

CSIR IN MEDIA



CSIR

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21 TO 28 FEBRUARY 2023



Principal Scientific Advisor to Government of India, Dr Ajay Kumar Sood and Secretaries of all the six Science Ministries and Departments, including Science & Technology, Biotechnology, CSIR, Earth Sciences, Space and Atomic Energy attend the meeting

CSIR

23rd February , 2023



Union Minister of State (Independent Charge) Science & Technology; Minister of State (Independent Charge) Earth Sciences; MoS PMO, Personnel, Public Grievances, Pensions, Atomic Energy and Space, Dr Jitendra Singh today chaired a high level joint review meeting for the preparations of Science-20 meetings of the ensuing G-20 Summit.

The meeting was attended by Principal Scientific Advisor to Government of India, Dr Ajay Kumar Sood and Secretaries of all the six Science Ministries and Departments, including Science & Technology, Biotechnology, CSIR, Earth Sciences, Space and Atomic Energy.

It may be pointed out that under the leadership of Dr Jitendra Singh, Department of Personnel & Training (DoPT) is fully geared up to host the “FIRST ANTI CORRUPTION WORKING GROUP MEETING (ACWG) to be held from 1st March to 3rd March 2023 at the Leela Hotel, Gurugram, Haryana. As part of India’s G20 Presidency, there will be a series of nearly 40 meetings and side events back-to-back during this duration.

Apart from preparations for the G-20 Science Meetings, the agenda of today’s meet were the review of Science Awards, Creation of a New Communication structure after the winding up

of Vigyan Prasar and Sankalp Meetings. Dr Jitendra Singh said after the meeting that all the six Science Ministries and Departments under him have finalized agenda and all kinds of Bandobast for the upcoming G-20 Summit meetings. The Minister also welcomed the topics and subjects assigned to Science Ministries.

Dr Jitendra Singh informed that apart from S-20 Summit and Side meetings, another important event assigned to DST is Research Innovation Initiated Gathering (RIIG) with side events.

The Science-20 Summit meeting will be held in Coimbatore from 21st to 22nd July, 2023 with the theme of “Disruptive Science for Innovative and Sustainable Growth”. The Sub-themes (side event topics) are- Non-conventional energy for a greener future, Connecting Science to Society and Culture and Holistic Health: Cure and Prevention of Disease.

Meeting schedule and venues for S-20 are as follows- Inception meeting: Pondicherry (30-31 January 2023), Side-event1: Bangaram Island, Lakshwadeep (27-28 February 2023), Side-event2: Agartala (3-4 April 2023), Side-event3: Indore (16-17 June 2023).

The S-20 Secretariat will be chaired by Dr Vijay P Bhatkar of Indian Institute of Science, Bengaluru. Prof Ajay K Sood and Prof Gautam Desiraju are also eminent members of the Secretariat.

Dr Jitendra Singh said, DST will also take care of the Research Innovation Initiated Gathering (RIIG) on the subject of “Research and Innovation for Equitable Society”. The Sub-theme/ topics for RIIG gathering will be Materials for Sustainable Energy (CSIR), Scientific Challenges and Opportunities towards Achieving a Sustainable Blue Economy (MoES), Bio-resource/ Biodiversity and Bio-economy (DBT) and Eco-Innovations for Energy Transition (SERB).

Meetings schedule and venues for RIIG are the following: Inception meeting: Kolkata (9-10

February 2023), Side-event1: Ranchi (21-22 March 2023), Side-event 2: Dibrugarh & Itanagar (24-25 March 2023), Side-event 3: Shimla (19-20 April 2023), Side-event 4: Diu (18-19 May 2023) and the RIIG Summit and Research Minister meeting, Mumbai (4-6 July 2023).



India calls for greater cooperation with France in the field of clean energy and highlighted New Delhi's plans for green transitioning to EVs and hydrogen energy

CSIR-NPL, CIMFR

23rd February , 2023



India calls for greater cooperation with France in the field of clean energy and highlighted New Delhi's plans for green transitioning to EVs and hydrogen energy. Indian renewable sector ranks 4th on the list of the world's most attractive renewable energy sectors and Solar energy is the most abundant source of renewable power in the country.

Inaugurating the Indo-French Workshop on Clean and Sustainable Energy Technologies (INFINITE) at CSIR – National Physical Laboratory in New Delhi, Dr. S. Chandrasekhar, Secretary, Ministry of Science and Technology, Government of India said that the Government in 2022 had set a target of installing 100 GW of solar energy. He added that using the Thar Desert as a site for solar power generation, India is estimated to generate up to 2,100 GW of solar energy.

Dr Chandrasekhar referred to another initiative of the Govt. of India and that is the National Biofuel Policy, which aims to achieve a 20% blending of ethanol in petrol and a 5% blending of biodiesel in diesel by 2030.

Dr Chandrasekhar pointed out that an area to focus upon is Carbon Capture and Storage and

as estimated by NITI Aayog, theoretically, India has a total geological CO₂ storage capacity of 400-600 Gt considering the depleted oil and gas reservoirs, un-mineable coal seams, saline aquifers, basalts, etc. He said, the government has designed policies, programs, and a liberal environment to attract foreign investments to ramp up the country in the renewable energy market at a rapid rate. Department of Science and Technology is also interested in encouraging international collaborations on clean energy research. “I hope the process and technologies that will be discussed in this workshop will be of enormous potential in mitigating the impact of climate change and reducing greenhouse gas emissions”, Secretary added.

In her address, Dr. N. Kalaiselvi Director General, CSIR and Secretary DSIR, said that India needs huge augmentation in the manufacturing of renewable energy technologies and infrastructures. She underlined that partnership with France and other G20 countries are required for green energy generation, storage and conversion, particularly green hydrogen, green ammonia, and energy storage infrastructures. India and France have long standing bilateral research co-operation specially to augment research on clean and renewable energies, she added.

Pr. Antoine Petit, CEO of the French National Centre for Scientific Research (CNRS) expressed appreciation for the strong partnership between the two countries and emphasized the importance of collaboration in achieving a sustainable energy transition through new bilateral programs.

Prof. Arvind Kumar Mishra, Director CSIR-CIMFR pointed out that this workshop is broadly focused to bring together academic and industrial experts from France and India to develop collaborations in the area of clean and sustainable energy. He said, both the sides need to identify specific research problems and objectives, and identify partners to develop new knowledge bases, joint IPs, and tangible outcomes in biomass energy, coal to methanol/ clean fuels, solar energy, hydrogen, energy storage, and carbon capture utilization and storage. We need to share our experiences, explore new ideas, and challenge ourselves to think differently.

The objective of the workshop is to bring together experts, researchers, policymakers, and industry leaders from both countries to exchange knowledge, ideas, and best practices on the development and deployment of clean and sustainable energy technologies. The workshop will feature a range of presentations and discussions on various topics related to Solar Energy, Hydrogen Energy, Carbon Capture Utilization & Storage, Electrochemical Energy Storage, and Clean Fuels.

The event has been jointly organized by CSIR – Central Institute of Mining and Fuel Research (CIMFR), Dhanbad, and the French National Centre for Scientific Research (CNRS), France and is being supported by the Indo-French Centre for the Promotion of Advanced Research (CEFIPRA).

Prof. Venugopal Achanta, Director, CSIR – NPL welcomed the guests, invitees, and delegates, and Prof. Arvind K. Mishra, Director, CSIR – CIMFR made the opening remarks.

Prior to the workshop, the bilateral meeting between DG, CSIR, and the CEO of CNRS also included discussions on strengthening cooperation in the field of clean energy research and development and formulation of new R&D programs between the two countries. The meeting was also graced by Directors of several CSIR Labs and other French Representatives from CEFIPRA, CNRS, CEA, and the Embassy of France in India, New Delhi.

The INFINITE workshop provides a platform for experts and stakeholders from both countries to exchange knowledge, identify areas of collaboration, and explore new avenues for cooperation in the field of clean and sustainable energy technologies. The event is expected to be successful, and it is hoped that the discussions and collaborations initiated during the workshop will lead to concrete outcomes in the near future. The bilateral workshop is being coordinated by Dr. R. Ebhin Masto, Senior Principal Scientist, CSIR – CIMFR, India, and Dr. Abdelilah Slaoui, Deputy Research Director In-Charge of Energy, CNRS, France.

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[Pib](#)

CSIR-Central Mechanical Engineering Research Institute (CMERI) celebrated its 66th Foundation Day on 26th February 2023

CSIR-CMERI

26th February , 2023

Dr. (Mrs.) N. Kalaiselvi, Director General, CSIR and Secretary to the Government of India, Ministry of Science & Technology, Department of Scientific & Industrial Research was the Chief Guest of the occasion. The dignitaries showcased the CSIR-CMERI developed technologies, like Municipal Solid Waste Management Systems, Additive Manufacturing



Technologies, Mechanized Drain Cleaning Systems, etc amongst others.

Dr. Naresh Chandra Murmu, Director, CSIR-CMERI, in his Welcome Address talked about the research activities performed in the last few years and the achievements of the Institute in various sectors towards an Atmanirbhar bharat. Dr. Murmu also deliberated on the future R&D focus of the Institute in the fields of Climate Change, Sustainable Engineered Materials, AI, IoT, and 5G technologies for Agricultural, MSME, Strategic & Societal sectors. He mentioned some futuristic technologies like Hydrogen-powered Tractors, Industry 5.0 for MSME, Collaborative Robots (COBOT), Autonomous Unmanned Ground vehicles, Humanoid Diving robots, etc.

Dr. (Mrs.) Suman Kumari Mishra, the Guest of Honour congratulated CSIR-CMERI for its dedicated journey of 66 years towards providing solutions in mechanical engineering and wished for further growth of the Institute. Mechanical engineering being at the core of product development, Dr. Mishra felt that all other laboratories would look forward to CSIR-CMERI for further improvement in their products as well. She praised the vision presented by Director, CSIR-CMERI, and pointed out the exciting challenges to be overcome.

Dr. (Mrs.) N. Kalaiselvi, the Chief Guest addressed the gathering in her indomitable style and expressed her full confidence in CSIR-CMERI in terms of its talented manpower, excellent infrastructural facility, and visionary roadmap. She lauded the societal development work of the Institute and wished that every CSIR laboratory should adopt the model of Municipal Solid Waste (MSW) management system employed by CSIR-CMERI to have a 'Green Colony'. Dr. Kalaiselvi told that the Institute is doing real service to society through its Mechanized Drain Cleaning system and other societal technologies touching people's lives in the true sense of the term. She also mentioned the Bio-Diesel Production system developed at the Ludhiana center of the Institute. She expressed her hope that CSIR-CMERI would make a significant contribution to futuristic technologies like e-mobility, hydrogen energy, unmanned air & ground vehicles, robotics, etc. Dr. Kalaiselvi called for all the CSIR laboratories to work closely together starting from the research level already attained by another one. She exhorted that we should all feel proud to be a member of the CSIR family and should work towards the betterment of the nation and the globe as well.

EIL inks MoA with ONGC Energy Centre Trust and CSIR-IIP for Collaborative Technology Development

CSIR-IIP

26th February , 2023

Engineers India Limited (EIL), ONGC Energy Centre Trust(OECT) and CSIR-IIP have signed a Memorandum of Agreement (MoA) for development and commercialization of technology for Recovery of Rare Gases from fossil fuel reserves.



The MoA was signed by Sh. Rajiv Agarwal, Dir. (Technical), EIL, Sh. Ravi, DG, OECT and Dr Anjan Ray, DG, CSIR-IIP on 27th January, 2023 in the presence of Ms. Vartika Shukla, CMD, EIL, accompanied by Functional Directors of EIL and other officials from EIL,OECT& CSIR-IIP. All three organizations, recognizing similarity of their interests, have entered into the MoA for scientific collaboration on Joint Development and Commercialization of Technology.

This endeavor will generate a win-win scenario for EIL, with a rich experience in the knowhow in development, design & engineering, CSIR-IIP, having vast experience in the field of petroleum refining, catalyst and product applications and OECT having wide experience in conducting research in alternate energy.

Commenting on this development, CMD(EIL), DG(OECT), DG(CSIR-IIP) viewed that “This collaborative arrangement is one of major steps taken for indigenous technology development and deployment leading to Aatmanirbhar Bharat in the field of rare gases.”

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[Psuconnect](http://www.psuconnect.in)

स्टील वेस्ट मटेरियल से बनेंगी सड़कें, तकनीक हुई हस्तांतरण

CSIR-CRRI

28th February , 2023

नई दिल्ली. प्रधानमंत्री के वेस्ट टू वेल्थ विज़न को साकार करने के लिए भारत की रोड क्षेत्र की अग्रणी रिसर्च इंस्टिट्यूट CSIR – केंद्रीय सड़क अनुसंधान संस्थान और विश्व की अग्रणी स्टील कंपनी Arcelor मित्तल निप्पन स्टील इंडिया के बीच तकनीक हस्तांतरण हुआ. राष्ट्रीय विज्ञान दिवस के अवसर पर स्टील स्लैग रोड तथा प्रोसेस्ड स्टील स्लैग एग्रीगेट के लिए यह कदम



उठाया गया है. इसके तहत सीएसआईआर केंद्रीय सड़क अनुसंधान संस्थान स्टील कंपनी को एक ऐसी तकनीक मुहैया कराएगी, जिससे वेस्ट मटेरियल का इस्तेमाल सड़क निर्माण में किया जा सकेगा.

इस अवसर पर समारोह के मुख्य अतिथि भारतीय इस्पात मंत्रालय में सचिव नागेंद्र नाथ सिन्हा ने बताया की देश में प्रति वर्ष लगभग 19 मिलियन टन स्टील स्लैग का उत्पादन होता है, जो वर्ष 2030 तक बढ़कर 60 मिलियन टन हो जायेगा. स्टील स्लैग को रोड निर्माण में प्रयोग होने वाली प्रोसेस्ड स्टील स्लैग एग्रीगेट में परिवर्तित कर स्टील स्लैग का वैज्ञानिक तरीके से निष्पादन किया जा सकता है. उन्होंने संस्थान के वैज्ञानिकों से देश भर में फैले हुए छोटे-छोटे स्टील प्लांट्स के लिए भी स्टील स्लैग के निष्पादन के लिए तकनीक विकसित करने का आह्वान किया.

इस अवसर पर संस्थान के निदेशक प्रो (डॉ) मनोरंजन परिडा ने बताया की CSIR – केंद्रीय सड़क अनुसंधान संस्थान राजमार्ग और सड़क परिवहन प्रौद्योगिकी के प्रमुख क्षेत्रों में व्यवसाय को उच्च गुणवत्ता और विश्व स्तर पर स्वीकार्य अनुसंधान और परामर्श सेवाएं प्रदान करता है. संस्थान भारत सरकार के वेस्ट टू वेल्थ के विज़न को साकार करने के लिए निरंतर तकनीकी विकास में काम कर रहा है और स्टील स्लैग रोड विकास परियोजना में देश की चार प्रमुख

स्टील निर्माता कम्पनीज आर्सेलर मित्तल निप्पन स्टील इंडिया, जेएसडब्ल्यू स्टील, टाटा स्टील, और राष्ट्रीय इस्पात निगम लिमिटेड के साथ मिलकर कार्य कर रहा है.

स्टील कंपनी से निकलने वाला वेस्ट एक बड़ी चुनौती

इस अवसर पर Arcelor मित्तल निप्पन स्टील इंडिया सीनियर वाईस प्रेसीडेंट मनु कपूर ने कहा कि स्टील कंपनी से निकलने वाला स्लैग वेस्ट का अगर सड़क निर्माण में उपयोग होता है तो पर्यावरण पर इसका बेहद अनुकूल असर पड़ेगा. स्टील कंपनी का वेस्ट का निस्तारण कंपनियों के लिए भी एक बड़ी चुनौती है. सड़क निर्माण में इस वेस्ट के उपयोग से केंद्र सरकार की सड़क गति योजना को और स्पीड इससे बुनियादी ढांचे को तेजी से विकसित किया जा सकेगा.

स्टील स्लैग रोड की मोटाई भी होगी कम

स्टील स्लैग रोड रिसर्च परियोजना के प्रोजेक्ट लीडर और प्रधान वैज्ञानिक सतीश पांडेय ने बताया की प्रोसेस्ड स्टील स्लैग से बनने वाली रोड की थिकनेस भी साधारण रोड की तुलना में कम होगी. इससे रोड निर्माण में आवश्यक सामग्री की जरूरत कम पड़ेगी, जिससे रोड निर्माण की लागत को 30 से 40 फीसदी तक कम किया जा सकता है. पांडेय ने बताया की CRRI के तकनीकी मार्गदर्शन में गुजरात, झारखण्ड, महाराष्ट्र एवं अरुणाचल प्रदेश में स्टील स्लैग रोड का निर्माण किया गया है.

Meet on state's potential to emerge as ayurveda hub

CSIR-NIIST

28th February , 2023

The CSIR-National Institute for Interdisciplinary Science and Technology (NIIST) here will be holding a one-day conclave on the potential of Kerala to emerge as a global hub of ayurveda by developing the sector in a scientific manner, on March 14.

The meeting is part of the One Week One Lab (OWOL) programme launched to showcase the legacy, innovations and technological breakthrough achieved by the laboratories of CSIR.

The conclave comes as part of a series of programmes planned by NIIST, Thiruvananthapuram a constituent laboratory of CSIR Union ministry of science and technology, within the framework of OWOL.

Scheduled as a thematic session titled 'Ayurswasthaya, the conclave aims at creating awareness about the need for scientific validation of rich traditional knowledge in the area of ayurveda for future technological developments in healthcare sector. Adviser-ayurveda, ministry of Ayush, Manoj Nesari, will be the chief guest at the meet.

“Though we have around 8,000 units in ayurveda sector, only less than 1,000 are having in-house quality control and standardization facilities. Considering a substantial increase in the demand for ayurvedic products, quality assurance must be envisaged with importance and hence there is a need for their standardization and scientific validation,” said CSIR-NIIST, Pappanamcode, director Dr C Anandharamakrishnan.

There is also a need to improve the existing processing facilities of the ayurvedic industry, which is a major challenge faced by most MSMEs in the traditional medicine sector.

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IITR, RMLAU sign MoU for research work

CSIR-IITR

28th February , 2023

Students of Dr Ram Manohar Lohia Avadh University (RMLAU), Ayodhya will soon get an opportunity to learn and assist the leading scientists of the country at CSIR-Indian Institute of Toxicology Research (IITR).

IITR, in return, will get bright students from RMLAU as project assistants and for other research-related work.

An MoU for an academic collaboration between the two institutes was signed during the 'one week one lab' event held on Monday.

Expressing happiness about the tie-up between the two institutes, vice-chancellor RMLAU Prof Pratibha Goyal said, "Both students and teachers of the university will be benefited at large with this memorandum of understanding for academic collaboration. CSIR-IITR is known for its excellent research work and I am sure it will continue to do meaningful research."

The VC also inaugurated a 'poster showcase event' put up by PhD scholars of the institute. "With efficient and well-trained manpower, machines (resources) and mechanisms our country too would soon join the league of developed nations," said IITR director Bhaskar Narayan while stressing on the need for connecting science happening within the labs with the public at large.

National Conference On RAISE 2023

CSIR-IMMT

28th February , 2023

Bhubaneswar: One day National conference on “Recent Advancements in Iron & Steel Industries and Emerging areas”-RAISE 2023 was organized jointly by CSIR-Institute of Minerals and Materials Technology (IMMT), Bhubaneswar and The Indian Institute of Metals (IIM) Bhubaneswar chapter on 24th February 2023, which was attended by more than 150



delegates including industry persons, scientists, students, R&D professionals. The core organizing committee of the conference includes patron Prof. G. Narahari Sastry, Director, IMMT Bhubaneswar, Dr. D.S. Rao, vice-chairman, IIM Bhubaneswar chapter, convenor Dr. Pravas Ranjan Behera, principal scientist, Co-convenor Dr. Ajit Panigrahi, Sr. Scientist, IMMT, Bhubaneswar. The main aim of the conference was to bring together the eminent research personalities including Scientists, Professors, Students and Industrialists working in the area of Iron and steel industries. The inaugural session began with the welcome address by the Convenor and Dr. Bhagyadhar Bhoi, Head, AMT CSIR-IMMT. The inaugural address was delivered by Director CSIR-IMMT where he explained the importance as well as IMMT's contribution to different steel Industries.

The Co-Chairman IIM Bhubaneswar Chapter advised the gathering with his inaugural speech followed by release of Souvenir, RAISE 2023 AMT department Memoir-20yrs of R&D work, and technical book authored by Dr. A. K. Jauhari (Ex-HOD, AMT). Chief guest, Dr. A.K. Singh, Senior Vice President & Business Head, JSL, Kalinganagar and Guest of Honour, Dr. N. C. Pal Engg-In-Chief (Design), PWD, Govt of Odisha welcomed all the participants & briefed about the significance of Steel from steel age to current scenario they also highlighted

the importance of Industry- Academic- R&D collaboration for future sustainability. Dr. Markus Reifferscheid, SMS group GmbH gave a talk on “” which stimulated active and intense discussion among delegates. The technical sessions consisting of eight lectures and poster session from various R&D professionals, industry persons, academicians discussed the challenges and opportunities and towards sustainable growth in Iron and Steel industries. Co-convenor, RAISE-2023 thanked the delegates, participants, sponsors, advertisers for the successful conduction of the event.

CSIR-CFTRI

28th February, 2023

‘Science Day must be biggest festival for scientists’

EXPRESS NEWS SERVICE @Mysuru

INDIAN Institute of Science (IISc) emeritus professor M R N Murthy said celebration of science day is more important than Navaratri, Christmas or Eid for scientists.

Delivering a speech on ‘Excursions in the Wonderland of Proteins’ on the occasion of National Science Day organised by Central Food Technological Research Institute (CFTRI) here on Tuesday, Murthy said for scientists or science buffs, science day is a bigger festival than any traditional event. “Our country will become a leader in the world only when youngsters become good scientists. Science day for us is the festival of festivals,” he said.

Speaking on the importance of protein, Murthy said protein is essential for our growth. “Proteins are valuable as biomaterials for food applications.



IISc emeritus professor M R N Murthy lights the lamp to mark the inauguration of the National Science Day at CFTRI in Mysuru on Tuesday | UDAYASHANKAR S

They are biodegradable and biocompatible, suitable biochemical and functional properties, non-toxic and non-inflammatory. Protein has a very wide application. Most of the proteins are non-toxic. If you are clever, you can make money out of proteins by develop-

ing food products. There are a lot of protein products in the market,” he said.

Murthy said insects if consumed, are very good food which is much better than red meat which will have cholesterol and not good for health.

“Eating red meat is not good,

eating fish is not bad but eating insects is best. If you develop insect food and market it, you can sell it for a high price which will have rich protein, no cholesterol, no fat and not have a bad effect on the health. Not all insects are edible, there should be scientific investigation. So insect proteins have to be explored,” he said. “We are in a tropical country where we have lots of varieties of insects which can be reared in homes and used for consumption or feed for live- stocks. It is not bad to eat insects. In some countries, processed insect food is consumed while in some African countries, raw insects are eaten. Food is just a matter of what we are used to,” he added.

More than 150 students from various schools in the city participated in the event. CFTRI director Sridevi Annapurna Singh was present.

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New Indian Express, The Hindu

Panel Discussion Cum Mini Workshop On Women & Water-innovation-security-management At CSIR-IMMT

CSIR-IMMT

26th February , 2023

CSIR-IMMT, Bhubaneswar conducted a panel discussion cum workshop on women and water-innovation- security-management today (physically/ hybrid mode). It is estimated that Odisha has plenty of water resources but the myth of water being an infinite resource is breaking due to water scarcity or flooding in traditionally safe. Further these get aggravated with climate change and frequent disaster events as well as mineral contamination in certain areas.



Despite efforts by the governments and huge investments, population not having access to adequate quantity of water is increasing in leaps and bounds with every passing year.

Keeping in mind the vulnerability of the state to disasters and climate change and its impact on water resources, it is important to initiate a multistake holder and multi-agency dialogue to discuss current availability, preservation, conservation, harvesting and sustainable use. On this occasion Dr.Narahari Sastri, Director, CSIR-IMMT said that, It is assumed that Odisha has abundant water resources but the myth of water being an infinite resource is being shattered due to water scarcity or traditionally safe floods.

Keeping in mind the state's vulnerability to disasters and climate change and its impact on water resources, it is important to initiate conservation, preservation, and sustainable use.

There is no hesitation to say that since women conserve more water, we are very happy to involve women in this movement.

I would love to collaborate with the National Business Chamber for Women (NBCW), the Women's Indian Chamber of Commerce and Industry, (WICCI), Water Resources Council (WRC) partnership. Prof. Geetanjali Dash, Vice-Chancellor, Berhampur University, Odisha said that, I am leading an organization of women, they also form a critical mass.

They are in agriculture, caregivers, and home builders, and when it comes to water pumps, women in most parts of the world have to collect water, mostly Odisha women play a significant role in water conservation.

By the way, I also know that most of the women in tribal areas, fetch water from a distance of 2 or 3 km, as the hand pumps in most of the village areas have dried up.

We never thought that women play a crucial role in water conservation, this kind of awareness should be created.

So, this initiative is very beneficial for women and our society. I would love to be a part of this movement and I would love to collaborate. Keeping this in mind the State wing of National Business Chamber for Women (NBCW), Women's Indian Chamber of Commerce & Industry, (WICCI), Water Resources Council (WRC) conducted a discussion today at IMMT in partnership with CSIR-IMMT, UNDP, Berhampur University, Odisha, academic institutions and civil society organization. For the state, the issues identified were in 3 areas of interventions-Water Management/Water security, Water pollution and Women leader in Water. Some of the activities include research (R&D), awareness campaigns, workshops and grassroot projects that would lead to preparation of a "Roadmap on Water Security in Odisha" which is proposed to submit to the Government of Odisha in 2 years' time. Dr. Mamata Mohapatra, Senior Principal Scientist, CSIR-IMMT coordinated the panel discussion cum workshop.

CSIR-IMMT

25th February, 2023

IMMT, IIM hold nat'l conf 'RAISE'

PNS BHUBANESWAR

A national conference on "Recent advancements in iron and steel industries and emerging areas" (RAISE) 2023 was organised jointly by the CSIR-Institute of Minerals and Materials Technology (IMMT), Bhubaneswar and the Indian Institute of Metals (IIM), Bhubaneswar chapter, on Friday.

Over 150 delegates including industry persons, scientists, students and R&D professionals attended.

The core organising committee of the conference includes patron Director, IMMT Bhubaneswar, Prof G Narahari Sastry, vice chairman Dr DS Rao, convenor principal scientist Dr Pravas Ranjan Behera and co-convenor senior scientist Dr Ajit



Panigrahi.

The main aim of the conference was to bring together the eminent research personalities including scientists, professors, students and industrialists working in the area of iron and steel industries.

The inaugural session began with the welcome address by Head, AMT CSIR-IMMT Dr Bhagyadhar

Bhoi. The inaugural address was delivered by Director CSIR-IMMT where he explained the importance as well as IMMT's contribution to different steel industries.

Co-chairman IIM Bhubaneswar Chapter advised the gathering with his inaugural speech followed by release of souvenir, RAISE 2023 and a technical book authored

by Dr AK Jauhari (former-HOD, AMT).

Chief guest, Senior Vice President and Business Head, JSL, Kalinganagar Dr AK Singh and guest of honour, Engg-In-Chief (Design), PWD, Government of Odisha Dr NC Pal welcomed all the participants and briefed about the significance of steel from steel age to the current scenario.

Although every possible care and caution has been taken to avoid errors...

Hyderabad: CCMB celebrates Founder's Day

CSIR-CCMB

24th February , 2023

CSIR-Centre for Cellular and Molecular Biology (CCMB) celebrated Founder's Day on the occasion of the birth anniversary of the Founder Director, Dr PM Bhargava, on Thursday.

To acknowledge the vision of Dr Bhargava, the Ph.D. students of CCMB celebrate Founder's Day by bringing their alumni together across the globe. In the 46 years of its existence, CCMB has groomed about 500 Ph.D. students who have gone around the world to hold positions in academia and industry. The keynote lecture was delivered by Prof Satyajit Mayor, the National Centre for Biological Sciences, on the fabric-like nature of the cell membrane, and how physicists and biologists have come together to understand the membrane.

"This was the 7th Founder's Day that our students have organized. This year, across the last two days, the students arranged for seminal discussions related to the future of academia, workforce management in academia, and careers for STEM graduates," said Dr Vinay K Nandicoori, Director, CCMB.

"The alumni meet helps us network with our past students and explore the realities of various career options. Today, we STEM graduates want to explore various kinds of careers – from academia to entrepreneurship and public engagement in science. The meeting helps us know more about the fellowship and funding opportunities in these as well as connect with relevant people in the fields," said the student organizing team.

CSIR-CSMCRI

24th February, 2023

New membrane technology to reduce cost of green hydrogen production

Nimesh.Khakhariya
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Rajkot: In what is being claimed as a pathbreaking invention, the Bhavnagar-based Central Salt and Marine Chemicals Research Institute (CSMCRI) has developed a membrane technology that is expected to drastically reduce the production cost of green hydrogen, touted to be the future green fuel.

The institute has secured an international patent for this membrane and transferred the technology to a company in Gujarat.

Scientists said the electrolysis process separates hydrogen and oxygen from water to generate electricity. At present, companies engaged in green hydrogen production use 'perfluorinated sulfonic acid polymer membrane' which is available in the market with the brand name 'Nafion' and

LEAPING TOWARDS GREEN FUTURE

- Green hydrogen is generated through electrolysis, which is splitting hydrogen and oxygen from water

- At present, companies making green hydrogen use imported membranes only

- The imported membrane costs around ₹50,000 per sq m



- The membrane developed by CSMCRI costs ₹3,000 per sq m

- Green hydrogen costs between ₹320 to ₹350 per kg

- It is claimed that the indigenously developed membrane will drastically reduce the production cost

- CSMCRI has received an international patent for this technology

marketed by a Japanese company. All companies are importing this membrane.

"This invention will drastically reduce the cost of hydrogen energy production. According to a rough estimate, the membrane we developed costs Rs 3,000 per sq m while the cost of the imported one is around Rs 50,000 per sq m. Around 50 to 75 sq m of the membrane is used in this process, so this will help save huge on pro-

duction costs," explained Vinod K Shahi, chief scientist at CSMCRI.

Shahi and his team developed this indigenous membrane with financial support for the research from ONGC Energy Center Trust.

They filed for an international patent in 2019 in countries like the US, Europe, Japan, the UK, France, China etc. They received the Patent Cooperation Treaty (PCT) patent which enables

the inventor to get patent protection in several countries simultaneously.

CSMCRI officials said they have transferred this technology to GFCL Solar and Green Hydrogen Products Ltd for Rs 2.05 crore.

"This indigenous membrane is useful for hydrogen production, fuel cells and energy storage batteries. This will be a significant step to achieve the goals of 'Hydrogen Mission,' Shahi added. According to sources, the present cost of green hydrogen in India is between Rs 320 to 350 per kg, and the use of this membrane technology is expected to halve the price. Gujarat has set a target of setting up green hydrogen generating capacity of 8 million tonnes per annum (MPTA) over the next 10-12 years, industries minister Balwantsinh Rajput stated in the recently held G20 inception meeting in Gandhinagar.

Workshop held on women's empowerment

CSIR-IHBT

23rd February , 2023

A workshop on women empowerment was organised at the CSIR-Institute of Himalayan Bioresource Technology (IHBT) in Palampur today. The event is being held under the “One Week One Laboratory” programme.



Kangra Settlement Officer Gandharva Rathore was the chief guest. She spoke about how women can become self-reliant by joining the National Rural Livelihood Mission. She urged women to adopt the technologies developed by CSIR- IHBT for empowering themselves. Over 120 women from various self-help groups of the state participated in the event.

Principal Scientist Dr Pamita Bhandari gave information about technologies developed by the institute and made a presentation about their benefits. Three technologies on natural colours and dyes, value addition from dried flowers and herbal incense were also demonstrated.

Pune's CSIR-NCL sets up sanitary pad disposal mechanism on campus; various objects being made through recycling

CSIR-NCL

22nd February , 2023

In a bid to provide an improved work environment to its women researchers, the Pune-based CSIR-National Chemical Laboratory (CSIR-NCL), a premier research and development institute in the field of chemical sciences, has deployed a sanitary pad disposal mechanism on its campus.

Through this disposal system, the treated sanitary pads are recycled to create different things, including flower pots, pencils and diaries with the help of their cellulosic content, while their plastic content is separated and mixed with concrete to make paving stones, the laboratory said.



The sanitary pad disposal mechanism and vending machines have been installed with the help of Padcare, a start-up incubated at NCL's Venture Centre.

CSIR-CSMCRI

22nd February, 2023

मातृभाषा का असर सीधे मस्तिष्क पर : प्रो. दवे

भावनगर। 'देश के समग्र विकास हेतु मातृभाषा का सम्मान व संवर्धन आवश्यक है क्योंकि मातृभाषा में अध्ययन का प्रभाव सीधे मस्तिष्क पर होता है' ये बातें सीएसआईआर-केन्द्रीय नमक व समुद्री रसायन अनुसंधान संस्थान (सीएसएम सीआरआई), भावनगर में 21 फरवरी, 2023 को आयोजित 'अंतरराष्ट्रीय मातृभाषा दिवस' समारोह में डॉ. अरुण मनु दवे, पूर्व कुलपति, गुजरात विद्यापीठ एवं प्रबंध न्यासी, लोकभारती सनोसरा, भावनगर ने कहीं। प्रो. दवे समारोह में बातौर मुख्य अतिथि आमंत्रित थे। समारोह में



अपने सम्बोधन में उन्होंने कहा कि देश के सही मायने में विकास हेतु अपनी मातृभाषा के प्रति सम्मान व उनका संवर्धन आवश्यक है। आजादी

के अमृतकाल में आयोजित इस समारोह में कार्यकारी निदेशक डॉ. विश्वजीत गांगुली ने 'अंतरराष्ट्रीय मातृभाषा दिवस' के आयोजन का इतिहास बताते हुये कहा कि इस आयोजन का उद्देश्य विश्व में भाषाई व सांस्कृतिक विविधता को बढ़ावा देना है। कार्यक्रम का संयोजन, वरिष्ठ वैज्ञानिक व पीआरओ, डॉ. केबी पाण्डेय ने किया।

Cooperation between the Eurasian Patent Organization (EAPO), Moscow and the Council of Scientific and Industrial Research (CSIR) on Access to the Traditional Knowledge Digital Library (TKDL), a prior art database of Indian traditional knowledge

CSIR-TKDL

21st February , 2023

The Eurasian Patent Organization (EAPO), an international intergovernmental organization of the Eurasian Patent Convention, Moscow and the Council of Scientific and Industrial Research (CSIR) entered into a cooperation on the Traditional Knowledge Digital Library (TKDL) Access through a Non-Disclosure Agreement.



The Agreement was exchanged by Mr. Grigory Ivliev, President, Eurasian Patent Office, Eurasian Patent Organization, Moscow and Dr. Viswajanani J Sattigeri, Scientist-H and Head, CSIR-TKDL Unit in Goa on Friday, in presence of senior officials from both sides, on the sidelines of the Global Intellectual Property Convention (GIPC) 2023.

Through this Agreement, the EAPO shall gain access to the contents of the TKDL database for the purpose of search and examination of prior art related to Indian traditional knowledge in patent applications, for the purposes of the Intellectual Property Rights (IPR) grant. With this cooperation with EAPO, the number of patent offices worldwide that have access to the TKDL database rises to sixteen.

The contracting states of the Eurasian Patent Convention include Eurasian Patent Office, Turkmenistan, Republic of Belarus. Republic of Tajikistan, Russian Federation, Republic of Kazakhstan, Azerbaijan Republic, Kyrgyz Republic, and the Republic of Armenia. The signing of the TKDL Access Agreement with the EAPO, Moscow marks the beginning of a new partnership and mutual cooperation in the domains of IPR as well as TK between the member states of the EAPO and India. The Eurasian Patent Office caters to grant of Eurasian patents

that are valid on the territories of its member states, after substantive examination of applications filed at the EAPO and under the PCT procedure.

Speaking on the occasion, Mr. Grigory Ivliev, President, Eurasian Patent Office, stated that Eurasia and India have been closely connected with ancient cultures and traditions which are invaluable even today. The Eurasian member states stand to protect Indian TK through the TKDL. Also, the Eurasian team looks forward to learn from the TKDL experiences to set up similar registers for the TK of their countries.

Dr. Viswajanani Sattigeri appreciated the keen interest of the EAPO toward signing the TKDL Access Agreement, especially based on the positive experience of Rospatent Office with the TKDL. Russia and India have had a long standing cooperation in many areas, and with the TKDL, this relation forays into traditional knowledge as well.

The TKDL is a global benchmark in the defensive protection of traditional knowledge and has been successful in protecting India's interest against any possible misappropriation of its heritage. Recently, the Cabinet, Govt. of India, approved widening of the access of the TKDL to users, beyond patent offices to stimulate R&D and innovation based on Indian TK.

About TKDL:

The TKDL database, first of its kind worldwide, was established in 2001 by the Government of India, through a collaboration between CSIR and Ministry of AYUSH. The key objective of the TKDL is to prevent the erroneous grant of patents on Indian traditional knowledge (TK) and deter misappropriation of the country's traditional knowledge. Currently, the TKDL contains information on over 4.4 lakh formulations and techniques of Indian Systems of Medicine such as Ayurveda, Unani, Siddha, and Sowa Rigpa as well as Yoga from the traditional texts. The TK information from diverse languages and subject areas are transcribed into value-added information correlated with modern terminologies.

The TKDL information is presented in a digitized format in five international languages

including English, German, French, Japanese and Spanish, and format easily understandable by patent examiners. As per the extant approvals in place, the TKDL database is available only to patent offices through TKDL Access Agreements.

The TKDL has been impactful towards protecting Indian TK from misappropriation, with over 283 patent applications world-over being revoked, amended, withdrawn or abandoned, based on the prior art evidences presented from the TKDL database.

CSIR-CLRI

21st February, 2023

Meat waste could soon power your cars, homes

41 tonnes of meat waste could produce 600 kg of bio-CNG, says expert

LAASYA SHEKHAR @Chennai

THE Greater Chennai Corporation (GCC) dumps about 41 tonnes of meat waste daily in landfills. The quantum doubles during the weekends. In part 1 of the series, we saw how this leads to pollution and fires. But, there are ways to process meat waste into electricity and biofuels.

The Council of Scientific and Industrial Research-Central Leather Research Institute (CSIR-CLRI) has established a pilot biogas plant of 500 kg/day that produces biogas using slaughterhouse wastes. Dr S V Srinivasan, senior principal scientist, Environmental Engineering Department, CSIR-CLRI along with German project partner, Leibniz University, Hannover, have experimented with a method of mixing vegetable waste and slaughterhouse waste to enhance the quantity of biogas production. "Vegetable waste is rich in carbon and slaughterhouse waste has nitrogen in abundance. By co-digesting both these wastes, bio-gas yield can be enhanced," Srinivasan said.

In this plant, waste from Perambur slaughterhouse and vegetable waste from Koyambedu market (1:3) are pre-treated and fed to the plant to enhance an additional biogas yield of 30-40%. About 27 to 30m³ of biogas, equivalent to approx 50 units of electricity was generated every day. In other words, 10 kg of waste (1:3 ratio of slaughter and vegetable



Meat waste dumped near Aaduthotti in Pullanthope | MARTIN LOUIS



We are not aware of CLRI initiative. The solid waste management department of GCC would be interested to collaborate with CLRI

A Greater Chennai corporation official

waste) would yield about 500 to 600 litres of biogas, which is approximately equivalent to one unit of electricity (1kWh) and can power a 1000-watt bulb for an hour or a 100-watt bulb for 10 hours. After the implementation of this process, CSIR-CLRI planned to use the facility to treat the waste generated from the institute campus including the canteen.

Meat waste to bio-diesel

Meanwhile, in Kerala, Dr John Abraham, professor and head, Department of Livestock Production and Management, at Kerala Veterinary and Animal Sciences University has made headway in processing chicken waste into biodiesel.

In a rendering plant, the chicken waste undergoes three procedures: dry cooking, pressure cooking, and moisture reduction. "The procedure takes up to three hours yielding two byproducts: protein powder and oil. While the protein powder can be used as a feed for pets, oil can be converted into biodiesel," Dr Abraham said.

Looking ahead

"With about ₹4 crore as initial investment, rendering plants can be set up to process 41 tonnes of meat waste into manure. Each day, 10 tonnes of fertiliser worth ₹1.2 lakh can be produced from the meat waste in Chennai," said S B Senthil Kumar, managing partner, Bhairav Renderers, who has partnered with Coimbatore Corporation to process meat waste into fertiliser. About 41 tonnes of meat waste in Chennai can be converted to 4.1 tonnes of bio-diesel through bio-rendering, according to Dr John Abraham. "A car has a fuel capacity of 35 litres. While half of it can be bio-diesel, rest can be diesel. That way, 4.1 tonnes of biodiesel will power 240 cars every day," he added.

To produce electricity from slaughter house waste following CLRI's technology, an initial investment of ₹18 crore is required. "Around 4,000 units of electricity or 600 kg of bio-CNG can be produced by processing 41 tonnes of meat waste," Srinivasan said.

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PART
SERIES

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CSIR-NEERI

21st February, 2023

It is responsibility of every citizen to save mother earth: Dr Anil Joshi

■ Business Bureau

SADABAI Raisonni Women's College, GH Raisonni University, Saikheda and G H Raisonni College of Commerce Science and Technology in association with CSIR-NEERI, ICAR-Central Citrus Research Institute, Nagpur and ICAR-Central Institute for Cotton Research organised a two day international conference on 'Sustainable and Resilient Environment Development-2023'.

The theme of the conference was 'Towards a resilient planet ensuring a sustainable and equitable future'.

Dr Meena Rajesh, Vice Chancellor, G H Raisonni University, Saikheda presented the opening remarks. Padmabhushan Dr Anil Joshi, Director HESCO, Dehradun



was the chief guest.

Dr Joshi said, "One should learn to appreciate nature and it is the responsibility of every citizen to save mother earth".

The guest of honour, Dr Shekar Mande, Ex DG CSIR Labs gave a brief insight into the contributions made by CSIR in moving towards a more sustainable and resilient environment.

Dr Atya Kapley, Head Scientist CSIR-NEERI was the special guest. She said that it was not just the responsibility of the Government or organisations like NEERI to safeguard

the environment but the responsibility of each individual on the face of this earth.

The inaugural was followed by the first session on 'Preserving Natural Resources: Air, Water and Land'.

Dr KV George, Chief Scientist NEERI spoke on air pollution and the hazards that go with it. Dr Neeraj Gahlawat, Embassy of Israel spoke on the processes that were introduced in Israel for water management. He said that waste was treated and reused for agriculture and this process had been successfully implemented.

CSIR-NEERI

21st February, 2023

असंतुलित विकास पर्यावरण बिगड़ने का कारण : डॉ वैद्य



के कथन को दोहराते हुए कहा कि हमारी विलासिता की लालच ने पर्यावरण का हास किया है। एक घर

नागपुर|कमला नेहरू महाविद्यालय में ऑल इंडिया प्रोग्रेसिव फोरम (अखिल भारतीय प्रगतिशील विचार मंच) की ओर से पर्यावरण विषय पर तीन दिवसीय राष्ट्रीय सेमिनार का उद्घाटन हुआ। मुख्य अतिथि राष्ट्रीय पर्यावरण औद्योगिकी एवं अनुसंधान केंद्र (नीरी) के संचालक डॉ अतुल वैद्य थे। अध्यक्षता लोक वाडमयगृह के संचालक डॉ. भालचंद्र कानगो ने की। डॉ स्मिता वंजारी प्रमुख अतिथि थी। कमला नेहरू महाविद्यालय के प्राचार्य डॉ दीपक बडवाईक, फोरम के उपाध्यक्ष डॉ. युगल रायलु एवं महासचिव अनिल राजीमवाले उपस्थित थे। डॉ वैद्य ने गांधीजी

सभी के लिए काफी होता है, लेकिन लोग अपनी अमीरी के दम पर चार-चार घर खरीदते हैं। असंतुलित विकास धरती को बरबाद कर देगा। डॉ रायलू ने कहा कि जोशी मठ की दुर्घटना के परिपेक्ष्य में पर्यावरण की सुरक्षा का सवाल महत्वपूर्ण हो जाता है। फोरम के प्रभारी सी एम मौर्य ने आभार माना। संचालन डॉ. सरिता तिवारी ने किया। सफलतार्थ डॉ. वैशाली चरजन, डॉ. रश्मि दुबे, प्रा नेहा ठाकुर, रवि पराते, जयवंत गुरवे, पी वी नायडू, सुश्री प्रगति खपरडे, सुश्री करुणा साखरे एवं सुश्री प्राची माहुरकर ने प्रयास किया।

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