

CSIR IN MEDIA



CSIR

NEWS BULLETIN **06 TO 10 JANUARY 2023**



Union Minister Dr Jitendra Singh says, all 37 CSIR Labs in India will be turned into Global Centers of Research and Innovation in their respective fields of Specialization

CSIR-IICT, NAL, CIMAP, NIScPR, CBRI

06th January, 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, DrJitendra Singh today launched .

Each of the 37 CSIR (Council of Scientific & Industrial Research) Labs spread across the country is dedicated to a different exclusive area of work and the "on week, one lab" campaign will offer an opportunity to each one of them to showcase the work being done by it so that others can avail of it and stakeholders learn about it. India will be turned into Global Centers of Research and Innovation in their respective fields of Specialization.

DrJitendra Singh said, with the active and constant support of Prime Minister Narendra Modi for all scientific endeavours since May 2014, India is scaling new heights each day in Science, Technology, Innovation (STI) eco-system.

DrJitendra Singh referred to PM's address at 108th Indian Science Congress held in Nagpur this Tuesday, when he said, "We are also seeing the results of the scientific approach with which today's India is moving forward. India is fast becoming one of the top countries of the

world in the field of science. Out of 130 countries, we were at number 81 in the Global Innovation Index till 2015. But we have jumped to 40th position in 2022. Today India is among the top three countries in the world in terms of PhDs. Today India is among the top three countries in the world in terms of start-up ecosystem”.

DrJitendra Singh informed that in the “One Week One Lab” Campaign of CSIR, each of its 37 constituent laboratories, spread Nationwide, will showcase their legacy, exclusive innovations and technological breakthroughs every successive week. During the campaign each CSIR lab shall be organizing week long events including industry & start-ups meet, students connect, society connect, display of technologies, etc.

DrJitendra Singh informed that in the last decade, CSIR has facilitated the country with its first ever Biofuel-Powered Flight, BharatiyaNirdeshakDravya, asafoetida (Heeng) cultivation, indigenous development of dental implants, the technology of High-Resolution Aquifer Mapping, indigenously developed Hydrogen Fuel Cell Bus, road construction with Steel Slag, development of CSIR - TechnoS Raman Spectrometers, the Trainer aircraft HANSA- NG and many other technologies developed at different CSIR laboratories.

DrJitendra Singh was happy to note that each of 37 CSIR laboratories is unique and specializes in as diverse areas as the Genome to Geology, Food to Fuel, Minerals to Materials, and so on. CSIR has marked its footprint in the Nation with pathbreaking technologies and innovations since last 80 years, some of them include the indelible ink, Parallel Computers Flosolver, Swaraj Tractors, Centchroman, DNA Fingerprinting, Aroma Mission and many other.

The Minister pointed out that there is a plethora of technologies developed by the Scientists and researchers of CSIR laboratories for the society, but many of them remain confined to the laboratories. There is a need to establish the resourceful connect of people (stakeholder/ entrepreneur/ student/ industry) to know more about the technologies for the advancement of the technology and the progress of the society, he added.

DrJitendra Singh kicked off the campaign by inaugurating the Workshop & Exhibition on “Innovation and Sustainable Construction Materials & Technologies” organized by CSIR-Central Building Research Institute (CSIR-CBRI), Roorkee with an aim of moving towards Net Zero Emission and Zero Waste. On the occasion, DrJitendra Singh also released the Logo for CSIR’s One Week One Lab Campaign.

During the inaugural session, Secretary, DSIR & Director General, CSIR, Dr N Kalaiselvi said, the campaign is a unique initiation and an out of box idea of Dr. Jitendra Singh to reach out to people of India and to the world about the success stories of CSIR. Describing CSIR as the innovation engine of India, She said that all the 37 labs have to come out with lots of success stories in the next 7 Years for a mid term appraisal in 2030, to fulfill the vision of Prime Minister to make India innovation hub of the world in 2047.

Dr. Kalaieselvi informed that the "One Week One Lab" campaign of CSIR is a way to establish the right connect and to showcase not only the technological breakthroughs & innovations in CSIR laboratories, but also Future Technologies on which CSIR labs are working. She said, the campaign will include events for Students Connect through interaction of Scientists and researchers of the laboratories with school students, who are the future Scientists, to inculcate the temper of science. The focus will be through CSIR’s existing collaborations with schools and programs such as Jigyasa and Atal Tinkering Lab.

The campaign will also focus on academia and skill development, where interested students from varying domain get to know about the research activities and facilities of the CSIR laboratories and get a connect for future prospects. Another focus of the campaign is to support more and more Start-ups and entrepreneurship in the Nation with dissemination of science and wide spread of the technologies. Industries & MSMEs Meets are targeted to establish understanding between Science and Industry based on the requirement of the society or regional needs and to identify potential industries for co-development of Next Gen technologies and products. It will be an opportunity to create networks of Govt- Academia-Industry for faster deliveries and deployments of technologies.

Director, CSIR-CBRI, Prof. Pradeep Kumar Ramacharla gave a brief overview of the events scheduled throughout the week under the campaign including Technology Challenge Hackathon, Industry, MSME, Academia Meet, Students Connect programs, Entrepreneurship Opportunities, a Town Hall Meeting, and finally proposed the vote of thanks.

Directors from other CSIR laboratories also attended the inaugural session. CSIR-IICT, CSIR- NAL, CSIR-CIMAP & CSIR-NIScPR will be showcasing their technologies in the upcoming weeks to be a part of this campaign. CSIR has targeted to conclude this campaign during its next Foundation Day celebrations.

Council of Scientific & Industrial Research (CSIR), the largest public funded R&D organization in India, was set-up in 1942 has been continuously evolving. Carrying out world-class research for the scientific and industrial research and development has been CSIR's hallmark.

Started with 5 laboratories in 1942, in its eight decades of journey CSIR has grown into an organisation with 37 labs of 3521 scientists, supported by 4162 technical staff, 2612 administrative & other support staff and about 5500 young scholars, that addresses every facet of scientific development required in the country.



Published in:

[Pib](#)

NEIST holds training on mushroom cultivation

CSIR-NEIST

10th January, 2023

CSIR-North East Institute of Science & Technology (NEIST) branch here conducted day-long training on mushroom cultivation and its commercialization here on Tuesday.



Thirty students from different college/university, including Dehradun's Dolphine PG Institute of Biomedical and Natural Science, Nirjuli's NERIST and Dehradun's Apline Institute of Management attended.

Briefly highlighting about CSIR-NEIST and its activities, principal scientist Dr Chandan Tamuly said that mushroom is a source of vitamin-D, protein and minerals. Such nutraceuticals are available in mushroom at very low cost. This crop can be considered as a source of sustainable income generation for rural people.

Technical assistant Priyanka Kakoti, as resource person, gave a presentation on "Commercial cultivation of mushroom for sustainable socio-economic development to combat malnutrition"

A hands on training was also given to the participants, who also visited mushroom incubation centre to understand the process of mushroom production, according to an official release.

Published in:

Arunachalobserver

Tatanagar SER High School students on study tour at CSIR-NML

CSIR-NML

10th January, 2023

A group of thirty-five South Eastern Railway High School, Tatanagar accompanied by teachers Vivekanand Singh, Kalyani Rani Rath, A N Kumar, Shibasis Das, S K Singh, and Mukesh Kumar visited the CSIR-National Metallurgical Laboratory on a study tour on Tuesday, January 10 under the 'CSIR Jigyasa' programme. The students interacted with



scientists and research scholars. 'The CSIR Jigyasa' programme has been devised to provide exposure to research environment and simultaneously motivate students in science studies and subsequently pursue careers in the science streams. The students were thrilled to visit the laboratory and interact with departmental personnel. The aim of organizing this laboratory visit was to create an interest in scientific innovation and encourage the participation of students in developing innovative scientific content on a virtual platform for the 'Jigyasa Virtual Laboratory project.' Dr Mita Tarafder, Chief Scientist & Head, KRIT Division, CSIR-NML, and Leader of the CSIR Jigyasa Virtual Laboratory Project delivered the welcome address. In her address, she briefly talked about CSIR and the R&D and support facilities at CSIR-NML, gave an insight into 'knowing and learning by doing,' and encouraged students to think from a practical point of view. Dr Aniket Dutt, Project Scientist from the KRIT Division team, gave a short presentation on the CSIR-Jigyasa portal. The team helped the students and teachers who showed interest in subscribing to the YouTube channel of the CSIR-NML Jigyasa program. The day-long program included a visit to some research laboratories, workshops, KRIT Division and the CSIR-NML museum and library. The students and teachers expressed their satisfaction with the overall experience.

Published in:

[Avenuemail](mailto:avenuemail@csir-nml.ac.in)

CSIR-CSMCRI

10th January, 2023

सीएसएमसीआरआई में 'घरेलू सौर तापीय उपकरणों के सिद्धांत और व्यावहारिक पहलुओं' पर प्रशिक्षण कार्यक्रम का आयोजन

भावनगर। कौशल भारत-कुशल भारत अभियान पर प्रधानमंत्री के आह्वान में योगदान देते हुए, सीएसआईआर-केंद्रीय नमक व समुद्री रसायन अनुसंधान संस्थान (सीएसएमसीआरआई), भावनगर में 09 जनवरी, 2023 को 'घरेलू सौर तापीय उपकरणों के सिद्धांत और व्यावहारिक पहलुओं' पर एक कौशल विकास प्रशिक्षण कार्यक्रम का उद्घाटन किया गया। यह प्रशिक्षण 12 जनवरी तक चलेगा। 'सीएसआईआर-एकीकृत कौशल पहल' देश भर में स्थित वैज्ञानिक



और औद्योगिक अनुसंधान परिषद (सीएसआईआर) की प्रयोगशालाओं की विशेषज्ञता और बुनियादी ढांचे का उपयोग करके सीएसआईआर द्वारा शुरू किया गया कौशल विकास पर एक राष्ट्रीय कार्यक्रम है। उद्घाटन सत्र के दौरान संस्थान के निदेशक डॉ. कन्नन श्रीनिवासन ने भारतीय युवाओं के लिए कौशल विकास के महत्व पर प्रकाश डाला। उन्होंने उल्लेख किया कि कौशल का विकास रोजगार क्षमता उत्पादकता

को बढ़ाकर देश के आर्थिक विकास में योगदान दे सकता है। प्रोसेस डिजाइन एंड इंजीनियरिंग सेल के प्रमुख डॉ. जे.आर.चुनावाला ने कहा कि कौशल विकास कार्यक्रमों पर जोर देने और व्यक्तियों को उनकी प्रतिभा और ज्ञान का उपयोग करने में मदद करने की आवश्यकता है। प्रशिक्षुओं का स्वागत सीएसआईआर-एकीकृत कौशल पहल के समन्वयक एवं वरिष्ठ प्रधान वैज्ञानिक एस.सी.उपाध्याय ने किया। संस्थान के वरिष्ठ वैज्ञानिक एवं पीआरओ डॉ. केबी पाण्डेय ने बताया कि इस प्रशिक्षण कार्यक्रम में कुल 25 अभ्यर्थी भाग ले रहे हैं।

EIL's R&D day witnessed engaging talks on energy industry

CSIR-IIP

09th January, 2023

New Delhi: Engineers India Limited in pursuance of its commitment to Innovation, organised EIL's R&D Day. The company witnessed engaging talks from distinguished industry stalwarts on key thematic areas pertinent to the energy industry.



Dr SSV Ramakumar, Director (IOCL-R&D) Shared his thoughts on the role of #integrating refining and #petrochemical sectors in the energy transition. Dr Anjan Ray, Director (CSIR-IIP) discussed various challenges and opportunities in Energy Transition.

Mr S. Shriram, CGM & HOD (R&D) shared insights on Green Hydrogen and its role in the changing energy landscape. Dr Bharat Newalkar, CGM (BPCL-R&D) shared his thoughts on the Netzero aspects of the refining industry.

The session was enriching for the audience, providing new insights into the energy industry's growth trend.

Published in:

[Psuconnect](#)

Farmers to get benefits of Samruddhi Mahamarg, says Dr Mahendra Darokar

CSIR-CIMAP

09th January, 2023

Dr Mahendra Darokar, Chief Scientist & Coordinator of Mission Aroma and Mission Floriculture, CSIR, Govt of India, recently said that as envisaged by the planning authorities, Vidarbha farmers will get immense benefits from the Samruddhi Mahamarg. He was virtually addressing the participants of the seminar on “Samruddhi Mahamarg se Samruddh Kisan”, organised by the Vidarbha Industries Association (VIA) Agro & Rural Development Forum at VIA Auditorium, Nagpur.



Ashween D Nannaware, Principal Scientist, CSIR-CIMAP, Lucknow, also in charge of Mission Aroma for Maharashtra, while delivering the key note address; said that there is huge scope of cultivation and value-added industrial processing of scientifically developed, region specific, superior varieties, early maturing industrially important crops with lower input costs.

“We suggest mapping a crop wise plan for processing of Vetiver, Geranium, Lemon Grass, Citronella, Palmarosa (for dust pollution control) and high quality herbals like Ashwagandha, Bramhi, Shatavari, Kalmegh, Tulasi, Anantmul, Adusa, Aloe Vera, etc. to cater to the demands of perfumery, cosmetics and agarbati industries including exports, he said. Rohit Agarwal, speaking on the occasion, appealed to the processors and industries to come up on feeder roads to the highway.

Om Jajodia, Chairman of VIA Agro & Rural Development Forum, emphasized on all possible options for intercrops and companion crops of medicinal plants, aroma grass, along with

major crops of Vidarbha. R B Goenka, Vice President VIA, Shachi Mallick, convener of Agro Forum, Mohan Pokhale, Milind Bodkhe, Rishi Saraf and others were present. The program was conducted by Dr Kirty Sirothia and Shipra Dixit proposed the vote of thanks.

Work on Chandigarh's new integrated waste plant to get going this month

CSIR-NEERI

09th January, 2023

Construction of the ambitious integrated solid waste processing plant at Dadumajra is finally expected to get underway this month. Aimed at effectively tackling city's daily waste generation of 550 metric tonnes (MT), the new plant, with a capacity of 600 tonnes per day, will comprise three facilities – one each for dry, wet and horticulture waste. Spread over 20 acres, it will be set up on a part of the Dadumajra landfill after clearing the area.



Of the 550 MT waste generated in the city daily, around 200 MT is dry and 350 MT wet. Municipal commissioner Anindita Mitra said, “We will be floating tenders soon. Construction is expected to begin by the end of this month and hope that the plant will be ready by year end.”

On Saturday, the Council of Scientific and Industrial Research - National Environment Engineering Research Institution (CSIR-NEERI), Nagpur, submitted its recommendations to MC. The report advised that the refuse-derived fuel (RDF) or byproducts produced from waste at the plant can be used to make coal to be sold to thermal plants, and the facility also have a bio methanation plant and composition plant for horticulture waste.

Mitra said, “Scientists from CSIR-NEERI visited the site in October last year and on Saturday gave their recommendations, which will be placed before the technical committee of MC for final approval. CSIR-NEERI will also vet the request for proposal (RFP) and detailed project report (DPR) on the design, engineering, finance, construction, supply, installation,

commissioning, performance, operation and maintenance of the facility.” For nearly a decade now, most of the city’s solid waste is being dumped unprocessed at the Dadumajra dumping site. MC had taken over of the existing plant from Jaypee Group in June 2020. But even after that the plant has been processing less than 50 MT of the total 550 MT waste generated in the city on a daily basis.

Through a 2020 report, IIT Roorkee had recommended setting up a “modern” waste processing plant at the existing site in Dadumajra, as even after repairs, the plant can at best run at only 40% of its total capacity, leading to MC’s decision to set up an integrated plant for 100% processing of daily waste.

Notably, MC’s failure to run the solid waste processing plant efficiently has been among the reasons for Chandigarh’s poor show in the last few Swachh Survekshan rankings, and was also a central issue during the 2021 MC elections. The mountain of garbage at the Dadumajra landfill has also been blamed for a host of health issues in almost every household located in its vicinity.

A total of 12.7 lakh MT legacy waste is being cleared at the landfill to reclaim over 25 acres of land. Of this, 5 lakh MT from before 2005 is being bio-mined under a ₹33-crore Smart City project with an August 2023 deadline. The ₹68-crore project under the Swachh Bharat Mission 2.0 is targeting the remaining 7.67 lakh MT legacy waste dumped at the Dadumajra site after 2005. Started in September 2022, the biomining work here will be completed by April 2026.

CSIR-NGRI

09th January, 2023

Joshimath likely on razor's edge

Understanding what lies beneath is key to town's survival: City scientist

BALU PULIPAKA | DC
HYDERABAD, JAN. 9

What lies underneath, and how it lies, holds the key to the safety, security, and survivability of the holy town Joshimath, the gateway to the major Hindu temple town of Badrinath in the Himalayan foothills of Uttarakhand. Joshimath, built on what has now clearly emerged as being a 'not very stable land' and declared disaster-prone by the local authorities in the wake of the subsidence that resulted in hundreds of houses developing cracks rendering much of the town unsafe, incidentally lies in what geologists classify as zone 5, a designation reserved for the most seismically active areas in the country.

With urgent efforts to evacuate people amid fears of a possible large-scale landslide that could destroy the town completely, the question is whether Joshimath, the winter abode of Swamy Badrinath of Badrinath temple, can survive its present scare and emerge as a better built town.

CRISIS OF SINKING JOSHIMATH

- Joshimath is an ecologically fragile and tectonically active area.

- High topography with steep slopes and the weak rock structure on which the town rests, are some of the reasons for the crisis in Joshimath.

- Construction activity and deforestation adding to the instability.



At a larger scale, what is required is a balance between development and environmental safety. This will need more attention and involvement of all stakeholders."

Dr N. Purnachandra Rao,
Chief scientist at CSIR-NGRI



People affected by the gradual "sinking" of Joshimath in Chamoli district of Uttarakhand after cracks appeared in their houses, in Joshimath.

— PTI

"At a larger scale, what is required is a balance between development and environmental safety. This will need more attention and involvement of all stakeholders," said Dr N. Purnachandra Rao, chief scientist and head of the environmental seismology group at CSIR-NGRI here

on Monday.

An expert with three decades of study of earthquakes and seismicity in the country, Dr Rao said that Joshimath will require detailed studies – geological, geophysical, geomorphological, geotechnical and seismic.

"These are hazard stud-

ies that are required at a micro-zonation level. The studies will help in understanding the strength of the subsurface rocks. We need to understand what lies beneath, how it lies, and how it could behave," he told *Deccan Chronicle*.

The National Geophysical Research

Institute scientist said that the area will also require 'precursory monitoring', something that is now being experimented with in Uttarakhand to study the possibility of getting early warning of an event that could start at one location and have a cascading effect else-

where, particularly in downstream areas.

There are multiple reasons for what Joshimath is experiencing now. It is in an ecologically fragile and tectonically active area. The high topography with steep slopes, and the weak rock structure on which the town rests, can be considered as some of the reasons. Then there is construction activity, deforestation adding to the instability with the additional factor of the changes in precipitation patterns caused by rains and melting of snows and feed from glacial lakes. "All these contribute to weakening of the soil," he said.

"The region has several glacial lakes and with the impact of global warming, there is a risk of such lakes bursting, and these could add to the crisis in Joshimath. And as far as seismicity is concerned, each shake, even the minutest ones, can add to the instability coupled with other factors. A very cautious approach is required in this regard," Dr. Rao explained.

India's own Footwear Sizing System soon

CSIR-CLRI

08th January, 2023

India is celebrating 75th anniversary of her Independence from the British rule. However, in these many years, India could not get own independent footwear sizing system. As such, despite being the second largest footwear producer after China, India has been using the USA and the UK footwear sizing systems. But, thanks to the initiative taken by CSIR-Central Leather Research Institute (CLRI), India is developing own Footwear Sizing System. CSIR-CLRI, under the aegis of Department for Promotion of Industry and Internal Trade under the Union Ministry of Commerce, has conducted a nation-wide survey to collect reliable data on foot dimensions of the Indian population. National Sample Survey Office identified 79 locations across the country, including Nagpur from Vidarbha region of Maharashtra. Accordingly, a total of 1,01,880 footwear measurements were collected in five zones through the field work completed by 28 teams. The foot dimensions were collected using 3D digital imaging technique to establish the Indian Footwear Sizing System. “We have been following the USA or the UK systems for footwear.



However, the foot size in the Indian sub-continent is different from that in the USA or the UK. So, with an aim to maximise comfort level for Indians, CSIR-CLRI has taken the initiative to develop Indian Footwear Sizing System,” said Dr Jai Prakash, Scientist, CLRI. Dr Jai Prakash told ‘The Hitavada’ on the sidelines of the 108th Indian Science Congress that the foot dimensions were collected from across the country between December 2021 and March-April 2022. Now, he added, the data collected is being analysed to have in place a standard system. The exercise has been undertaken as the foot characteristics in India are very different as compared to those of people from where the sizing system has been adapted so far. Once the

Indian Footwear Sizing System is finalised after analysis of data, the process of approvals of various agencies will start. Once the system gets final nod, transfer of system to footwear manufacturing companies will take place. Accordingly, the Indian footwear makers will produce footwear that would be fit for use by the Indians. The design of footwear is a complex and multi-disciplinary task. It spans various fields of science and engineering. A proper footwear size ensures comfort of a shoe as well as proper foot health for the wearer. However, in the absence of India's own footwear sizing system, the wearers face various problems while using footwear. But, not many know that the problems relating to fitting and comfort of footwear are because of lack of Indian footwear sizing system. Once the Indian system is in place, it will prevent foot debilitation caused due to wearing of improper footwear, apart from ensuring comfort and proper fitting.

The Indian system will ensure that footwear is designed and promoted to meet the demands of variety of movements and improve ambulatory functions of human feet. When the CSIR-CLRI had undertaken this exercise in 2021, it had set several objectives that included arriving at different length and width groups required for Indian population, specifying the Last Grading parameters viz, the length and width increments required, establishing equivalence with other sizing systems followed Internationally viz. English and French ones, deriving a chart to compare equivalence with other sizing systems. Now, the Indian Footwear Sizing System may be put in place shortly. It will be very important to enable Indian products to be sold in International markets.

CSIR-NEERI, NBRI

07th January, 2023

'Carbon Neutral Plan' for Vid in offing: Dr Atul Vaidya

■ CSIR-NEERI, CSIR-NBRI and NMC to establish flower waste recycling unit in city

■ Staff Reporter

CSIR-National Environment Engineering Research Institute (CSIR-NEERI), Nagpur is preparing 'Carbon Neutral Plan' for Vidarbha to reduce carbon emission from all Thermal Power Plants.

Sharing this information during a media interaction at the 108th Indian Science Congress, on Friday, Dr Atul Vaidya, Director, CSIR-NEERI said, "Thermal Power Plants are the major contributors of carbon dioxide in Vidarbha. However, the Department of Science and Technology, Government of India recently awarded a project to CSIR-NEERI to prepare a map and a plan to make Vidarbha carbon neutral."

The project will be completed within three years and the institute has already started working on it, said the Director.

"The Central Government is working hard to make India carbon neutral till 2070 and carbon mapping is a part of the same initiative. It is a matter of pride that NEERI is working on a carbon neutral plan for Vidarbha which is catering the demand

power supply of the whole Maharashtra through its thermal power plants," said Dr Vaidya.

Talking about local projects, Dr Vaidya said, "CSIR-NEERI is working with Nagpur Municipal Corporation (NMC) on many environment related projects like Air Action Plan, solid waste management etc."

Dr Vaidya further informed the media, CSIR-NEERI along with CSIR-National

Botanical Research Institute (CSIR-NBRI), Lucknow and Nagpur Municipal Corporation (NMC) are going to establish a flower waste recycling unit in the city soon.

A meeting between Nagpur Municipal Commissioner and representatives of CSIR-NEERI and CSIR-NBRI took place on Thursday in which discussion and plan for the project were shared. A team visit to local markets was also held on Friday,

said Dr Vaidya. "This unit will recycle flower waste and produce essence sticks and perfumes with the help of modern technology. The project will also train people and they can also sell the essence sticks and perfumes," said Dr Vaidya.

The Director further said, "NMC will provide land for the project, NEERI will give funds and NBRI will provide expertise and technology."



Dr Atul Vaidya

CSIR-NEERI

07th January, 2023

CSIR ex-DG peeved over absence of 'distinguished scientists' at 108th ISC

■ What will be the message of 108th Indian Science Congress, questions Dr Shekhar Mande

■ Staff Reporter

"AFTER the last Indian Science Congress hosted by Nagpur University, an institution like Raman Science Centre came up in the city. What message will the 108th Indian Science Congress (ISC) leave," questioned Dr Shekhar Mande, ex-Director General, Council of Scientific and Industrial Research (CSIR). Addressing a symposium 'Science and Society', organised as part of Indian Science Congress at Mass Communication Department's GT Parande Hall on Friday, Dr Mande expressed his displeasure over the small turn out of distinguished scientists.

"Outer structures like big domes, hospitality, digital quality are part of Indian Science Congress, but there is something concrete behind it, which should get reflected in such grand events. Such less number of distinguished scientists attending the Science Congress is not a good thing," observed Dr Mande.

Laying emphasis on need for more and quality scientific paper presentation at such a grand event, Dr Mande regretted that the Congress



Dr Shekhar Mande being felicitated by Dr Subhash Chaudhari and Dr Vijaylaxmi Saxena.

saw very few papers which could be considered 'upto the mark'.

Shivkumar Rao, President of Vidarbha Economic Development Council, and Director, R&Y Logistics, suggested that the university should join hands with industries and research institutions to develop a consistent, vibrant and dynamic framework to implement ideas that come up in congregations such as the Indian Science Congress.

Dr Lal Singh from NEERI delivered a presentation on bamboo plantation on fly ash dump sites and wastelands.

General President of ISCA Dr

Vijaylaxmi Saxena, in her address, underlined the need for communicating science to masses, especially the most vulnerable elements of the society.

Vice-Chancellor Dr Subhash R Chaudhari, Dean of Faculty of Science and Technology Dr Prashant B Maheshwari and Past General President of ISCA Dr A K Saxena also expressed their views during the symposium.

Dr Chandras Handa was the convenor of the symposium.

The programme was conducted by Dr Mahesh Shukla while Dr Anuj Kumar Sharma proposed a vote of thanks.

CSIR-NGRI

07th January, 2023

CSIR-NGRI Scientist elected as a Fellow of the Indian, Academy of Sciences, Bengaluru

ఇండియన్ అకాడమీ ఆఫ్ సైన్సెస్ ఫెలోకు
ఎంపికైన ఎన్జీఆర్ఐ శాస్త్రవేత్త



డా.రవికుమార్

హబ్బిగూడ, న్యూఢిల్లీ: హబ్బిగూడలోని జాతీయ భూభౌతిక పరిశోధన సంస్థకు చెందిన శాస్త్రవేత్త, డా. రవికుమార్ 'ఇండియన్ అకాడమీ ఆఫ్ సైన్సెస్ పెలో' కు ఎంపికైనట్లు ఎన్జీఆర్ఐ సంస్థ శుక్రవారం ఒక ప్రకటనలో తెలిపింది. మన విజ్ఞాన శాస్త్ర రంగంలో ఆయన చేసిన కృషికి అవార్డు లభించిందని సంస్థ పేర్కొంది. భూకంప ప్రమాద అంచనా, భూకంపోత్పత్తికి సంబంధించిన పరిశోధనలు ఆయన చేశారని తెలిపింది.

Published in:

Eenadu, AndhraJyothi

CSIR-NEERI

06th January, 2023

NEERI develops KSHAN AQ, a flying air quality laboratory

- The unmanned aerial vehicle (UAV) helps in gauging air pollution levels that are difficult to gauge as same are dispersed over vast area
- The usability of UAV becomes all the more important as it can fly at different altitudes

■ Staff Reporter

COMBINING ingenuity with practical application, NEERI-KSHAN AQ-the air sampling multicopter, has been developed by the city based National Environmental and Engineering Research Institute (NEERI).

The unmanned aerial vehicle (UAV) helps in gauging air pollution levels that are difficult to gauge as same are dispersed over vast area. With focus on National Clean Air Mission, the UAV is touted as Flying Air Quality Laboratory that helps in developing pollution control parameters post analysis of the data collated from different sectors.

The usability of UAV becomes all the more important as it can fly at different altitudes. Particularly, in urban and densely populated areas dotted with skyscrapers, the multicopter is helpful in profiling lower troposphere to monitor the air quality.

On display at R&D pavilion at 108th Indian Science Congress at RTMNU campus, the multicopter is pitched as



Unmanned Aerial Vehicle (UAV), a Flying Air Quality Laboratory developed by NEERI. (Pic by Satish Raut)

mapping and monitoring solution for environment. Battling climate change countries across the globe are keen on mapping and collating data as same later helps in formulating policies.

As to design, the multicopter weighs just 2.2 kg. This provides much needed maneuverability, said Gaurav Sarode, who devised the machine while working as Research Fellow at NEERI.

He was guided on the project by Dr Piyush Kokate, Senior Scientist, NEERI, and they developed UAV-based laboratory in the year 2018. Sarode added the design registration with Intellectual Property Rights (IPR) recently.

Earlier, for monitoring air pollution, scientists were dependent on hot air balloons that however had limitations, explained Sarode as he explained multicopter advantages during tete-a-tete with 'The Hitavada' at the R&D Pavilion at 108th Indian

Science Congress at RTMNU academic campus. The UAV is fitted with sensors, PM2.5, CO, temperature, humidity, more can be added according to the need.

The operating principle is Optical Sensor, MOS sensors helpful in monitoring air quality. Gaurav said, the multicopter is a multi-utility vehicle and can also be used for collecting water sample, if needed where a container is needed to be attached, which can then be pulled up with a pulley. Similarly, the copter also can help in picking up soil sample, making it a multi-utility unit.

The multicopter is very helpful in mine areas to monitor air pollution so that planners can take corrective steps post data analysis. As to its working, Gaurav said, the sensor fitted on the copter captures the data and then relays the message through an attached device.

Right now, the NEERI team is working on improving functionality of multicopter as Government has suggested modifications. The focus, Gaurav said, is increasing the multicopter's radius, at present one km, to scale it up to 2 to 3 km. Further efforts are needed to improve data transfer speed from present 1 mbps to 10 to 12 gb/second for which advanced fittings will be added. Similarly, Government has also suggested using indigenously developed sensors. "Also, we are working to fix the battery issue so that the copter can be kept in air for a longer period and bettering the payload. The copter has a flying range of 120 meters and helps in altitude air mapping.

CSIR-NBRI

06th January, 2023

...ताकि बर्फीली हवा में न कुम्हलाएं आपकी बगिया के फूल

रमणी मिश्रा • लखनऊ

प्रदेशभर में मौसम विभाग ने घने कोहरे के साथ ठंडी हवाओं के लिए चेतावनी जारी की है। बर्फीली हवाओं का असर इंसानों के साथ पेड़-पौधों पर भी पड़ता है। कई ऐसे फूल हैं जो बहुत अधिक सर्दी पड़ने पर मुरझाने लगते हैं। राष्ट्रीय वनस्पति अनुसंधान संस्थान (एनबीआरआई) के मुख्य वैज्ञानिक डा. एस्के तिवारी के अनुसार, बहुत अधिक तापमान गिरने से कई मौसमी फूलों और सब्जियों के पौधों पर प्रभाव पड़ता

है। इनके बचाव के लिए धुआं करने और पानी लगाने समेत कुछ इंतजाम किए जा सकते हैं।

डा. एस्के तिवारी के अनुसार, सर्दियों में कई वार्षिक पौधे भी लगाए जाते हैं। इनमें अधिकतर फूल वाले पौधे शामिल होते हैं। हालांकि ये पौधे तापमान के प्रति संवेदनशील होते हैं। तापमान में कमी होने पर गुलाब, ग्लैडियोलस, पिटूनिया, डहेलिया, तुलसी, आलु, टमाटर, मिर्च, नींबू आदि के पौधों पर असर पड़ता है। कई पौधों के फलवर्ग यानी फलने-फूलने पर पड़ता है।

डा. तिवारी ने बताया कि अधिक तापमान गिरने से गुलाब की पत्तियों पर काले धब्बे पड़ने लगते हैं। कलियां खिलने से पहले

ही मुरझाकर टूटने लगती हैं। कुछ अन्य फूल वाले पौधों में पत्तियां मुड़कर गिरने लगती हैं। गेंदे के फूल कम तापमान में सूखकर गिरने लगते हैं। गुच्छे में खिलने वाले फूलों में कुछ फूल मुरझाए और कुछ खिले हुए होते हैं।

डा. तिवारी बताते हैं कि पारंपरिक रूप से पाला गिरने पर किसान दो मुख्य उपाय अपनाते हैं। कुछ किसान फसलों को बचाने के लिए तापमान गिरने पर फसलों के आसपास धुआं करते हैं। इससे कोहरे का प्रभाव पौधों पर कम हो जाता है। इसके अलावा कोहरे और ठंड से बचाने के लिए किसान फसलों में पानी भी लगाते हैं। नमी पहुंचने पर मिट्टी के अंदर की गर्मी पौधों को ठंड से बचाती है।



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इन बातों का रखें ध्यान

- तापमान गिरने पर फसलों या पेड़-पौधों पर फर्टिलाइजर का उपयोग न करें।
- तापमान अधिक गिरे तो फसलों में पानी लगाएं।
- जिन पौधों को छांव में नहीं लाया जा सकता उन्हें ढकने का प्रयास करें।
- गमलों में लगे पौधे को कमरे या ऐसी जगह पर रखें जहां कोहरा पौधों पर न गिरे।
- फसलों के आस-पास धुआं करें।

CSIR-CDRI

At 99, former CDRI director yearns to do more for India

Gaurav Saigal

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LUCKNOW: In his 99th year, Dr Nityanand, who gave India its first and still exclusive non-steroidal oral contraceptive, sits upright with a pile of files and scientific papers in his living room.

Part of the country's family planning programme, the contraceptive he worked is popular under the brand name 'Chaya' that was earlier known as 'Saheli'.

"I lived for Centchroman and I still am looking for its non-contraceptive usage," says Dr Nityanand, a legendary figure on the Indian drug research scene who was awarded the Padma Shri in 2012.

Centchroman that World Health Organisation (WHO) named as Ormeloxifene is the compound Dr Nityanand made as a contraceptive for women to take once a week.

He is credited with helping crores of families in India to follow the "hum do hamare do" concept. His face brightens as he flips the pages of a file and shares more on his work.

"Chaya is still the cheapest at Rs 4 a tablet at chemist shops and free at government health facilities," Dr Nityanand said.

Centchroman was developed in 1981 and could become a 'wonder drug' in India as it has been found useful for several chronic ailments, including breast and cervical cancer.

"We are conducting two trials with Centchroman in the department of gynaecology –



Dr Nityanand says researchers should focus more on diseases more relevant to India. DEEPAK GUPTA/HT

breast pain and cervical cancer – as this drug has been proven useful in dysfunctional uterine bleeding (DBU) and numerous other ailments, including breast cancer," said Dr Soniya Nityanand, director of Dr Ram Manohar Lohia Institute of Medical Sciences in Lucknow, and daughter of Dr Nityanand.

Born at Lyallpur (now Faisalabad) in Pakistan, Dr Nityanand has seen Partition closely. He had to fly to Lyallpur from Mumbai to rush his family to India. His determination is never ending.

"The country was just starting and we had realised what pharmaceutical science can do for the nation," said Dr Nitya-



Chaya is still cheapest at Rs 4 a tablet at chemist shops and free at government health facilities

DR NITYANAND

nand who thought of using science to bring about change in industry and attitude of the country.

Dr Nityanand, who went to Cambridge for his second PhD to know more about biological

science and came back to India, begins his daily studies in the afternoon. Till late evening, he is involved in reading research, interacting with the scientific community and responding to doubts from across the world.

Dr Nityanand did his first work on leprosy after returning to India. "My compound can help treat several ailments. All I want is it should be taken up for more multi-centre trials and for various ailments. I have done my bit and I am ready to do more for this country," said the man who has developed one of the cheapest compound for drugs that can treat several ailments.

Though developed as contra-

ceptive, the compound Centchroman worked for patients of over a dozen different ailments, including DUB, advanced cancer of breast (stage III and IV), chronic myeloid leukemia, prostate cancer, ovarian cancer and nodular breast. Centchroman is being used in family planning programmes in several countries, including Spain, South Korea, Austria, Ethiopia, Belgium and China.

Asked about his vision for the future of science and drug discovery in the country, he said India is doing fine.

"But the need is to focus more upon virology, immunology, medical mycology (study of fungus infection) as this would pave the way for more preventive medication. Prevention is always better than treatment," he said. "We should focus upon diseases which are of greater importance for the country," said the scientist whose contribution to the growth of the Central Drug Research Institute, where he was director (1974-1984), is remarkable.

WRITE TO US

Know anyone who is 90+, but still committed to a cause, endowed with intellectual agility and exemplifies the spirit of 'to strive, to seek, to find, and not to yield'? Write in to saron@hindustantimes.com with details of such untiring crusaders of excellence.



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