NIO

Confirming the tie-up, Director NIO Sunil Kumar Singh said that microplatics are accumulating and turning into islands

"We will collect the plastics through our ships and bring it to the shore using nets. Problem is there would be lot of salinity. That would be be cleaned in our plant," Singh said.

The NIO director said the project could start in another six months.

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CSIR-CBRI

17th December, 2019

Education, Science & Development—Measure Of A Nation's Progress: Dr Agarwal

• Students Pay Tribute to the Martyrs on Vijay Diwas

Dehradun: Central Building Research Institute, Roorkee scientists visited J.P. International School, Landhora, under Jigyasa: Student-Scientist Connect Programme.

A moment of silence was observed to pay tribute to the martyrs of the 1971 War and salute their courage, valour and martyrdom, on Vijay Diwas. The nation observes the day to commemorate India's victory over Pakistan in 1971 war for the liberation of Bangladesh from Pakistan and a remembrance for all the martyrs who laid their life for the cause.

Interacting with the students, Dr. Atul Kumar Agarwal, Senior Principal Scientist & Jigyasa Programme Coordinator, CSIR-CBRI, Roorkee presented a lecture on "Jigyasa: Education, Science & Development" and said that education-science and development - are all interdependent - without one, the other cannot move forward. Referring to scientists like Einstein, Henry Ford, Madam Curie, Edison, C.V. Raman and A.P.J. Abdul Kalam, he said that the value of education is not to remember facts, but to train the intellect to be able to think. Inspiring the students with the story of Newton, Dr. Agarwal informed that Newton was born in the same year the scientific community lost scientist Galileo Galilei. When Newton was young, he was not good at studies. Once a boy in school started a fight with Newton and Newton won the fight. However, Newton was not satisfied with the result. He wanted to teach the boy a lesson by excelling in studies too. It was an important life event, as this incident attracted young Newton to studies and he went on to become one of the greatest minds of his time. However, Newton was very secretive during his entire career. He did not tell anyone about his discoveries for nearly 20 years. Newton was second, after Aryabhatta, to claim that the Earth does not travel around the Sun in a circle, but in an ellipse. Newton was just 23 years old when he discovered gravity. Newton built the first practical reflecting telescope, which is still used today. It took Isaac Newton as much time to invent calculus, as a student would take to learn it. Newton was a source of inspiration for Albert Einstein, who kept a picture of Sir Isaac Newton in his study room. Dr. Agarwal said that all great achievers such as Newton, Einstein, Edison, etc. worked patiently and failed numerous times but did not give up hope. Young Edison was expelled from school as he was considered a dunce, but through his hard work and determination, he overcame every obstacle in the way to become "Genius of the Century" with almost 1093 patents to his name. Dr. Agarwal also informed about the glorious history, achievements of CSIR as well as CBRI.

Discussions were carried out on various topics including innovations in renewable resources for sustainable environment, innovations in food production and food security, mathematical solutions in everyday life etc. Students were encouraged to gain knowledge by solving as many problems as they can by relating the learning process to the physical and social environment.

India is celebrating 150 years of the Mahatma by following the principles of Mahatma Gandhi throughout the year. Dr. Agarwal asked the students to work towards building a Swachh Bharat, Water Conservation and Plantation of Trees. Students of J.P. International School, Landhora along with their Manager Shri Arush Kumar Jain, Principal Shri Satyendra Kumar Tomar and teachers Shri Manoj Yadav (Chemistry), Shri Manish Agarwal (Mathematics) and Simli Faraj (Physics) were present during the occasion.

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The Hawk

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17th December, 2019

विद्यार्थियों ने विजय दिवस पर दी शहीदों को श्रद्धांजलि

शिक्षा, विज्ञान और विकास ही देश के प्रगति के मापदंड: डॉ. अतुल कुमार अग्रवाल

रुड़की बद्री विशाल। केंद्रीय भवन अनुसंधान संस्थान रुड़की के वैज्ञानिकों ने जिज्ञासा: विद्यार्थी-वैज्ञानिक संयोजन कार्यक्रम के अंतर्गत जे.पी. इंटरनेशनल स्कूल लण्ढौरा के विद्यार्थियों को जागरूक किया।

विजय दिवस पर 1971 के युद्ध के शहीदों को श्रद्धांजलि देते हुए मौन धारण किया गया और महान सेनानियों के शौर्य, वीरता और शहादत को सलाम किया गया। पाकिस्तान से बांग्लादेश की मुक्ति के लिए 1971 के युद्ध में भारत की पाकिस्तान पर जीत और युद्ध के सभी शहीदों को श्रद्धांजलि देने के लिए राष्ट्र यह दिवस मनाता है। सीबीआरआई के वरिष्ठ प्रधान वैज्ञानिक और जिज्ञासा कार्यक्रम समन्वयक डॉ. अतुल अग्रवाल ने विद्यार्थियों को 'जिज्ञासा शिक्षा, विज्ञान और विकास' विषय पर व्याख्यान प्रस्तुत करते हुए कहा कि शिक्षा-विज्ञान और विकास- तीनों ही एक दूसरे पर निर्भर है। एक के बिना दूसरा आगे नहीं बढ़ सकता। आइंस्टाइन हेनरी फोर्ड और ऐ.पी. जे. अब्दुल कलाम जैसे वैज्ञानिकों का उल्लेख करते हुए उन्होंने बताया कि शिक्षा का मूल्य तथ्यों को याद करना नहीं अपितु बुद्धि को सोचने के योग्य बनाने का प्रशिक्षण देना है। न्यूटन सिर्फ 23 साल के थे जब उन्होंने गुरूत्वाकर्षण की खोज की। उन्होंने करीब 20 साल तक अपनी खोजों के बारे में किसी को नही बताया था। धरती सूर्य के ईर्द-गिर्द गोल नही बल्कि अंड़ाकार घुमती है। यह भी आर्यभट्ट के बाद न्यूटन ने ही बताया था। न्यूटन ने पहली प्रकाश को परिवर्तित करने वाली दूरबीन खुद अपने हाथों से बनाई थी जो कि आज भी उपयोग की जाती है। आइजैक न्यूटन को कैलकुलस का अविष्कार करने में उतना ही समय लगा था जितना एक विद्यार्थी को इसे सीखने में लगता है। यहाँ तक की न्यूटन-अल्बर्ट आईस्टाईन के लिए भी एक प्रेरणा स्रोत थे। अल्बर्ट आइंस्टीन अपने अध्ययन कक्ष में दीवार पर सर आईजैक न्युटन की तस्वीर लगाकर रखते थे। डॉ. अग्रवाल ने कहा कि न्यूटन, आइंस्टीन, एडिसन आदि जैसे सभी महान व्यक्तियों ने धैर्य से काम लिया और कई बार असफल हुए लेकिन उन्होंने उम्मीद नहीं छोड़ी। बचमन में एडिसन को मुर्ख समझ कर स्कूल से निष्कासित कर दिया गया था, लेकिन उन्होंने अपनी कड़ी मेहनत और दृढ़ संकल्प के माध्यम से रास्ते की हर बाधा को पार किया और अपने नाम के लगभग 1093 पेटेंट के साथ वे अपनी सदी के 'जीनियस' के नाम से विख्यात हुए। डॉ. अग्रवाल ने विद्यार्थियों को सीएसआईआर और सीबीआरआई के गौरवशाली इतिहास और उपलब्धियों के विषय में भी विस्तारपूर्वक बताया। विद्यार्थियों ने पर्यावरण के लिए अक्षय संसाधनों में नवाचार, खाद्य उत्पादन में नवाचार और खाद्य सुरक्षा, रोजमर्रा की जिंदगी में गणितीय समाधान इत्यादि जैसे विभिन्न विषयों पर गहन चर्चा की। विद्यार्थियों को शारीरिक और सामाजिक परिवेश से संबंधित समस्याओं को वैज्ञानिक दृष्टिकोण द्वारा हल करने का प्रयत्न कर ज्ञान प्राप्त करने के लिए प्रोत्साहित किया गया। भारत वर्ष 2019 को महात्मा गाँधी के 150वीं वर्षगाँठ के अवसर पर पूर्ण वर्ष उनके सिद्धांतों का पालन करने का प्रण ले रहा है। ऐसे में डॉ. अतुल अग्रवाल ने विद्यार्थियों को एक स्वच्छ भारत के निर्माण, जल संरक्षण और वृक्षारोपण का संकल्प दिलाया। कार्यक्रम में जे.पी. इंटरनेशनल स्कूल लंढौरा के विद्यार्थी अपने प्रबंधक आरुष कुमार जैन, प्रधानाचार्य सत्येन्द्र कुमार तोमर और शिक्षक मनोज यादव (रसायन विज्ञान), मनीष अग्रवाल (गणित) और सिमली फराज (भौतिकी) के साथ मौजूद रहे।

स्कूली बच्चों को वैज्ञानिक खोज की जानकारी देते प्रो. डॉ. अतुल कुमार अग्रवाल।

Published in:
Badri Vishal

CSIR holds professional training programme

CSIR-NML 16th December, 2019

Valedictory function of the Professional Training programme (PTP) on Experimental Techniques in Iron and Steelmaking (ETIS 2019) was organised by CSIR-National Metallurgical Laboratory, Jamshedpur at Lecture Hall of CSIR-NML. During the four-day professional training programme, 4 lectures by experts, 8 lectures by NML Scientists and 9 demonstration/hand on sessions were conducted for the delegates from organizations such as Veerabhadrappa Sangappa & Company (Karnataka); DMRL (Hyderabad); Tata Steel BSL (Orissa); JAMIPOL (Jamshedpur); RINL (Vishakhapatnam); Supreme Metallurgical Services Pvt. Ltd (Indore); CSIR-CIMFR (Dhanbad); AcSIR (CSIR-NML Jamshedpur); OPJIT (Raigarh); Vesuvius Refractories (Kolkata); Govt. College of Engineering (Salem); JSW Dolvi (Mumbai)and MECON (Ranchi) participated in the programme.

The expert from IIT Kharagpur, Prof. G.G. Roy delivered a talk on Heat and material balance in ironmaking. Prof. Roy highlighted the importance of charge calculations to improve the efficiency of ironmaking. Prof. Dipak Mazumdar from IIT Kanpur delivered an expert talk on Modeling & Simulation in Steelmaking. He emphasized in the importance of physical and mathematical modelling of steelmaking phenomena to understand the complicities involved in the process.

Dr. Sanjay Kumar, Sr. Principal Scientist & Head, Metal Extraction Recycling (MER) Division highlighted on the processing and utilization of iron and steelmaking slags.
Dr. Siddhartha Misra, Tata Steel BSL (Angul) emphasized on the defects control during continuous casting process. The programme was formally concluded by Dr. SK Mandal, Officiating Director CSIR-NML, Jamshedpur. Dr. Mandal appreciated the interest of the delegates for coming to CSIR-NML to attend this four-day professional training

programme (PTP) during 10-13 December 2019. He also requested to make collaborative approach as the outcome of this training programme in the area of raw materials, technology of production, environmental issues and challenges related to iron and steelmaking.

Dr. J. Pal, Sr. Principal Scientist, Ferrous Processing Group appreciated the delegates for the active participation during the demonstration session and interaction with the NML Scientist.

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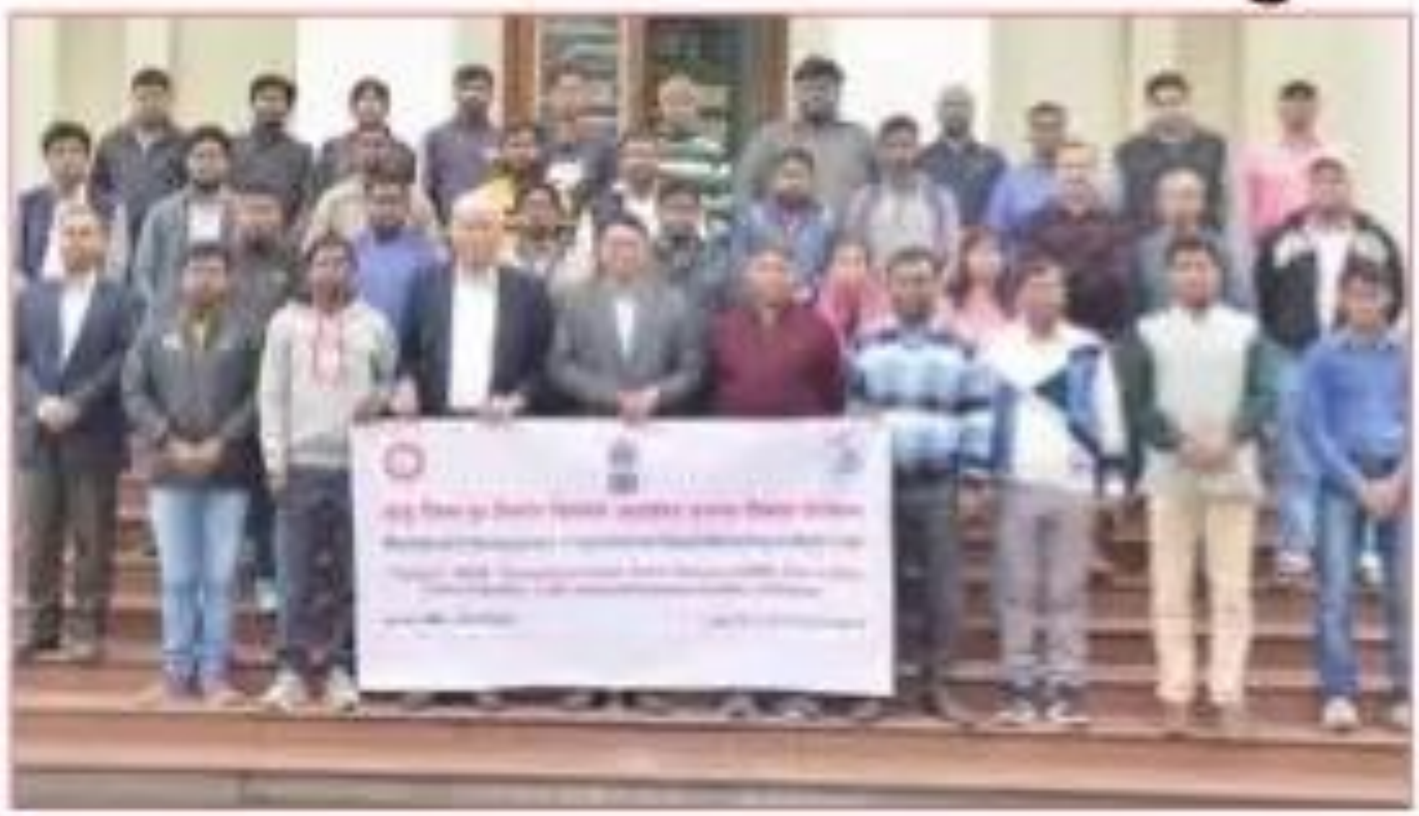
The Pioneer

CSIR-NML

16th December, 2019

एनएमएल में मैनेजमेंट डेवलपमेंट प्रोग्राम शुरू



जमशेदपुर : मेटल क्राफ्ट (धातु शिल्प) की एक्सपोर्ट मार्केटिंग पर चार दिवसीय मैनेजमेंट डेवलपमेंट प्रोग्राम का शुभारंभ आज एनएमएल परिसर में हुआ. इसमें एमएसएमई डेवलपमेंट इन्स्टीच्यूट, रांची का भी योगदान है. इस आयोजन का मकसद क्वालिटी के उत्पाद तैयार करने के लिए उपलब्ध नई तकनीकों के बावत लोगों में जागरूकता लानी है. इस कार्यक्रम का उद्घाटन एनएमएल के मैनेजमेंट सलाहकार डॉ. सौमित्रो तरफदार ने किया.

अपने उद्घाटन भाषण में उन्होंने इस चार दिवसीय स्किल डेवलपमेंट प्रोग्राम में प्रतिभागियों का स्वागत किया और कहा कि सीएसआईआर का स्किल ट्रेनिंग प्रोग्राम नेशनल स्किल मिशन के साथ जुड़ा हुआ है. मैटेरियल्स इंजीनियरिंग डिवीजन के हेड संदीप घोष चौधरी ने एनएमएल के द्वारा विकसित की गई तकनीकों की जानकारी दी. एमएसएमई डेवलपमेंट इन्स्टीच्यूट, रांची के डायरेक्टर सुदीप पाल तथा टीआईसीसीआई (पूर्वी क्षेत्र) के वाइस प्रेसीडेंट बैद्यनाथ मंदी उद्घाटन सत्र के सम्मानित अतिथि थे.

Published in:
Udit Vani

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