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India's pledge to sequester 2.5 to 3 GT CO₂ in 15 years not a realistic target: Lele

CSIR-NCL

08th July, 2022

PUNE Through calculations related to the amount of net carbon dioxide (CO₂) sequestered by native or fast-growing trees over the land available for afforestation, it can be concluded India's Intended Nationally Determined Contributions (INDCs) to sequester 2.5 to 3 Gigaton CO₂ in fifteen years is not a realistic target, said Sharachchandra Lele (aka Sharad Lele), a fellow in environmental policy and governance, Ashoka Trust for Research in Ecology (ATREE).

He was speaking during the 10th BD Tilak Memorial lecture titled 'Forests and climate action in India: Science, social science and ethics' at CSIR-NCL on Tuesday.

Carbon sequestration is the process of capturing and storing atmospheric carbon dioxide. It is one method of reducing the amount of carbon dioxide in the atmosphere to reduce global climate change. Lele examined the role of Indian forests in sequestering carbon dioxide to reduce global warming, from the perspectives of natural sciences, social sciences and ethics.

"Through calculations related to the amount of net CO₂ sequestered by native or fast-growing trees over the land available for afforestation, it is seen that meeting India's Intended Nationally Determined Contributions (INDCs) to sequester 2.5 to 3 Gigaton CO₂ in fifteen years is not a realistic target. Further, dedicating forests for the sequestration role involves trade-offs between diverse stakeholders in the context of the multiple roles that forests perform in a densely populated and historically forest-dependent society such as India," said Lele.

He added that forests have an ecological role in biodiversity and watershed services; a social role in supporting local communities through non-timber products, fodder, and fuel wood; an economic role through timber; and now a climate action role through CO₂ sequestration.

“Now the international community is seeking to find ‘nature-based carbon solutions’ through forest sequestration, which could again restrict the communities in and near the forests from entering, thus marginalizing their rights to forest services. A solution would be an ethical approach that enables the local communities to arrive at appropriate trade-offs through a process of democratic governance,” said Lele.

Pharma conference begins at Krishna University

CSIR-IICT

08th July, 2022

CSIR-Indian Institute of Chemical Technology senior principal scientist Lingaiah Nagarapu spoke at length on 'Indian Pharma Vision-Innovations and Their Impact'.

The two-day conference on the recent advancements in pharmaceutical research and innovations organised by the College of Pharmaceutical Sciences and Research of the Krishna University was inaugurated by Vice-Chancellor K.B. Chandra Sekhar on Thursday.

CSIR-Indian Institute of Chemical Technology senior principal scientist Lingaiah Nagarapu spoke at length on 'Indian Pharma Vision-Innovations and Their Impact'.

S. Kavimani, Head of Department, Pharmacology, Mother Theresa PG and Research Institute of Health Sciences, Puducherry spoke on the 'new directions for the process of drug discovery.' The theme of the conference was 'Exploring the recent trends and advances in the field of pharma research and innovations in industry.'

College principal P. Ram Babu said more than 600 persons including students of pharmaceutical studies, academicians, research schools and industry representatives from across the country were taking part in the programme.

More than 250 persons would be presenting their papers during the conference. University Registrar M. Rami Reddy and others were present on the occasion.

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[The Hindu](#)

Lenovo and CSIR-IGIB Partner to Accelerate Cancer Research with HPC

CSIR-IGIB

07th July, 2022

BENGALURU,—India, July 7, 2022 Lenovo is collaborating with the CSIR Institute of Genomics and Integrative Biology (CSIR-IGIB), the most prestigious genome sequencing research institute in India, in a unique partnership to advance cancer research by digging deeper into the genetic roots of disease.

A vital part of the institute's work revolves around human genetics research, which plays a critical role in identifying genetic disorders, characterizing the mutations that drive cancer progression, and tracking disease outbreaks. This partnership uses Lenovo's high-performance Genomics Optimization and Scalability Tool (GOAST) architecture, featuring 2nd Gen Intel Xeon Scalable processors, to power through ultra-intensive genomic sequencing workloads and help researchers find insights faster. Lenovo's GOAST is a high-performance computing (HPC) architecture engineered specifically for demanding genomics workloads that is a significant contributor to this initiative.

Dr. Anurag Agrawal, Former Director, CSIR-IGIB said, "Computing speed and scale are both critical to genetic sequencing. Our goal is to help researchers analyze more samples faster, and we needed high-performing technology to achieve this. The higher computing throughput and capacity delivered by Lenovo GOAST is helping accelerate the pace of research and increase our output, thereby helping us drive scientific progress that makes a real impact on people's health and lives. Lenovo has truly optimized both hardware and software for genomics analysis, and it pays dividends in terms of performance and efficiency."

Working closely with Lenovo's high-performance computing services, CSIR-IGIB deployed a 28-node system—the largest GOAST installation in India to date. By leveraging an optimized architecture and efficient open-source software, GOAST offers GPU-level performance at CPU-level costs, making it an attractive proposition for a public sector body such as CSIR--

IGIB. CSIR-IGIB has seen a significant performance impact from the Lenovo GOAST system for both whole genome sequencing (WGS) and whole exome sequencing (WES) workflows. On latency runs—where all resources of one node are assigned to executing a single job—the institute can complete a typical WGS and WES workflow 6.5 times faster.

Accelerated execution speeds enable researchers to process more samples and answer more complex questions in less time – from 60.5 hours to 9 hours. By sustaining a more rapid pace of research, CSIR-IGIB is able to push vital scientific work further, driving the breakthroughs needed to improve their understanding of diseases like cancer and find better treatments that improve patient outcomes and even save lives.

“It is through institutions like IGIB that decisive advances in healthcare are being achieved – from treatments and vaccines for acute diseases, to strategies for managing and overcoming chronic conditions. We are glad to partner and provide crucial technical support to IGIB’s new Center of Excellence. It is likely to become the largest site for GOAST in Asia Pacific,” said Sinisa Nikolic, Director, HPC-AI, Infrastructure Solutions Group, Lenovo Asia Pacific.

This Lenovo architecture will support an array of research initiatives, including ones focused on exploring the potential genetic roots of cancer. For example, researchers can compare cancer genomes against a standard reference genome to identify potential germline mutations (passed directly from a parent to a child) that can trigger or advance cancer development in humans. This would also enable improving our understanding of the genetic changes that can contribute to cancer; such analysis can also offer valuable insights into how an individual’s cancer might progress and its likely response to treatment.

As the global leader in high performance computing, Lenovo works closely with key industry partners to develop, integrate, and deploy the technologies of exascale-level computing to organizations of all sizes.

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[HPC Wire](#)

CSIR-NEERI

08th July, 2022

Retro study finds two more infectious Omicron variants

29 Samples Were Tested By Authorities

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Nagpur: Retrospective and ongoing analyses at the Neeri lab have identified 20 samples carrying Omicron lineages BA.2.75 and another nine of BA.2.74 variant in Covid positive patients from Maharashtra, and Jammu and Kashmir.

FACT TO FORE

The studies have put surveillance officials on high alert as these two offsprings of Omicron BA.2 subvariant are highly transmissible, which have replaced the immunodominant antigen of BA.2. The BA.2.75 lineage has 80 mutations while BA.2 had 60, which caused the third wave.

The retrospective study, being undertaken across the nation after instructions from Indian SarsCov2 Consortium for Genomics (INSA-COG), followed a new criteria in the Pango network — an analysis software tool for genomic study. The



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new criteria was necessitated after many samples reported as BA.2 (like) confirmed for BA.2.75 and BA.2.74 in re-analysis of sequences as per Pango network criteria. The Neeri lab has been credited as the first reporting BA.2.75 in two J&K and one state sample. The lab was also first in reporting BA.2.74 in one Maharashtra sample.

These new Omicron lineages are causing the ongoing spike in cases in the country. BA.2.75 is also behind the surge in US, Japan and Canada.

Following whole genome sequencing (WGS), the lab led by scien-

tist Krishna Khairnar had reported the data for these samples as BA.2 (like) which were identified as BA.2.74 and BA.2.75 by open source database Global Initiative on Sharing Influenza Data (GISAID). The GISAID has advanced tools to assign nomenclatures to new variants based on specific mutations.

The WGS series belong to June 15, June 22, June 24, and July 5 submitted in GISAID and Indian Biological Data Centre (IBDC). The sequences of these series were analysed retrospectively as per the Pango network. A total of nine samples (one from Tamil Nadu and eight from Maharashtra) were identified as BA.2.74. Another 20 samples from Maharashtra were identified as BA.2.75.

Khairnar said, "Assertive sequencing must go on. Updated bioinformatics analysis is important to keep track of new emerging variants. Pango network was referred to call these new variants which were earlier called BA.2 (like). BA.2.75 and BA.2.74 need to be watched carefully. In general cases, these samples get reported as BA.2 (like). So access to updated bioinformatics is of pivotal importance for research institutes involved in WGS," he said.

Dr Rajan Sankaranarayana elected as Associate Member of EMBO

CSIR-CCMB

07th July, 2022

Hyderabad: Senior scientist from Hyderabad-based Centre for Cellular and Molecular Biology (CCMB), Dr Rajan Sankaranarayanan, has been elected Associate Member of the prestigious European Molecular Biology Organization (EMBO). Dr Sankaranarayanan is among 67 other researchers from 22 countries who were elected for the membership of the European biology organisation, which shapes scientific research in biology across Europe.



At present, more than 1,900 members across the world serve on the EMBO Council, Committees and Advisory Editorial Boards of EMBO Press journals and are involved in evaluating applications for EMBO funding and mentoring early career researchers. “The new EMBO Members and Associate Members are exceptional scientists, who carry out leading research across a variety of fields, ranging from cell biology and cancer to vaccine development and machine learning,” EMBO Director Fiona Watt, said.

Dr Sankaranarayanan said the honour recognizes the work done from India, and foster India’s relationship with Europe in the broader area of molecular and cell biology. CCMB Director, Dr Vinay Nandicoori added that Dr Sankaranarayanan’s appointment as an EMBO member is a matter of privilege not only to CCMB but also to the larger Indian life science community.

EMBO will formally welcome the new members at the annual Members’ Meeting in Heidelberg between October 26 and 28.

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CSIR-IIP signs an agreement for Improved Jaggery Making Plant

CSIR-IIP

06th July, 2022

An agreement was signed between CSIR-IIP and Shri Anuj Kumar of Village Nirawali, Mawana, Meerut, Uttar Pradesh – 250 401, on the CSIR-IIP Technology “Improved Jaggery Making Plant – Gur Bhatti on 6th July, 2022.



Agriculture and agro-based cottage industries are the lifeline of the rural economy, however, the modernization of rural industries through scientific intervention is the biggest challenge to rural growth. CSIR-IIP's Improved Jaggery Making Plant “Gur Bhatti” is a step towards reviving the agro-based cottage industry of rural India. The technology can not only improve the productivity of ‘Gur’ making but also reduce emissions. The technology has offered new employment opportunities to rural masses and additional income to existing plant owners who implement this technology.

Advantages of this technology are: - 20% reduction in fuel consumption, 15% increase in daily Gur production capacity, Significant reduction in smoke and emissions, Easy charging of fuel into furnace, Increased Life of Gur making Plant

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[Pib](https://pib.gov.in)

CSIR-CLRI

चर्म उद्योग बढ़ाने को देश में चौथे चरण के आटोमेशन पर जोर

जास, उन्नाव : बंधर स्थित केएलसी परिसर सभागार में बुधवार को चमड़ा अनुसंधान उद्योग के 55वें सम्मेलन में कानपुर के उद्यमियों ने अनुसंधान व विकास को लेकर जरूरतों पर विस्तार से चर्चा की। सीएलआरआई विशेषज्ञों ने बताया कि चर्म उद्योग को तेजी के साथ मशीनों के आटोमेशन पर ध्यान देना होगा। अंतरराष्ट्रीय बाजार में ऐसे उत्पादों की मांग ज्यादा है जो आटोमैटिक मशीनों पर तैयार किए जा रहे हैं।

इस सम्मेलन में उच्च व्यापार के लाभ के लिए प्रशिक्षण कार्यक्रम भी तय किया गया, जिसमें 300 प्रतिभागियों को लेरिज कान्वलेव-2022 में आमंत्रित किया जाएगा। चर्म उद्योग में उच्च औद्योगिक प्रथाएं लागू करने की योजना पर भी विचार विमर्श हुआ। मुख्य अतिथि के रूप में मौजूद सुपर हाउस के प्रबंध निदेशक मुख्तारुल अमीन ने



केएलसी में उच्च व्यापार लाभ के लिए विज्ञान, अनुसंधान, नवोन्मेष शासकीय संगोष्ठी को संबोधित करते सुपर हाउस के एमडी मुख्तारुल अमीन (बाएं) व मेंचासीन उद्यमी ● जागरण

- **केंद्रीय चर्म संस्थान की ओर से केएलसी कॉम्प्लेक्स बंधर में लेरिज-2022 का सेमिनार आयोजित**
- **उन्नाव व अन्य जिलों से पहुंचे उद्यमी, 300 प्रतिभागियों को उच्च व्यापार लाभ का दिया जाएगा प्रशिक्षण**

कार्यक्रम का शुभारंभ किया। उन्होंने चर्म उद्योग के हितों को ध्यान देने के साथ अनुसंधान और विकास

की जरूरतों पर चर्चा की और चर्म व्यापार बढ़ाने के लिए चल रहे प्रयासों को सराहा। कार्यक्रम की अध्यक्षता कर रहे सीएसआईआर (केंद्रीय चर्म अनुसंधान संस्थान) के अध्यक्ष हबीब हुसैन ने उच्च व्यापार लाभ के लिए नई तकनीक को अपनाने का उद्यमियों से आह्वान किया। सीएसआईआर निदेशक डा. केजे श्री राम, सीएलई चेयरमैन संजय लीखा, उपाध्यक्ष राजू जालान,

प्रमुख उद्यमी अकील अहमद व चर्म उद्योग के क्षेत्रीय चेयरमैन जावेद इकबाल ने औद्योगिक विकास को लेकर अपने सुझाव व परेशानियां बताईं। इस दौरान उद्यमियों ने देश में नई प्रणालियों पर चर्चा करने को एक साथ एक मंच पर आने की जरूरत बताई ताकि देश को उच्च व्यापार का लाभ मिल सके। चर्म युवा उद्यमी, परिषद के पदाधिकारी व अनुसंधान परिषद से जुड़े प्रतिनिधि मौजूद रहे।

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