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

Workshop on advancing natural resources

CSIR-NEIST

30th June , 2023

NAHARLAGUN, About 100 participants, comprising scientists, professors, research scholars, and students of RGU and the NERIST, and members of the GB Pant Institute, the Himalayan University, the Arunachal Pradesh State Medicinal Board, the APSCS&T DBT, the Kimin CoE for BSD, and others participated in a two-day workshop on 'Recent trends on natural resources using advanced chromatographic and mass spectrometry techniques', organised here by the North East Institute of Science & Technology's (NEIST) Itanagar branch from 28-29 June.

The workshop, organised in collaboration with the Spinco-Simadzu team, was aimed at "creating awareness on natural resources and bridging the gap with industry standard advanced analytical techniques," the NEIST informed in a release.

Over the course of two days, Jorhat (Assam)-based NEIST's RPBD division head Dr Jatin Kalita delivered a lecture on 'Bioresources of Northeast India: Technological intervention of CSIR-NEIST for entrepreneurship development', while NEIST principal scientist Dr Chandan Tamuly spoke on 'Natural product research and its future scope', "and motivated the students to come forward in this area of research," the release stated.

Kimin-based CoE for BSD's Scientist-B Dr Sanjeeb Kalita spoke about 'Validation and translation development of herbal medicines: Challenge with comprehensive chemical profiling,' and RGU Professor Hui Tag dwelt on 'Medicinal plants of Arunachal Pradesh:

Diversity, distribution and economic importance'. The participants were given hands-on training in "highly sophisticated analytical equipment like HPLC and GC-MS installed at the institute," the release said.

Published in:
Arunachaltimes

Stakeholder's Meet: Jal Jeevan Mission And Waste To Wealth

CSIR-CSIO, NEERI

29th June , 2023

Under One Week One Lab (OWOL) campaign, the Stakeholders Meet for Jal Jeevan Mission and Waste to Wealth was conducted successfully at CSIR-CSIO, Chandigarh.

The event aimed to demonstrate and disseminate the innovations and breakthrough technologies to the common people and relevant stakeholders working at public and private offices, thereby undertakingthe translation of relevant technologies from Lab-to-Land through synergistic efforts of public-private institutions. The vision is to impact the bottom of the pyramid/grassroots level and generate socio-economic-environmental impact.

Mayor Chandigarh Shri Anup Gupta inaugurated the Jal Jeevan Mission (JJM) IoT-Pilot Test-Bed at 9.45 AM in the august presence of Smt. Anindita Mitra, Commissioner Chandigarh, Mayor Mohali Shri Amarjit Singh Sidhu, Dr Atul Narayan Vaidya, Director (CSIR-NEERI, Nagpur), Prof.S.Anantha Ramakrishna, Director (CSIR-CSIO, Chandigarh), Dr Jatinder Kaur Arora, (Executive Director, Punjab state Council for Science and Technology-PSCST), Prof.Bhola Ram Gurjar, Director (NITTTR, Chandigarh), Dr Arvind Kumar President & Founder, India water Foundation.

The JJM-IoT Pilot Test Bed is created to test and certify standards of various IoT-architecture, including hardware and software for further deployment in the real world scenario for rural Water Service Delivery Monitoring and Smart Cities for Urban sectors.

The project is a part of the partnership between CSIR and National Jal JeevanMission (NJJM), Ministry of Jal Shakti (MoJS), Deptt of Drinking Water Supply and Sanitation (DDWSS), New Delhi. It is aPAN-India Program meant to be implemented in 115 Clusters covering different States/UTs impacting the lives of thousands of village households.

The program aims to ensure safe and adequate supply of water, at least 55 LPCD to each housholds though fully functionalhouse hold tap connections and program by CSIR, in particular, will monitor water service delivery using Affordable IoT enabled Architecture.

The inauguration was followed by a Stakeholders Meet at Convention Hall with the opening inaugural remarks by Prof Ramakrishna, Director CSIO. He extended warm welcome to Mayor and Commissioner Chandigarh, Mayor Mohali, Director NEERI, Executive Director PSCST, Prof Gurjar, President Water Foundation and other delegates of the Program. He felt overwhelmed with the proactive response from all the stakeholders, especially the Mayor and Councillors of Chandigarh and Mohali,who are public figures and directly connects to the common man.

It was followed by the online message from Special Invitee, Director Jal Jeevan Mission (IV) Shri Pradeep Singh Ji. Next Dr Atul Vaidya, Director NEERI, delivered key-note address as a Chief Guest. Subsequently, the guest of Honours, Shri Anup Gupta, Mayor Chandigarh, Smt. AninditaMitra, Commissioner Chandigarh, Dr Jatinder Kaur Arora, Director PSCST, Prof BholaGurjar, Director NITTTR, and Dr Arvind Kumar, President Water Foundation delivered address in the Stakeholders Meet.

Dr Babankumar S. Bansod, Senior Principal Scientist and event Coordinator presented details of CSIR- National Jal Jeevan Mission Project, Affordable IoT Enabled Water Service Delivery

Measurement and Monitoring Sensing System for Rural Deployment. He informed that CSIR Team developed indigenous, affordable, energy efficient and field usable IoT architecture comprising sensors, IoT modules, Cloud & Data Analytics and Dashboard visualisation. He told that the technology will upscale to 115 Clusters on PAN-India basis and will provide handholding to Industry Collaborators. He also informed that the concerned States/UTs will be provided capacity building and skilling after the transfer of IoT Pilot Ownership in Rural areas so they can undertake Operation and Maintenance of these latest technologies on their own.

He stated that these indigenous technologies developed in-house by CSIR Labs can save hundreds of crores of foreign exchange besides generating employment as these will be locally manufactured in line with the make in India initiative, and their repair and replacement will be possible without long breakdown time. Dr Bansod also stated that the implementation of the program created huge socio-economic and environmental impact, including saving of non-revenue water losses (NRWs), timely availability of water quality and quantity data, prevent tampering of the meters, leakage detection, advance statistics include demand and consumption of water forecasting, and finally will bring necessary behaviour changes in the users about water.

Talks by other experts followed it, Dr Mondal covering wastewater treatment.Ms Urvashi and Dr Pankaj Mourya spoke on Waste to Wealth, including vermicomposting and energy-efficient energy burners,respectively.

The event also held Panel discussions covering Jal Jeevan Mission and Waste to Wealth to ponder upon the merits, and demerits of the latest state of the art, thereby providing a future road map from the Indian context.

The meeting ended with the Vote of Thanks by Head BDG, Shri Narinder Singh Jassal.

Published in:
Face2news

Tata Chemicals obtains technology from CSMCRI to produce biodiesel from microalgae

CSIR-CSMCRI

29th June , 2023

The Central Salt and Marine Chemicals Research Institute (CSMCRI), Bhavnagar has licensed its technology to extract crude oil from a species of microalga to Tata Chemicals Limited (TCL), Mumbai for production of automobile fuel.

CSMCRI scientists and TCL executives signed the agreement at an event overseen by CSMCRI Director Prof. Kannan Srinivasan and Richard Lobo, TCL's head for innovation and business excellence, in Bhavnagar on June 26. As part of the agreement, CSMCRI will help TCL set up a facility in Mithapur in Devbhumi Dwarka district of Gujarat to cultivate an identified microalga species of chlorella genus in open marine environment and process the harvested microalgae biomass to extract crude oil.

"Microalgae are capable to grow rapidly, their high photosynthesis efficiency coupled with the ability to accumulate a large amount of bioproducts within their cells make them a suitable candidate to serve as industrial raw material," an official release from CSMCRI quoted Prof Srinivasan, Arup Gosh, senior principal scientist, CSMCRI and Sourish Bhattacharya, senior scientist, CSMCRI as having stated.

TCL, one of the biggest chemical companies in India, is the first private firm to enter into an agreement with the CSMCRI for cultivation of this species of microalgae and extract biodiesel from it. Chlorella genus refers to some 13 species of single-celled green algae. The species, identified by CSMCRI, can grow in seawater as well as freshwater, scientists say.

Kanti Bhooshan Pandey, a senior scientist and public relations officer (PRO) of CSMCRI said that microalgae are important organisms for carbon sequestration and sources of energy and their cultivation has the potential to generate employment opportunities. "Crude oil extracted from microalgae will be a type of biodiesel which can be directly used to power automobiles," Pandey said, adding that the licensing of the technology will be a milestone in the exploration of renewable fuel sources and providing livelihood to coastal farmers.

CSMCRI is a premier research laboratory functioning under the aegis of the Council of Scientific and Industrial Research (CSIR) headed by the Prime Minister.

Kamalesh Prasad, head of business development department at CSMCRI, said CSMCRI scientists have been working on the technology for the past 20 years and have developed a technology which can be scaled up to commercial levels. "Harvesting microalgae from water is a very challenging job because of their very small size. Therefore, the major task was to identify the microalga strain which is oil-bearing and yet easy to harvest. Eventually, scientists identified the chlorella species, which is easy to harvest as it is a self-settling strain, meaning, it settles at the bottom of a waterbody when it is ready for harvest," Prasad said.

Incidentally, Tata Chemicals has a huge salt cultivation facility called Charakla Saltworks on Devbhumi Dwarka coast to meet the chemical demands for its plant in Mithapur and for manufacturing other products like edible salt. "As part of the agreement, CSMCRI scientists will work with TCL for two years and help TCL scale up the technology," Prasad said, adding, "The plan is to start cultivation of microalgae initially on two beds and then expand it to a 10-acre area over the next six months."

Prasad further said that the ratio of microalgae biomass production in a controlled environment has been around one gramme per litre of water and that scientists will work to maintain the same ratio while helping cultivation of chlorella microalgae in an open environment in Mithapur.

Published in:
Indianexpress

NMDC and CSIR-IMMT enter Collaborative Research Agreement

CSIR-IMMT

28th June , 2023

India's mining major NMDC entered into a Collaborative Research Agreement with CSIR-Institute of Minerals and Materials Technology (IMMT) on Monday. The agreement was signed in the presence of Shri Dilip Kumar Mohanty, Director (Production), and Shri Vishwanath Suresh, Director (Commercial) along with senior officials at NMDC Head Office in Hyderabad.

The collaboration agreement is to study the 'Conveying Characteristics and Behavior of Iron Ore in Pneumatic Conveying System'. Aimed at understanding the behavior of iron ore fines/concentrate in pneumatic, that is air assisted, transport pipeline system. The research will establish the design parameters for inter/intra plant pipeline transportation of iron ore. The joint research program will utilize the vast knowledge and experience of CSIR-IMMT, Bhubaneswar, and NMDC towards making the Indian Mineral Industry self-reliant.

Speaking on the occasion, Shri Dilip Kumar Mohanty emphasized on the significance of collaboration between industry and research organizations to solve operational issues leading to value addition for the industry. He said, "NMDC is making investments to enhance the use of indigenous technology in mining. Our collaborations with leading research organizations of the country are stepping stones towards this vision."

NMDC's in-house R&D Center is recognized as a Centre of Excellence in the field of mineral processing by UNIDO. Council of Scientific & Industrial Research (CSIR)-IMMT is a

cutting-edge R&D organization known for its knowledge base in diverse science and technology fields. NMDC and CSIR-IMMT have contributed to breakthrough developments in the past and are gearing up to build a smart and sustainable future for mining.

Published in:
Businessnewsthisweek

Nagaland technical edu team visits CSIR-NEIST Jorhat

CSIR-NEIST

28th June , 2023

Advisor, Transport & Technical Education, Temjenmenba led a team of Department Technical Education, Government of Nagaland for a comprehensive meeting with Director of CSIR-NEIST, Jorhat, Dr G Narahari Sastry, along with scientists and scholars from the institute at Jorhat, Assam on June 23.

During the meeting, Er Vipulhou Lhoungu, Director, Technical Education, Nagaland highlighted about the present status of the department and sought the expertise and guidance from the institute in framing out policies related to curriculum, internships, development of incubation hub for the department among others. The Director of CSIR-NEIST, Dr Sastry, assured every support and assistance for development of Technical Education Department in particular and the state in general. He emphasized on getting to grips with the present scenario by incorporating the latest models and methods of learning in-sync with the available resources manually and naturally within the state.

Dr Sastry also informed that a committee for overseeing the required agendas and activities of the department will be initiated among the scientists which will facilitate and render every possible technical support required by the department. Apart from the Advisor and Director of Technical Education, the department was represented by Tiakaba Amer, Additional Director, Er David Tsela, Joint Director and Er Khrieketoulie Rupreo, Controller of Examinations, Technical Education.

Published in:

Morungexpress

CSIR-IICT tech now generates biogas and biomanure from livestock waste

CSIR-IICT

27th June , 2023

CSIR-Indian Institute of Chemical Technology (IICT), which has developed the high rate biomethanation technology based on Anaerobic Gaslift Reactor (AGR) for generation of biogas and biomanure from organic waste, has now successfully adopted the process for livestock at a modern slaughter house. For the first time, a new laughter house got equipped with the eco-friendly disposal of waste facility during the inauguration itself and this happened at Siddipet when top Ministers K. T. Rama Rao (Municipal Administration & Urban Development) and T. Harish Rao (Finance & Health) were present for the opening earlier this month.

This waste disposal facility, which incidentally none of the five slaughter houses in the capital have, costed about ₹1 crore and has been taken up by one of the five firms, NYBES, licensed by the IICT to install the unit making use of its technology know how.

"We had earlier tested our AGR technology to handle the livestock waste in our lab for about 10 months. Once we were satisfied with the result, we have given the go ahead. The slaughter house generates 500 kilos of solid waste and 40 cubic metres of liquid waste daily and by processing this, we will get 80 cubic metres gas and 40 cubic metres of liquid that can be used as biomanure for plants," explained CSIR-IICT bioengineering and environmental sciences division chief scientist A. Gangagni Rao, in an exclusive interaction.

Dr. Rao had indigenously developed the technology and appreciated the 'visionary' approach taken up by the Siddipet municipality, MA&UD department and the ministers concerned. "We

have not tweaked much in terms of technology when compared to the plants made to deal with vegetable/poultry/mulberrry waste. Over the years, we have moved from reactors made of mild steel with epoxy coating to glass fused steel reactor for better corrosion control and efficiency," he said.

The bio gas plant is more compact now after the first prototype was rolled out almost a decade ago. There are about 30 AGR based plants across the country with the most famous one being the Bowenpally vegetable market's 10 tonnes capacity biogas plant generating 500 units of power, also highlighted by Prime Minister Narendra Modi during his radio talk 'Mann Ki Baat'.

IICT has also been instrumental in setting up such plants, for instance, the 500 kilo vegetable waste generating bio-processing plants in Kukatpally, Batasingaram and Erragadda markets. Each plant generates about 15-20 cubic metres of biogas – said to be equivalent to 68 kg of LPG and is being used for cooking in the canteens attached to these vegetable markets.

There is another five tonne plant at the Gudimalkapur market generating 150-200 units of power through biogas. "The Department of Biotechnology (DBT) is promoting the technology and there are plans to set up a plant at Sircilla to deal with slaughter house waste there. We are also having discussions about establishing them at the upcoming modern vegetable/non-vegetable markets in urban municipal bodies of TS," disclosed the top scientist.

Dr. Rao said the institute is also ready to test AGR technology to treat any kind of waste and certify the safety of the biomanure – solid or liquid through the process for an effective disposal.

Published in:
The Hindu

CSIR-CMERI

27th June, 2023

High End Workshop (Karyashala) on IoT and AI for Industrial Application

MI News Service, Kolkata/Durgapur: CSIR-CMERI is organizing a High-End Workshop (Karyashala) on "Internet-of-thing (IoT) and Artificial Intelligence (AI) with Industrial Applications" during June 26-July 02, 2023. The Karyashala is sponsored by the Science and Engineering Research Board (SERB), DST with the aim of accelerating scientific knowledge and innovation among the students and to provide a deep insight into the emerging technologies i.e. IoT and AI and their applications in various fields such as robotics, smart manufacturing, Industry 4.0, smart electric vehicle, etc.

The Inaugural Ceremony of the workshop was held on June 26, 2023 under the guidance of the Director, CSIR-CMERI and the event was graced by the presence of Dr. Nagahanumaiah, Director, Central Manufacturing Technology Institute (CMTI), Bengaluru, Prof Indrajit Basak, Director (Officiating), NIT Durgapur and Dr. Biswajit Ruj, Chief Scientist, CSIR-CMERI, Durgapur.

Dr. Ruj welcomed the participants to the karyashala and stressed upon the importance of such workshops. He deliberated on different skill development and other programmes being conducted at CSIR-CMERI for school and college students.

Dr. Nagahanumaiah, while delivering his Chief Guest Address urged the participants to make best use of the programme in terms of gaining knowledge in practical training, which is not readily available in the curriculum. He emphasized the significance of this type of workshop in making the engineering graduates industry-ready when the industry is not prepared to invest on training of fresh recruits.

Prof Basak in his address as the Guest of Honour reminded the participants about the development of engineering as well as industry since early days. He pointed out the exponential reduction in life span of a product in recent days and the role of AI to meet the requirement of current manufacturing.

Dr. R. K. Jain, Senior Principal Scientist, CSIR-CMERI and event organizer, Karyashala briefed about the schedule of the workshop and proposed the vote of thanks at the end of the inaugural ceremony.

Twenty five M. Tech students and Ph. D scholars from different institutions throughout the country are participating in this karyashala, which consists of lecture sessions, demonstration and hands-on training by the Scientists of CSIR-CMERI and eminent faculty members from IITs, NITs, C-DAC, etc.

Published in:

Live7tv

CSIR-CMERI

27th June, 2023

आईओटी और एआई पर औद्योगिक अनुप्रयोगों के साथ एक हाई-एंड वर्कशॉप का आयोजन

देश भर के विभिन्न संस्थानों से पच्चीस एम.टेक छात्र और पीएचडी विद्वान ले रहे हैं भाग

दुर्गापुर । सीएसआईआर-सीएमईआरआई 26 जून से 02 जुलाई, 2023 के दौरान 'इंटरनेट-ऑफ-थिंग (आईओटी) और आर्टिफिशियल इंटेलिजेंस (एआई)' पर औद्योगिक अनुप्रयोगों के साथ एक हाई-एंड वर्कशॉप (कार्यशाला) का आयोजन कर रहा है। यह कार्यशाला विज्ञान और इंजीनियरिंग अनुसंधान बोर्ड (एसईआरबी),

डीएसटी द्वारा प्रायोजित है जिसका उद्देशय छात्रों के बीच वैज्ञानिक ज्ञान और नवाचार में तेजी लाने और उभरती प्रौद्योगिकियों यानी आईओटी और एआई और रोबोटिक्स, स्मार्ट विनिर्माण, उद्योग 4.0, स्मार्ट इलेक्ट्रिक वाहन इत्यादि जैसे विभिन्न क्षेत्रों में उनके अनुप्रयोगों में गहरी अंतर्दृष्टि प्रदान करना है। कार्यशाला का उद्घाटन समारोह 26 जून, 2023 को निदेशक, सीएसआईआर-सीएमईआरआई के मार्गदर्शन में आयोजित किया गया था।

इस कार्यक्रम में सेंट्रल मैन्युफैक्चरिंग टेक्नोलॉजी इंस्टीट्यूट (सीएमटीआई), बेंगलुरु के निदेशक डॉ. नागाहनुमैया, एनआईटी दुर्गापुर के निदेशक (कार्यवाहक) प्रोफेसर इंद्रजीत बसाक और सीएसआईआर-सीएमईआरआई, दुर्गापुर के मुख्य वैज्ञानिक डॉ. बिस्वजीत रुज की

उपस्थिति रही। डॉ. रुज ने कार्यशाला में प्रतिभागियों का स्वागत किया और ऐसी कार्यशालाओं के महत्व पर जोर दिया। उन्होंने स्कूल और कॉलेज के छात्रों के लिए सीएसआईआर-सीएमईआरआई में संचालित विभिन्न कौशल विकास और अन्य कार्यक्रमों पर विचार-विमर्श किया।

डॉ. नागाहनुमैया ने अपने मुख्य अतिथि भाषण में प्रतिभागियों से व्यावहारिक प्रशिक्षण में ज्ञान प्राप्त करने के संदर्भ में कार्यक्रम का सर्वोत्तम उपयोग करने का आग्रह किया, जो पाठ्यक्रम में आसानी से उपलब्ध नहीं है। उन्होंने इंजीनियरिंग स्नातकों को उद्योग के लिए तैयार करने में इस प्रकार की कार्यशाला के महत्व पर जोर दिया, जब उद्योग नए रंगरूटों के प्रशिक्षण पर निवेश करने के लिए तैयार नहीं है।

प्रोफेसर बसाक ने सम्मानित अतिथि के रूप में अपने संबोधन में प्रतिभागियों को शुरुआती दिनों से इंजीनियरिंग के साथ-साथ उद्योग के विकास के बारे में याद दिलाया। उन्होंने हाल के दिनों में किसी उत्पाद के जीवन काल में तेजी से कमी और वर्तमान विनिर्माण की आवश्यकता को पूरा करने के लिए एआई की भूमिका की ओर इशारा किया। डॉ. आर.के. जैन, वरिष्ठ प्रधान वैज्ञानिक, सीएसआईआर-सीएमईआरआई और कार्यक्रम आयोजक, कार्यशाला ने कार्यशाला के कार्यक्रम के बारे में जानकारी दी और उद्घाटन समारोह के अंत में धन्यवाद प्रस्ताव रखा। इस

कार्यशाला में देश भर के विभिन्न संस्थानों से पच्चीस एम.टेक छात्र और पीएचडी विद्वान भाग ले रहे हैं, जिसमें सीएसआईआर-सीएमईआरआई के वैज्ञानिकों और आईआईटी, एनआईटी, सी-डैक आदि के प्रतिष्ठित संकाय सदस्यों द्वारा व्याख्यान सत्र, प्रदर्शन और व्यावहारिक प्रशिक्षण शामिल है।

Published in:

Bharat Mitra

Half-yearly Meeting of TOLIC held at CSIR-IIIM, Jammu

CSIR-IIIM

26th June , 2023

The first half-yearly meeting of 'Town Official Language Implementation Committee (TOLIC), Jammu' for the year 2023-24 was conducted here today at CSIR-IIIM, Jammu which was chaired by Dr. Zabeer Ahmed, Director, CSIR-Indian Institute of Integrative Medicine (CSIR-IIIM) and Chairman, TOLIC, Jammu.

Kumar Pal Sharma, Deputy Director (Implementation), Northern Regional Implementation Office, MoHA, Deptt. of Official Language, Delhi, Kishore Kumar, Deputy Director General, National Sample Survey Office, Regional Office, Jammu, and Rajesh Gupta, Administrative Officer, CSIR-IIIM were among many others who attended this meeting.

During the proceeding of meeting, the progress on implementation of Hindi in various Central Government Offices in Jammu area was presented by Sanjay Sharma, Member-Secretary, TOLIC, Jammu which was followed by open house discussion and decisions were also taken with respect to many issues raised by the participating institutions.

The work of all associated institutions was reviewed on the basis of Quarterly Progress Reports submitted by various member Institutions. Various points were discussed for implementing Official Language in the member Institutions and its overall progress in the Jammu region.

In the meeting, importance of progressive use of Hindi in Central Government offices was highlighted.

Suggestions and feedback points were invited by the Member-Secretary and the same were discussed in the meeting. It was also informed that about 65 institutions of central govt. have participated in the TOLIC meeting.

Dr. Zabeer Ahmed, Director CSIR-IIIM and Chairman TOLIC exhorted upon the members institution to the implement use of Rajbhasha Hindi language in all official working and termed that in the development of our nation and sustaining the Indian culture, its implementation is underlying necessity.

He further added that being a Government of India organisation, it is our collective responsibility to work for promotion and implementation of official language Hindi.

Kumar Pal Sharma Deputy Director (Implementation), Department of Official Language, Ministry of Home Affairs, Government of India, appreciated the efforts of CSIR-IIIM in organising the TOLIC meetings and support of all the member Institutions in the progressive use of Hindi in the region and for their continuous efforts towards its wide publicity.

In the meeting, in order to establish a strong and swift connect among all stake holders, the facebook and twitter account of TOLIC have been launched which was appreciated by all participants.

The proceedings of the meeting were conducted by Sanjay Sharma, Member-Secretary, TOLIC, Jammu, while as Rajesh Gupta, Administrative Officer, CSIR-IIIM presented vote of thanks.

Published in:
Jammulinksnews

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