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The Innovation Engine of India

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Belarus, India discuss cooperation in science, technology, innovation

CSIR

24th May , 2023

MINSK, 24 May (BelTA) – Belarus and India have discussed cooperation in science, technology and innovation during the visit of a delegation of the Council of Scientific and Industrial Research of India (CSIR) headed by CSIR Director General and Secretary of the Department of Scientific and Industrial Research (DSIR) at the Ministry of Science and Technology of India Nallathamby Kalaiselvi. The delegation was hosted by



Belarus' State Committee on Science and Technology, BelTA learned from the State Committee on Science and Technology.

According to Tatiana Stolyarova, Deputy Chair of the State Committee on Science and Technology, cooperation in science, technology and innovation is one of key elements of trade and economic relations of Belarus and India.

During the meeting, the State Committee on Science and Technology of Belarus and the Council of Scientific and Industrial Research of India expressed their interest in expanding cooperation. Priority areas were also identified: digital information and communication technology, energy, environment and environmental management, agro-industrial and food technology, instrumentation and innovative materials, as well as medical and pharmaceutical technology.

In 1993 the two countries signed an intergovernmental cooperation agreement in science and technology. The implementation of the agreement is coordinated by a joint commission. In

2019, Belarus and India signed an agreement to designate the Belarusian Institute for System Analysis and Information Support of the Scientific and Technical Sphere and the International Advanced Research Centre for Powder Metallurgy and New Materials in Hyderabad as base organizations. An Indian information and coordination center for scientific and technical cooperation was set up at the National Science and Technology Library.

CSIR-NIScPR and IWSA organised Half Day Camp on “Mental Health and wellbeing”

CSIR-NIScPR

25th May , 2023

Prof. Ranjana Aggarwal, Director, CSIR-NIScPR said that the increase in the concentration of carbon dioxide has impacted our hormones, metabolism, and overall emotional balance and therefore mental health conditions like stress, depression, anxiety are very common in today's time. She added that it is need of the hour to address the mental health of ourselves, family, and friends.



Prof. Aggarwal was sharing her thoughts during the inaugural session of the half day camp focused on mental health and wellbeing, organised by CSIR-National Institute of Science Communication and Policy Research (NIScPR) in collaboration with Indian Women Scientists Association (IWSA).

Prof. Aggarwal said, “We usually discuss our physical health, but social stigma stops us talking about mental health. But ignoring mental health, can impact our physical health adversely”. Talking about the human evolution, emotions and its relationship with environmental changes, she added that during almost last two centuries, we have witnessed the gradual increase of carbon dioxide concentration on Mother Earth.

Dr. Rina Sharma, Chief Scientist at CSIR-National Physical Laboratory and President of IWSA also graced the occasion. In her address, she discussed about the objectives of IWSA and how this organisation takes science to society. She stressed the need of spreading awareness towards mental health.

Dr Amit Madan, Research Officer, Central Ayurveda Research Institute delivered a special talk on “A balanced lifestyle and mental health”. He explained the natural connect between physical and mental wellbeing.

Dr. Kanika Malik, Sr. Principal Scientist, CSIR-NIScPR and Coordinator of the mental health camp proposed a vote of thanks. A health check-up session was also conducted after the mental health programme where staff members of CSIR-NIScPR visited the doctors, shared the health issues, and took consultations.

SASR holds ‘igniting innovation & entrepreneurship’

CSIR-NEIST

25th May , 2023

School of Agricultural Sciences and Rural Development, Nagaland University (NU:SASRD) organized a “Nagaland spark: Igniting innovation and entrepreneurship programme” on May 19 at the Multi-Purpose Hall, NU:SASRD.



A press release by information and publicity secretary NU:SASRD Longmay CS Lemz, informed that the programme was graced by

vice chancellor, NU Prof. Jagadish K Patnaik as the chief guest and director, Council of Scientific and Industrial Research- North East Institute of Science and Technology (CSIR-NEIST), Jorhat Dr. G Narahari Sastry, as the guest of honour.

Jagadish while addressing the students talked on the benefits of technology and the ways to implement them. He encouraged the students to be innovative and to play a role in transforming the society through entrepreneurial approaches.

Guest of honour, Narahari emphasized on priorities area in innovations and entrepreneurship in North East. He motivated in localizing global innovations and globalizing local ideas, and spoke on “knowledge toxicity”.

Earlier, the programme was chaired by department of Agricultural Extension, NU:SASRD Prof. Jungmayangla Longkmer, welcome address by registrar, NU Dr. Abemo and opening remarks by Pro-Vice-Chancellor, NU:SASRD Prof. Akali Sema.

Short speeches were delivered by department of Agricultural Extension Prof. K K Jha, Head Technology Incubation, Kalinga Institute of Industrial Technology-Technology Business Incubator (KIIT-TBI) Dr. Namrata Misra, CEO, KIIT-TBI and chairman, Bhubaneswar City Knowledge Innovation Cluster (BCKIC) Dr. Mrutyunjay Suar and vote of thanks by Dean, NU:SASRD Prof. L Daiho.

In the second session, resource persons Prof KK Jha, Dr. Mrutyunjay Suar spoke on translating ideas to enterprises: path forward while Dr. Namrata Misra spoke on building the North East bio-entrepreneurship cluster. Another resource person, Program Associate, KIIT-TBI Ray Saisoubhagya spoke on the funding opportunities for innovators.

The programme concluded with “My story session” from Dr. Akumtoshi Lkr and Gloria Nyenthang who are both part of the BIG North East 2nd call Grantee.

Pune: Day 2 of NCL's 'One Week One Lab' dominated by 'C1 Chemistry'

CSIR-NCL

23rd May , 2023

On the second day of the "One Week One Lab" program organized by CSIR-National Chemical Laboratory (CSIR-NCL) in Pune, the focus was on exploring the wonders of "C1 Chemistry." The event, which is scheduled to run from May 22 to May 27, 2023, aims to showcase the laboratory's research, expertise, and facilities.



Dr. Sebastian Peter, Associate Professor at JNCASR, Bangalore, delivered a lecture on "Carbon Recycling for Sustainable Energy." The talk highlighted the importance of carbon recycling in achieving sustainable energy solutions.

Dr KA Subramanian, Head of the Department of Energy Science and Engineering at the Indian Institute of Technology Delhi, delivered a talk on "DME as a Future Sustainable Fuel for Automotive Compression Ignition Engines/vehicles." The presentation shed light on the use of dimethyl ether (DME) as a clean and sustainable fuel alternative. Another speaker, Dr Dev Kumar Gupta from Thermax Global, spoke about "Gasification of Indian Coal to Chemicals."

The "One Week One Lab" program at CSIR-NCL aims to provide a platform for showcasing the laboratory's contributions in various scientific domains. The event includes thematic talks, panel discussions, exhibitions, skill development programs, and science outreach initiatives.

Throughout the week, CSIR-NCL will emphasize its Thematic Roadmap, which covers areas such as Clean Energy, Circular Economy, Sustainable Chemical Industry, Bio-therapeutics, C1

Chemistry, Biomass, and Agritech. The program began with an inauguration ceremony conducted by Dr Pramod Choudhary, Founder and Chairman of Praj Industries.

CSIR-NIO researchers recommend diffuse reflection method for better study of microplastics

CSIR-NIO

23rd May , 2023

A team of researchers from the CSIR-National Institute of Oceanography (NIO) in Goa has recommended the use of diffuse reflection method to study microplastics, which are harmful for plants and animals, in complex environmental matrices like highly loaded turbid water and sediment. The method involves reflection of light from a surface where an incident ray is reflected at many



angles, a senior member of the team said, adding it is the most effective, easy and non-destructive method for the quantification of smaller-sized microplastics.

Explaining why the study was initiated, the researcher said, "Finding microplastics is challenging in complex environmental matrices and the more challenging task is to standardise a protocol which can be followed by everyone and is easy, cost effective and moreover authentic." The study said research in microplastics is important as plastic pollution is one of the most pressing environmental issues globally. The NIO is one of the constituent laboratories of the Council of Scientific and Industrial Research (CSIR).

The team's research paper recently published in Europe's leading scientific journal – Elsevier – speaks about development of a methodology for confirmed identification of polymers using the Micro Fourier Transform Infrared (FTIR) spectroscopy method that is followed by scientists. "A rapid increase in the production of disposable plastic products overwhelms the world's capability to deal with them. Global plastic production has shown a substantial rise over the last few decades, growing from 1.7 million tonnes in the 1950s to 368 million tonnes in 2019, with a mild drop during 2020 (367 million tonnes) as a result of the COVID-19

pandemic,” said the journal. The researchers have said though the micro FTIR spectroscopy represents an ideal method for the detection of microplastics, this technique lacks a standardised mode to be followed in diverse environmental matrices.

They have now recommended the use of “diffuse reflection method in micro-FTIR to study the microplastics in complex environmental matrices like highly loaded turbid water, sediment, biota and others.” The study focused on the optimisation, application, and validation of micro FTIR techniques for the identification of smaller-sized microplastics.

The team worked very hard to standardise a protocol for the identification of small size microplastics, the researchers said.

The present study was undertaken to establish an easy, quick, and effective methodology for the characterisation of microplastics, which are often heavily loaded in various kinds of complex environmental samples (particularly from tropical Asian countries), they said.

“It is highly challenging to deal with such kind of sample analysis, using 100 per cent of the filtered microplastics without any damage or loss of the samples,” the research said.

The team of researchers included Dr Mahua Saha, Chaynika Rathore, Priyansha Gupta, Manish Kumar, Akshata Naik and Prof Jacob de Boer from the Netherlands.

IIT(ISM) Dhanbad Pioneers 'Hydrogen Valley' at Nirsa Campus in Collaboration with Prominent Institutes

CSIR-IICT, CIMFR, CMERI

23rd May , 2023

In a significant step towards achieving energy independence and net-zero emissions, India has organized a stakeholders' meet to explore the potential of green hydrogen. The Center of Hydrogen and Carbon Capture Storage and Utilisation Technologies (CHCCUST) at IIT(ISM) Dhanbad spearheaded the event on 28th April 2023. The objective was to present a case to the Department of Science and



Technology, Government of India (GOI), for establishing a “Hydrogen Valley Innovation Cluster” (HVIC) in the eastern region of the country.

The meet witnessed the participation of academic professionals, industrial delegates, research scientists, and government representatives. The event commenced with guidance and suggestions on the Hydrogen Valley Platforms and HVIC project by Prof. Sandipan Kumar Das, Head of CHCCUST, and Dr. Ranjith Krishna Pai, Scientist E, and DST coordinator for the Hydrogen Valley Platform. Additionally, Mr. Rahul Kulshreshtha from the Office of the Principal Scientific Advisor to the Government of India shared his experiences and thoughts on the occasion.

The technical sessions covered various aspects of hydrogen production, storage, and utilization. Experts such as Dr. Ujjwal Pal from CSIR-IICT Hyderabad, Prof. Santanu De from IIT Kanpur, Prof. Arunkumar Samanta from IIT Dhanbad, and Mr. Ranju Gopal Barman, Director Operations, Vivarta Greentech Solutions, presented their research and insights on hydrogen generation from different sources, including biomass and water.

Addressing the challenges of hydrogen storage and delivery, Prof. Sushant Kumar from IIT Patna and Dr. Santosh M from CSIR-CIMFR, Dhanbad, provided valuable inputs. The utilization of hydrogen was discussed by Prof. Siddhartha Sengupta and Prof. Ganesh Chandra Nayak from IIT(ISM) Dhanbad, as well as Dr. Pratik Swaroop Dash from Tata Steel.

A panel discussion on industrial and government perspectives regarding hydrogen technologies and the path forward for HVIC concluded the event. Panel members included representatives from Technip Energies, Tata Steel, Vivarta Greentech Solutions, Tata Power, Schneider Electric, and West Bengal Renewable Energy Development Agency.

The day-long event emphasized the importance of collaboration between academia and industry, with participants from various reputed institutes and organizations, including NIT Durgapur, BIT Sindri, Jadavpur University, and CSIR-CMERI Durgapur. In the closing ceremony, Prof. Rajiv Shekhar, Director of IIT(ISM) Dhanbad, highlighted the significance of academia-industry collaboration and encouraged the generation of novel ideas.

With its focus on green hydrogen, India's ambitious goal of energy independence by 2047 and net-zero emissions by 2070 moves closer to realization. The stakeholders' meet served as a platform for experts from different sectors to share knowledge, brainstorm ideas, and pave the way for the establishment of HVICs in India, contributing to a sustainable and self-reliant energy future.

First meeting of IIM-AIC Board of Governors held

CSIR-IIIM

23rd May , 2023

SRINAGAR, May 22: IIM-Atal Incubator Centre (AIC) of CSIR-Indian Institute of Integrative Medicine (Br) Srinagar conducted its first Board of Governors' meeting here today under the chairmanship of Dr Zabeer Ahmed, Director CSIR-IIIM, Jammu and ex-officio Chairman of Board of Governors, IIM-AIC.



This meeting was attended by other members of BOG wherein Er Abdul Rahim, Vice Chairman IIM-AIC; I B Dixit, Director IIM-AIC; Dr Saurabh Saran, Member Secretary IIM-AIC; Vikram Singh, CoA, CSIR-IIIM; Dr Anil Wali, Managing Director, FITT; Dr Muzamil Ahmad, Pr Scientist, CSIR-IIIM (Br.) Srinagar; Ram N Kumar, Founder, Nirog Street & Dr Saad Parvez, Head, IIEC, NIT, Srinagar.

AIC-IIIM Bio innovation Foundation (AIC-IIIM) is one of its unique class of incubators of Government of India established at CSIR-Indian Institute of Integrative Medicine (Br.) Srinagar.

Dr Saurabh Saran, Principal Investigator/Coordinator of IIM-AIC in his presentation apprised the board about the objectives, basis structure of operation and the targeted timelines to achieve the milestones.

During the meeting, certain important decisions about the creation of various facilities in the line of objectives, the functioning of IIM-AIC and the modalities to achieve the milestones were taken.

Dr Zabeer Ahmed, Director, CSIR-IIIM & Chairman BOG, IIIM-AIC informed that the AIC incubator which is fully supported by Atal Innovation Mission, NITI Aayog, Government of India is primarily focused on to support livelihood startups including progressive farmers, youth, women, SHGs, young entrepreneurs etc. The Board appreciated that the prime thrust areas of the incubator are very appropriate with the geographical location of Kashmir valley as it's mandates are focused on promoting value added products of aroma/essential oils; medicinal mushrooms, herbal & medicinal plants, leather processing & fermentation technology. The incubator will also offer manpower & skill development trainings in these areas. AIC Centre, is first of its kind incubator in valley which will nurture and support first stage startup companies of unorganised sector by providing them technology and innovation and by creating state of the art infrastructure, consultancy and seed grants to promising young entrepreneurs to pursue their dreams of starting their own ventures.

Young Scientist Award to Dr. A.V. Satya Kumar of CSIR-NGRI by the Telangana Academy of Sciences

DECCAN NEWS SERVICE

■ HYDERABAD

Dr. A.V. Satya Kumar, Scientist, CSIR-NGRI had been conferred the Young Scientist Award for the year 2021 in the field of Earth, Ocean, Atmospheric and Environmental Sciences by the Telangana Academy of Sciences, Hyderabad for his significant contributions in the fields of gravimetry, structure and tectonics, remote sensing, planetary geosciences, and paleomagnetism. Dr. A.V. Satya Kumar has extensively worked on deep subsurface structure of earth and planetary bodies using satellite gravity data and delineation of



structure and tectonic features of rift basins from remote sensing and gravity data. He is presently working on the paleomagnetic, rock magnetic and magneto-stratigraphy studies of different regions of India to understand the geodynamic conditions and Indian drift history.

परंपरागत फसलों की जगह औषधीय व खुशबू वाले पौधों की करें खेती, विविधता से आय बढेगी : डॉ. त्रिवेदी

वन वीक वन लैब कार्यक्रम का हुआ समापन, अंतिम दिन किसानों से किया संवाद

पिलानी@पत्रिका. सीएसआईआर-सीरी में चल रहे वन वीक वन लैब कार्यक्रम के दौरान शुक्रवार को समापन पर किसान मेले का आयोजन किया गया। जिसमें बाहर से आए वैज्ञानिकों ने संवाद किया और उन्हें आय बढ़ाने के लिए कृषि उपज में विविधता अपनाकर अपनी आय बढ़ाने का आह्वान किया। सीएसआईआर की लखनऊ स्थित राष्ट्रीय अनुसंधान प्रयोगशाला सीएसआईआर-सीमैप के निदेशक एवं प्रसिद्ध कृषि वैज्ञानिक डॉ. प्रमोद कुमार त्रिवेदी मुख्य अतिथि थे। जिन्होंने कहा कि कहा कि केंद्र सरकार किसानों की आय बढ़ाने के लिए कृत संकल्पित हैं और हम इसी दिशा में कार्य कर रहे हैं। उन्होंने कहा कि हमारा प्रयास रहता है



पिलानी. किसानों को अंजीर के पेड़ के बारे में जानकारी देते हुए कृषि वैज्ञानिक ।

कि हम अपने शोधकार्यों को कागज से धरती पर उतारें। किसानों के सहयोग की सराहना करते हुए उन्होंने कहा कि अब किसानों में भी तेजी से जागरूकता बढ़ रही है। उन्होंने कहा कि आय बढ़ाने के लिए कृषि उपज में भी विविधता बहुत जरूरी है। उन्होंने किसानों से परंपरागत फसलों के स्थान पर औषधीय और खुशबू वाले पौधों की खेती की शुरुआत करने का आह्वान किया। इस मौके पर सीएसआईआर के संयुक्त

सचिव महेंद्र कुमार गुप्ता भी बतौर विशिष्ट अतिथि मौजूद थे। जिन्होंने वन वीक वन लैब कार्यक्रम के समापन पर किसान मेले समेत अन्य आयोजनों के लिए सीरी निदेशक डॉ. पीसी पंचारिया को बधाई दी। इस अवसर पर सीएसआईआर सीमैप लखनऊ के वरिष्ठ प्रधान वैज्ञानिक डॉ. संजय कुमार ने सभी किसानों को परंपरागत खेती और फसल के स्थान पर अन्य लाभदायक औषधीय और खुशबू वाले पौधों की खेती और उसके

लाभों से अवगत कराया। इससे पहले संस्थान के निदेशक डॉ. पीसी पंचारिया ने अपने स्वागत एवं अध्यक्षीय संबोधन में अतिथियों एवं उपस्थित किसानों को संस्थान द्वारा किसानों के लाभ के लिए किए जा रहे प्रयासों से अवगत कराया। किसान मेले में आए किसानों और कृषि छात्र-छात्राओं को संस्थान द्वारा विकसित किए जा रहे प्रीसीजन कृषि अनुसंधान स्टेशन का भ्रमण कराया गया। डॉ. पंचारिया ने किसान मेले के आयोजन में सहयोग के लिए किसानों के संगठन चिड़ावा फॉर्मर प्रोड्यूसर कंपनी से जुड़े मुकेश मांजू और डॉ. जयपाल सिंह के प्रति आभार व्यक्त किया। कृषि मेले में हनुमानगढ़ कृषि विद्यालय, चिड़ावा कृषि विद्यालय से छात्र-छात्राओं ने लिया हिस्सा। कार्यक्रम का संचालन संस्थान के मीडिया एवं जनसंपर्क अधिकारी रमेश बौरा ने किया। अंत में प्रशासन नियंत्रक जयशंकर शरण ने धन्यवाद ज्ञापित किया।

कृषि उपज में विविधता अपना कर उद्यमी बन सकते हैं किसान: डॉ पीके त्रिवेदी



औषधीय और खुशबू वाले पौधों की फसलें भी राजस्थान की जलवायु के लिए अनुकूल वन वीक वन लैब कार्यक्रम का हुआ समापन, किसानों से किया संवाद

पिलानी (मृदुल पत्रिका)। सीएसआईआर-सीरी में चल रहे वन वीक वन लैब कार्यक्रम के दौरान आज किसान मेला आयोजित किया गया। मेले में बड़ी संख्या में स्थानीय किसानों ने प्रतिभागिता की। इस अवसर पर आयोजित कार्यक्रम में सीएसआईआर की लखनऊ स्थित राष्ट्रीय अनुसंधान प्रयोगशाला सीएसआईआर-सीमैप के निदेशक एवं प्रसिद्ध कृषि वैज्ञानिक डॉ प्रमोद कुमार त्रिवेदी मुख्य अतिथि थे। संस्थान के मुख्य सभागार में आयोजित कार्यक्रम में उन्होंने अपने संबोधन में कहा कि भारत सरकार किसानों की आय बढ़ाने के लिए कृतसंकल्प है और हम इसी दिशा में कार्य कर रहे हैं। उन्होंने कहा कि

हमारा प्रयास रहता है कि हम अपने शोधकार्यों को कागज से धरती पर उतारें। किसानों के सहयोग की सराहना करते हुए उन्होंने कहा कि अब किसानों में भी तेजी से जागरूकता बढ़ रही है। उन्होंने कहा कि आय बढ़ाने के लिए कृषि उपज में भी विविधता बहुत जरूरी है। उन्होंने किसानों से परंपरागत फसलों के स्थान पर औषधीय और खुशबू वाले पौधों की खेती की शुरुआत करने का आह्वान किया। विशिष्ट अतिथि श्री महेन्द्र कुमार गुप्ता, संयुक्त सचिव, सीएसआईआर ने इस कार्यक्रम को किसान मेला के साथ संपन्न करने के विचार और इसे मूर्त रूप देने के लिए डॉ पंचारिया को बधाई दी। उन्होंने कहा कि किसान हमारी अर्थव्यवस्था की रीढ़ हैं और उन्हें किसान मेले के माध्यम से अनुभवी और विशेषज्ञ व्याख्यानों से लाभान्वित करने के लिए आयोजक मंडल को साधुवाद दिया।

इस अवसर पर सीएसआईआर-सीमैप, लखनऊ के वरिष्ठ प्रधान वैज्ञानिक डॉ संजय कुमार ने अपने रोचक और ज्ञानवर्धक प्रस्तुतीकरण के माध्यम से सभी किसानों को परंपरागत खेती और फसल के स्थान पर अन्य लाभदायक औषधीय और खुशबू वाले पौधों की खेती और उसके लाभों से अवगत कराया। उपस्थित किसानों ने भी कार्यक्रम में सक्रिय प्रतिभागिता की और संवाद सत्र के दौरान प्रश्न पूछे। डॉ संजय कुमार ने प्रश्नों का उत्तर देकर उनकी जिज्ञासा शांत की।

इससे पूर्व संस्थान के निदेशक डॉ पी सी पंचारिया ने अपने स्वागत एवं अध्यक्षीय संबोधन में अतिथियों एवं उपस्थित किसानों को संस्थान द्वारा किसानों के लाभ के लिए किए जा रहे प्रयासों से अवगत कराया। किसान मेले में आए किसानों और कृषि छात्र-छात्राओं को संस्थान द्वारा विकसित किए जा रहे प्रीसीजन

कृषि अनुसंधान स्टेशन का भ्रमण कराया गया। डॉ त्रिवेदी और किसानों ने संस्थान के प्रयासों की सराहना की।

किसानों को प्रयोग स्वरूप जरूरी एवं जलवायु के अनुरूप फसलों के कुछ बीज भी वितरित किए गए। डॉ पंचारिया ने किसान मेले के आयोजन में सहयोग के लिए किसानों के संगठन चिड़वा फार्मर प्रोड्यूसर कंपनी से जुड़े श्री मुकेश मांजू और डॉ जयपाल सिंह के प्रति आभार व्यक्त किया। किसानों की जानकारी के लिए माइक्रो इरिगेशन, ड्रिप इरिगेशन, पशुओं की रोग प्रतिरोधक क्षमता बढ़ाने की जड़ी बूटी और पौधों की नर्सरी और देसी बीज के कुछ स्टॉल भी लगाए गए थे।

कार्यक्रम का संचालन संस्थान के मीडिया एवं जनसंपर्क अधिकारी रमेश बौरा ने किया। अंत में प्रशासन नियंत्रक श्री जयशंकर शरण ने धन्यवाद ज्ञापित किया।

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