

# CSIR IN MEDIA



सीएसआईआर

CSIR

भारत का नवाचार इंजन

*The Innovation Engine of India*

**NEWS BULLETIN**

**01 TO 05 MARCH 2024**





## NBRI to spread fragrance with lotus perfumes

CSIR-NBRI

05<sup>th</sup> March, 2024

Soon perfumes will have the pure and soothing fragrance of Lotus.

CSIR-National Botanical Research Institute (NBRI) has set up 'Parijaat' laboratory on its campus. The lab will work on fragrances and perfumes of flowers to develop floral-based products.

The institute has begun work on 'lotus' flowers at the lab and is focussing on developing lotus perfumes and products. Gradually, other popular flowers of the perfume industry like jasmine, rose and others will also be worked upon.

“At Parijaat lab NBRI scientists will conduct research and focus on the development of perfumes made from all-natural ingredients. Lotus flower is one of the most fascinating floral ingredients used in modern perfumery as it has a delicate, floral aroma that is described as a fresh and aquatic fragrance, delicate yet enduring,” said NBRI director Ajit Kumar Shasany.

He said from producing the raw material to using it to make the perfume and all the research work in between will be carried out in the laboratory. Also, the lab will make use of the leftover flowers that are being grown by farmers in the state under the floriculture mission. “Gradually we will also involve private players who are interested in the research and production of nature-based perfumes of a diverse variety,” he added.

**Published in:**

[Times of India](#)



## Waste management in Lucknow, CSIR-IITR's offers to assess impact

CSIR-IITR

05<sup>th</sup> March, 2024

The CSIR-Indian Institute of Toxicology Research (CSIR-IITR) has offered to make an assessment of the ecological impact of treating 20 lakh tonnes of waste at the Shivri waste management site in Lucknow district.

A proposal to this effect has been received by Lucknow Municipal Corporation (LMC). The plan integrates chemical profiling, bio-remediation and toxicological assessments and employing advanced techniques.

The project aims to scrutinize waste for harmful substances pre and post-processing, while assessing air pollution impact through quarterly sampling and advanced modelling.

Wastewater, groundwater and bio-soil will undergo thorough analysis to gauge pollution levels. The team plans to expedite the natural breakdown process of waste and evaluate its safety post-treatment by studying its effects on earthworms and zebrafish.

Anticipated outcomes encompass enhanced understanding and management of air pollutants, assurance of treated waste safety, restoration of the site for improved use and protection of workers and local communities' health.

This initiative addresses environmental, health and economic concerns in legacy waste management. If approved, this effort could serve as a blueprint for sustainable waste management practices in urban areas. Additional municipal commissioner Arvind Rao said, “We are considering the proposal as it ensures the right steps in treating legacy waste.”

**Published in:**

[Daijiworld](https://www.daijiworld.com)



## Skill Development Program On “Training Cum Demonstration On Pond Ash Bricks Technology

CSIR-IMMT

05<sup>th</sup> March, 2024

CSIR-IMMT has organized a Skill Development Program on “Training Cum Demonstration on Pond Ash Bricks Technology” under the CSIR Integrated Skill initiative and as a part of CSIR-IMMT diamond Jubilee Year Celebration.

The Demonstration on Pond Ash Bricks Technology was conducted at Centre for Waste Utilization of Environment & Sustainability Department. More than 25 participants from different industries, MSMEs, Startups companies, Academia and young entrepreneurs have participated. The organizing committee consisting of Dr Ramanuj Narayan, Director, CSIR-IMMT, Bhubaneswar, Dr. D.S Rao (Chief Scientist & Head, HRD), Dr. Nabin Kumar Dhal (Chief Scientist & Head), E & S Dept., Dr S K Pradhan Coordinator, CSIR Skill Development Program, Dr. Syed M. Mustakim, Convener, and Er. R. Sathish, Co-convener.

Emphasizing on the Innovation, Dr Ramanuj Narayan, Director, CSIR-IMMT, Bhubaneswar, highlighted the importance of learning innovative skills and thinking innovatively when seeking knowledge. Discussing on institute’s commitment to innovation, education, and the preservation of cultural heritage, he mentioned the significance of fly ash, likely in the context of environmental sustainability or technological innovation.

Dr Ramanuj further emphasized on the promising future of biotechnology, encouraging individuals interested in the field to pursue training as it holds benefits for Odisha and the nation. Elaborating on the skill development in Pond Ash Bricks Technology he stressed the fundamental importance of chemistry in various aspects of life and knowledge. Giving historical references, he discussed about ancient architectures such as those found in Harappa and related them to modern architectural skills and techniques. He also highlighted the scientific significance behind the architectural marvels of the Shree Jagannath Temple, possibly indicating a blend of traditional craftsmanship with scientific principles.



CSIR-Institute of Minerals and Materials Technology, Bhubaneswar is actively engaged in development of innovative, energy efficient green processes for utilization of various industrial and mining solid wastes in manufacture of building materials such as brick, block, concrete, aggregate etc. Under this R&D activity, Environment & Sustainability Department, CSIR-IMMT has also created pilot plant facility for brick and block manufacturing to demonstrate the process for utilizing various industrial wastes like Fly ash, Pond ash, Red Mud, Slag, etc. So far, the Fly ash brick manufacturing technology has been licensed to 17 MSMEs and 4 other major industries for manufacture of cold setting building brick containing up to 70 % fly ash.

The program elaborated about the good practices in manufacture of Pond ash building bricks confirming to BIS-12894;2002, so that the bricks will be durable having compressive strength and water absorption as per the requirement. This technology was demonstrated by Dr. S.M. Mustakim, Dr. R. Boopathy, Er. R Sathish.

The participants have interacted and learned about the process of making the bricks from pond ash through this one-day skill development program. The participants appreciated and requested to conduct such kind of program from time to time for the skill development.



## Giant magnets made by ancient microbes discovered in Bay of Bengal

CSIR-NIO

05<sup>th</sup> March, 2024

Scientists have unearthed giant magnetofossils — large magnetic crystals left behind by microorganisms — buried in 50,000-year-old sediment in the Bay of Bengal<sup>1</sup>. They are the youngest giant magnetofossils reported till now. Magnetotactic bacteria create nanometre-sized crystals, composed of magnetite or greigite, to navigate changing redox conditions in the water column or saturated sediment. The crystals, known as magnetofossils, are left when the organisms die.

These fossils contribute to sediments' magnetic signal, offering information about changes in past environments. Scientists led by CSIR-National Institute of Oceanography, Goa, extracted a sediment core almost 3 metres long from the southwestern Bay of Bengal, fed by the sediment-carrying Godavari, Krishna and Penner rivers.

The core, composed mainly of silty clays, revealed both benthic (occurring at the bottom of a body of water) and planktic (floating or drifting in water) foraminifera — single-celled organisms with shells. Using magnetic analysis and electron microscopy on core section samples, the team identified giant magnetofossils with needle, spindle, bullet and spearhead shapes. The magnetofossils are present throughout sediment core spanning the last 42,700 years.

The researchers suggest that when reactive iron and organic carbon carried by rivers entered the oxygen-starved Bay of Bengal, the bioavailable iron combined with organic carbon as a food source helped the giant magnetofossil-producing organisms to grow. The authors say as long as these environmental conditions persist, the organisms responsible for producing giant magnetofossils will thrive.

**Published in:**

[Nature](#)



## New flowering plant discovered in Arunachal Pradesh

CSIR-NEIST

05<sup>th</sup> March , 2024

Researchers from the University of Science and Technology Meghalaya (USTM), collaborating with researchers from CSIR-Northeast Institute of Science and Technology, Jorhat in Assam have recently made a significant discovery—a new flowering plant named “Begonia Narahari” in Arunachal Pradesh.



This remarkable find occurred in the Lohit district of Arunachal Pradesh. Dr Nazir Ahmad Bhat, an assistant professor at USTM in Meghalaya and Bipankar Hajong, a PhD scholar at CSIR-NEIST, encountered and collected intriguing specimens belonging to the Begonia genus of the Begoniaceae family.

They received guidance from Dr Pankaj Bharali, a senior scientist at CSIR-NEIST, and transported the specimens to the laboratory for analysis. After meticulous examination and comparison with known Begonia species worldwide, the researchers confirmed its identity as a previously undescribed and new species within the genus Begonia.

Dr Nazir Ahmad Bhat explained, “The species, named ‘Narahari’, honours Prof Garikapati Narahari Sastry, the former director of CSIR-Northeast Institute of Science and Technology (NEIST), Jorhat, for his remarkable efforts in establishing the Germplasm Conservation Centre for the bio-resources of Northeast India and his dedication to the region’s welfare.”

This discovery has been documented in the current issue of *Phytotaxa*, the world’s largest journal in botanical taxonomy.



The researchers provided comprehensive information about Begonia Narahari, highlighting its distinctive feature of displaying a vivid blue iridescence in direct light.

They presented detailed characterization, accompanied by coloured photographs and comparisons with related species (*B lophura*, *B iridescens*, and *B rockii*) to aid in easy identification.

Presently, Begonia Narahari is only known from the Demwe locality in the Lohit district of Arunachal Pradesh.

Due to limited data on its global population, the species is tentatively classified as Data Deficient (DD) following IUCN species assessment guidelines (IUCN, 2022).

Given its restricted habitat and potential threats such as agricultural and urban expansion, habitat loss from fires, and timber extraction, conservation efforts are imperative.

Certain Begonia species contribute to ecological balance by providing habitat and sustenance for various fauna, underscoring the importance of protecting Begonia Narahari and its habitat.



## Union Minister Dr. Jitendra Singh lays foundation stone of the first-ever "Science Experience Centre" and an exclusive "Biofuel Centre" in the premises of CSIR-Indian Institute of Chemical Technology (CSIR-IICT), Hyderabad

CSIR-IICT

04<sup>th</sup> March , 2024



The Union Minister of State (Independent Charge) Science & Technology, MoS PMO, Personnel, Public grievances, Atomic Energy and Space, Dr. Jitendra Singh today said that the first-ever "Science Experience Centre" would contribute to realizing Prime Minister Narendra Modi's vision of Viksit Bharat and dedicated it to young minds and potential Startups.

He was addressing the gathering after laying foundation stone of the first-ever "Science Experience Centre" and an exclusive "Biofuel Centre" in the premises of CSIR-Indian Institute of Chemical Technology (CSIR-IICT), Hyderabad, along with Shri G. Kishan Reddy, Union Minister of Tourism, Culture and Development of North Eastern Region (DoNER).

The Science Experience Centre has been set up by the Council of Scientific & Industrial Research (CSIR), India, a premier national R&D organisation that is among the world's largest publicly funded R&D organisation, and the National Council of Science Museums (NCSM), an autonomous society under the Ministry of Culture, Government of India.

The Science Experience Centre is primarily engaged in spreading the culture of science in the



society, especially among students, with a motto of 'Communicating Science to Empower People' by developing Exhibits/Exhibition/Galleries etc. and also organizing Interactive Science Education programs.

Dr. Jitendra Singh said that the Science Experience Centre will definitely inspire the young minds of our nation and encourage them to come up with innovative ideas for Startups. He further said that our culture will not move forward without science and science will not be fully accomplished without culture.

CSIR and NSCM, with their proven expertise in their respective areas and having overlapping objectives to promote science as a culture, and joining hands to set up the Science Experience Center at CSIR-IICT's premises in Hyderabad, is an immense need of the country, he said.

The Minister, who is also the Vice President of CSIR, said that the CSIR, the largest scientific R&D organization with about 8,000 S&T staff, is an innovative engine of the country. Dr Jitendra Singh said that the CSIR addresses national needs through its innovative research, strong fundamental science, industry partnerships, entrepreneurship, translation research, capacity building, and policy making.

He further said that some of the significant contributions of CSIR in the past decade include the development of an indigenous two-seater Hansa-NG aircraft for pilot training, Bio-jet fuel for sustainable aviation, developing India's own footwear sizing system, earthquake resistant structures for seismic zone IV and V and India's first fuel cell driven automotive.

Besides pioneering work in these areas, CSIR today has established many societal benefit programs that target marginalized communities including women, such as the Aroma Mission, sea weed cultivation, first ever demonstration of Heeng cultivation and the Purple Revolution in Jammu and Kashmir, he added.

Dr. Jitendra Singh said that the Government has been taking all the initiatives for the



development of a scientific temperament and culture in the country. Events like the pandemic have only stressed the need to be equipped with science and technology and create awareness of society for science and scientific thinking, he said. In this regard CSIR played a crucial role in fighting against Covid, particularly CSIR-IICT's role in developing adjuvant for Covid vaccine is highly appreciated. India is promoting experience-based learning and CSIR is one of the forerunners, he added.

Stating that the Hyderabad Pharma City (HPC), under making, is the world's largest integrated cluster in Hyderabad, Dr. Jitendra Singh said that for pharmaceutical industries with thrust on R&D and manufacturing, this cluster has been recognized as National Investment and Manufacturing Zone (NIMZ) by Government of India, given its national and international importance. Developed at international standards, Hyderabad Pharma City will harness the true value of symbiotic co-existence across pharmaceutical value chain, he added.

Dr. Jitendra Singh said that the agrochemical industry widely acknowledges the fact that it is the technologies developed by CSIR-IICT that heralded development of the agrochemical industry in India. CSIR-IICT demonstrated that the Pheromone Application Technology (PAT) can be used as both monitoring and surveillance tool in Integrated Pest Management (IPM).

The Union S&T Minister said that the CSIR envisages a vision of CSIR@2030 as to “Enhance quality of life of the citizens of India through innovative Science and Technology, globally competitive R&D, by developing sustainable solutions and capacity building to fulfil the dream of “Atmanirbhar Bharat”. This vision of CSIR is aligned with the Government of India's vision for the next 25 years ‘Amrit Kal’ by when Bharat celebrates its hundredth year of Independence in 2047, he said. In this endeavour, said Dr Jitendra Singh, the creation of Science Centers and Science Cities in the country will also form the basis in nurturing future scientists of the country.

**Published in:**

[Pib](#)



## CSIR-CSIO and ALIMCO Join Forces to Advance Rehabilitation and Assistive Technology for Divyangjan

CSIR-CSIO

04<sup>th</sup> March , 2024

In a significant step towards enhancing the lives of Divyangjan (persons with disabilities), the Council of Scientific and Industrial Research - Central Scientific Instruments Organisation (CSIR-CSIO) and Artificial Limbs Manufacturing Corporation of India (ALIMCO) have inked a Memorandum of Understanding (MoU) for collaboration in the design, development, and manufacturing of rehabilitation and assistive technology (AT).



The MoU, signed between Director CSIR-CSIO, Prof. Shantanu Bhattacharya, and CMD ALIMCO, Shri Praveen Kumar, marks a pivotal moment in the journey towards ensuring accessibility and inclusivity for persons with disabilities. The ceremony, held at the Department of Empowerment of Persons with Disabilities (DEPwD) office at CGO Complex, New Delhi, witnessed the esteemed presence of Shri Rajesh Aggarwal IAS, Secretary, DEPwD, and Shri Rajesh Yadav IAS, Joint Secretary, DEPwD.

During the event, scientists from CSIR-CSIO were also connected via video conferencing, demonstrating their commitment and involvement in the collaborative efforts aimed at driving innovation and technological advancement in the field of rehabilitation and assistive technology.

This collaboration between CSIR-CSIO and ALIMCO signifies a concerted effort to leverage scientific expertise and manufacturing capabilities to develop cutting-edge solutions that cater



to the diverse needs of persons with disabilities. By pooling resources and knowledge, both organizations are poised to make significant strides in improving the quality of life and fostering greater independence for Divyangjan across the nation.

The MoU sets the stage for a fruitful partnership characterized by innovation, inclusivity, and social impact. Through joint research, development, and manufacturing initiatives, CSIR-CSIO and ALIMCO are committed to empowering Divyangjan and facilitating their full participation in all aspects of life.



## National Science Day celebrations at CSIR-NIScPR

CSIR-NIScPR

04<sup>th</sup> March , 2024

CSIR-National Institute of Science Communication and Policy Research (CSIR-NIScPR) organised a lecture in New Delhi today to celebrate the National Science Day 2024. The chief guest for the occasion was Dr. Shiv Kumar Sharma, National Organising Secretary, VIBHA. Dr. Rajni Kant, Former and Founder Director, ICMR-Regional Medical Research Centre, Gorakhpur delivered the keynote address.



The welcome address was given by Prof. Ranjana Aggarwal, Director CSIR-NIScPR. Prof. Aggarwal spoke about the importance of harnessing indigenous knowledge and technology for achieving scientific progress in India. She also talked about the importance of health communication for disease management such as during the COVID-19 pandemic and also highlighted the importance of science communication for health campaigns. Dr. Sharma spoke about the importance of indigenous technology for Indian society and the need to identify indigenous knowledge and technology and integrate this knowledge into current science practices.

Dr. Rajni Kant delivered the keynote address on “Understanding Health Communication and its Role in Disease Management.” The talk covered different aspects of health communication, its importance, the various barriers and challenges, the use of emerging platforms such as social media to communicate about health, and the need to tackle growing health misinformation on these platforms. He stressed the use of indigenous technology(s) especially during the recent COVID-19 pandemic to tackle various aspects such as the development of



vaccines to protective kits. He also highlighted the need for digital health literacy among the public and the need to train health professionals and scientists in communicating science while also training journalists and other media professionals in aspects specific to reporting about health. Dr Paramananda Barman, coordinator of this session, delivered the vote of thanks.

The lecture session was followed by a brainstorming session on the “Use of Social Media in Health Communication” including various experts from different Indian organisations. The experts included Dr. Rajni Kant, Dr Padma Rani, Manipal Institute of Communication, Dr. Nancepreet Kaur, Voluntary Health Association of India (VHAI), Ms. Sophia Lonappan, Public Health & Risk Communications, WHO India, Mr Kaushik Bose, GHS, Dr. Gita Bamezai, Indian Institute of Mass Communication, Dr. Y. Madhavi, Dr. Sujit Bhattacharya, Dr. Suman Ray, Dr Charu Lata & Dr Paramananda Barman from CSIR-NIScPR. The brainstorming session covered multiple aspects of the use of social media for health communication such as its importance, the challenges, the spread of misinformation on social media, and the different ways to combat this misinformation through promoting digital health literacy, creating awareness at the grassroots level through the involvement of various stakeholders such as government organisations, scientists and science communicators, healthcare workers, policymakers, etc.



## J&K, Himalayan States fountainhead of Aroma StartUps: Dr Jitendra

CSIR-IIIM

03<sup>rd</sup> March , 2024

Jammu & Kashmir and Himalayan States like Himachal Pradesh, Uttarakhand and Arunachal Pradesh are the fountainhead of Aromatic StartUps who have emerged as a new genre after the popular "Purple Revolution" from a small town of Bhaderwah in district Doda. This was stated by Union Minister Dr Jitendra Singh while interacting with members of civil society organisations at an outreach programme.



He said PM Narendra Modi had devoted a substantial slot in his "Mann Ki Baat" broadcast to describe the virtues of lavender farming undertaken in Bhaderwah.

The Minister said, the geography and climatic conditions of these States favour the cultivation of medicinal and aromatic plants and these can be developed into Agri-tech StartUp enterprises. This is especially relevant given the recent interest in medicinal plants in following the COVID pandemic.

The Union Minister of State (I/C) Science & Technology; MoS PMO, Personnel, Public Grievances, Pensions, Atomic Energy and Space, Dr Jitendra Singh said that this interaction with the NGOs is part of an outreach programme to have a dialogue with those involved in social service. He added that these interactions also provide valuable feedback and suggestions for the government.

The Union Minister appreciated the work being done by the organisations and said that they



provide an opportunity to reach and influence people in the farthest corners of our nation. Speaking about the conducive climate of hill areas for aromatic plants, the Minister said that the Government has started an 'Aroma Mission' through CSIR in the Union Ministry of Science & Technology.

Dr Jitendra Singh said that CSIR is providing comprehensive handholding from product development to marketing. He said that our youth has made the nation a hub of start-ups in the last 10 years, but we need to expand our vision beyond the IT-enabled services sector and look at the Agri-tech sector for unleashing our untapped potential.

The Union Minister also advocated that the NGOs working in the health sector explore telemedicine. He added that in hill States such 'Doctors-on-Wheels' can provide not only diagnostic tests but expert consultation within an hour's time.

Dr Jitendra Singh also said that in the last 10 years, PM Narendra Modi has sprung new hope in the nation's collective psyche. He added that the massive infrastructure development in the thus far neglected North-Eastern India is a testament to the will of the government to invest in all our people. Dr Jitendra Singh said that the development of railway and air infrastructure in these parts has meant the end of their isolation from the rest of India.

The Union Minister said that the focus of the Modi government in the last 10 years has been on employment generation and capacity building of our youth. The Union Minister further said that hard work being done for the people has led to faith in the leadership of PM Modi. He added that this new modus-operandi and a new culture of our polity have been endorsed by our citizens who have reposed their faith in Modi.



## Visible signs of change: Scientific terms and concepts in Indian Sign Language are coming to the aid of hearing-impaired

CSIR-IMTECH

03<sup>rd</sup> March , 2024

How do you explain centrifuge in Indian Sign Language (ISL)? This was the simple question that a hearing-impaired student asked microbiologist Dr Alka Rao, who was visiting the School for Deaf Children in Gurugram in 2017. “We had no answer,” says Rao, Principal Scientist, Council of Scientific and Industrial Research’s Institute of Microbial Technology (CSIR-IMTECH), Chandigarh.



The question, however, prompted Rao and her six-member team — Digvijay Singh, Hoshiyar Singh, Sakshi Sharma, E Theresa Arulvathy, Vivekanand Jaiswal and Navjot Singh — to start working on the Indian Sign Language Enabled Virtual Laboratory (ISLEVL), a project that won the prestigious International Zero Project Award 2024.

The project made Science, Technology, Engineering and Mathematics (STEM) education accessible to the auditory-challenged community in India. Rao, who hails from Hisar, brought together her research group and sign language specialists to broaden access to science for auditory-challenged students in the country. The team has created more than 100 signs in sign language to explain scientific terms, besides 500 videos to explain scientific concepts.

In India, 6.3 crore people have significant auditory loss. Very few opt to study STEM subjects due to the challenges they face, including the lack of sign language for specific terms.

“In 2016, I met a social worker who headed the Gurugram branch of the Haryana Welfare



Society for Persons with Speech and Hearing Impairments (HWSPSHI). I learnt about the gaps in STEM education for the differently-abled. A majority of them are talented but don't have resources to study these subjects. This milestone will open new avenues," says Rao. Besides winning the Zero Project Award 2024, the team was also selected for 'Scaling Solution Fellows 2024', a new global initiative under Zero Project where they identify and promote such innovations that have the potential to be implemented globally and are high utility interventions.

Beginning with holding science workshops for the hearing-impaired children in Panchkula and Gurugram, Rao started working on developing signs for inclusion in the ISL. She was joined by a hearing-impaired administrative assistant at CSIR-IMTech in Chandigarh. He apprised the institute of his struggles with adjusting to the workplace. Thereafter, IMTech conducted its first sensitivity and inclusion workshop, which was aimed at training employees on making appropriate accommodation for the hearing-impaired staff members.

The CSIR later offered a sensitivity workshop and a basic course in ISL at all its 37 laboratories around the country. The effort was soon extended to the CSIR outreach programme 'Jigyasa', which was aimed at generating curiosity among schoolchildren and motivating them to opt for STEM subjects in higher education.

Rao and her team got hold of all resource material of this programme and translated it into sign language. Soon, even hearing-impaired students came under the ambit. "At first, our scope was limited to translation. But soon, we realised that ISL had almost no vocabulary for STEM words. If a sign is available in another sign language, such as American or British Sign Language, we can adopt or adapt it. Otherwise, we create new signs," adds Rao.

In 2022, IMTech started the first ISLEVL project with three hearing-impaired sign language specialists. The team went on to visualise a concept and create signs that depict defining features of a scientific word. This might include its structural or functional features, topology or both.



The project has benefitted more than 10,000 online users, including school students and teachers of HWSPSHI centres, besides 2,500 offline users and 10,000 video subscribers, says Rao.

And the answer is...

After almost eight years, the team has finally found an answer to the student's query on centrifuge. In ISL, a centrifuge sign is made by a rotating two-hand shape with extended index fingers, which is used to show centrifugal motion, followed by the right hand in a flat, horizontal hand shape to show the layers of particles separating and settling to the bottom of a test tube.

The team also went on to create signs for terms like 'xylem', a word rooted in Greek and Roman language, not just depicting a stationary structure but also the process of transportation in plants. Similarly, to describe 'algae', a hand shape for alphabet A (for algae) is joined with the waving fingers of the right palm representing movement in water.

“We have struck a chord with the auditory-challenged community, which has now started accepting STEM as a career option, but we strive for a bigger outreach in the scientific community. We aim at getting increased involvement of the scientific community in creating STEM signs and content,” concludes Rao.

### The Zero Project

An initiative by the Austrian non-profit Essl Foundation, the Zero Project focuses on researching and sharing innovative solutions that support the rights of people with disabilities globally. The project publishes an annual report of innovative solutions for persons with disabilities, holds an accessible conference annually to share these solutions, and partners with other organisations to support innovators in scaling their solutions globally.

**Published in:**

[Tribuneindia](http://tribuneindia.com)

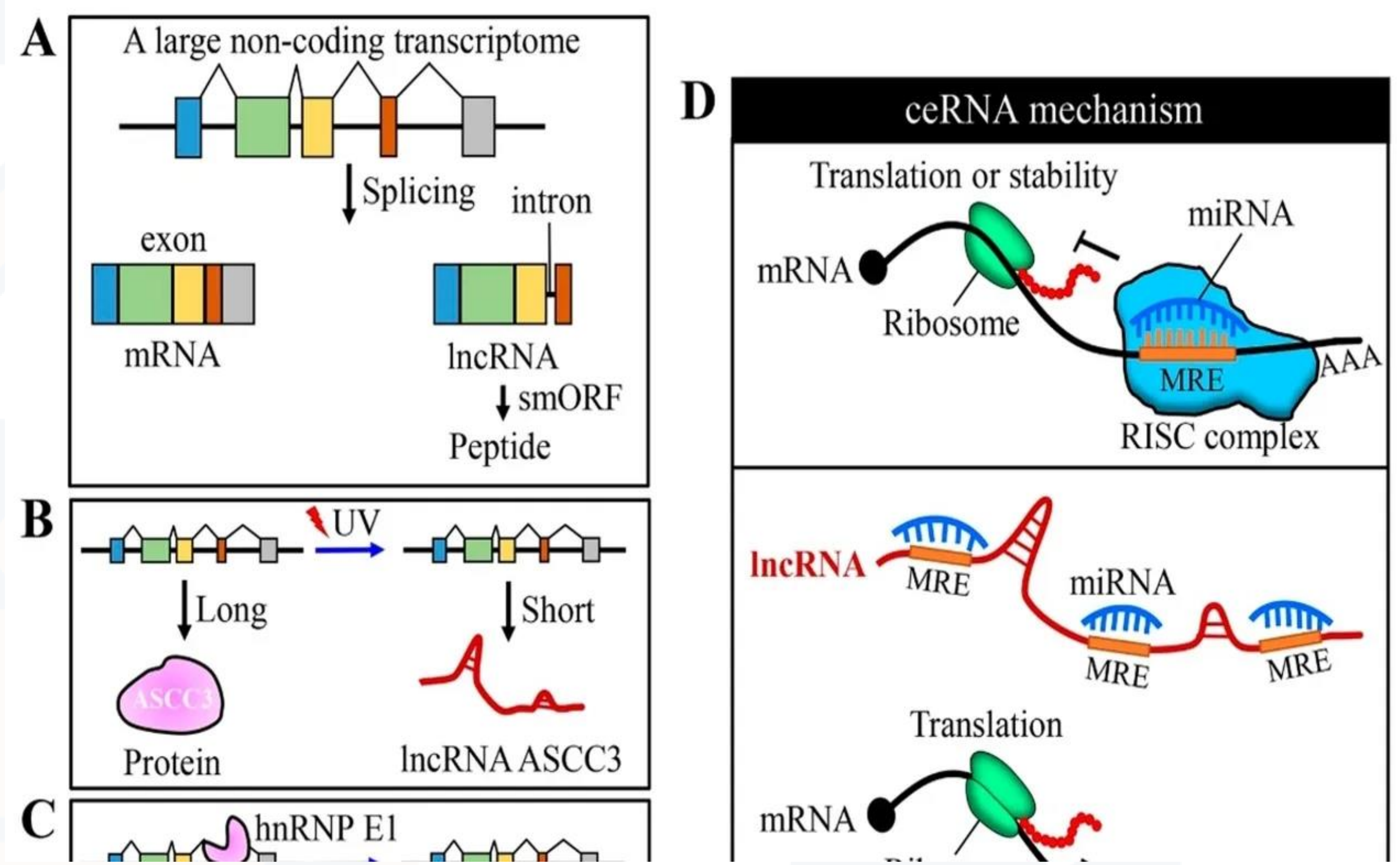


# Decoding lncRNAs: Key to COVID-19 Severity and Recovery Unveiled by CSIR-IGIB Study

CSIR-IGIB

03<sup>rd</sup> March , 2024

In a groundbreaking study by the CSIR-Institute of Genomics and Integrative Biology (CSIR-IGIB) in Delhi, India, researchers have unveiled the significant role of long non-coding RNAs (lncRNAs) in the progression and severity of COVID-19. This comprehensive analysis, focusing on the spatio-temporal expression dynamics of lncRNAs, highlights their crucial functions during and after SARS-CoV-2 infection, offering insights into potential therapeutic targets.



## The Dynamics of lncRNA Expression in COVID-19

Employing single-cell RNA sequencing (RNA-seq), the study identified 203 differentially expressed lncRNAs, including cell type-specific ones like MALAT1 and NEAT1, which modulate immune function in various cell types. These findings underscore the complex role of lncRNAs in regulating immune responses and their potential as biomarkers for disease severity and recovery.

## Functional Insights into lncRNA Activities

The research delved into the interaction between lncRNAs and mRNAs, revealing their dual nature in influencing the host's response to pathogens. For instance, the lncRNA EGOT can both hinder and promote viral proliferation depending on the virus, showcasing the intricate regulatory mechanisms at play. This study emphasizes the importance of exploring lncRNAs for a comprehensive understanding of immune responses during infection.



## Implications for Future Research

The study highlights the need for further research on the role of lncRNAs in infectious diseases, urging for a broader exploration of the non-coding transcriptome. The findings, published in NAR Genomics & Bioinformatics, pave the way for future studies to investigate the maintenance of homeostasis during and after SARS-CoV-2 infection, contributing to the development of personalized medicine and therapeutic strategies.

This in-depth analysis not only sheds light on the pivotal role of lncRNAs in COVID-19 but also calls for continued exploration into the non-coding genome. The research opens new avenues for understanding infectious diseases and developing targeted interventions, marking a significant step forward in the fight against COVID-19.



## 613 Trees to be felled for widening of road near Ambazari dam, MSTTA gives nod

CSIR-NEERI, NGRI, SERC

02<sup>nd</sup> March , 2024

Maharashtra State Tree Authority (MSTA) has given nod for the felling of 613 trees to undertake widening of Ambazari Road from Vivekanand Statue till the dam, that spreads till the University land near Pandhribodi slums. Nagpur Municipal Commissioner got the letter granting permission for cutting down the trees, in addition to trees that are being chopped that pose a threat to embankment of the dam. These



trees are on the slope of the Ambazari dam that is parallel to the existing two-laned road. Among the trees that are planned to be removed includes 60 tagged with heritage status and letter is signed by Director (Environment) and Member Secretary, Maharashtra State Tree Authority. Incidentally, the permission is dated July 18, 2023, much before the flash floods that triggered sudden concern about the safety of Ambazari Dam. Further while granting the permission, MSTA has laid down certain conditions and one does not know whether NMC has followed them or not as of yet.

As the number of trees were more, NMC forwarded the proposal to State Tree Authority for its nod. The meeting of State Tree Authority held on June 16, 2023, had debated the issue and went through the assessment provided by NMC that has planned a four laned road from near University Campus Square till Subhash Nagar junction near the statue of Swami Vivekanand. State Government has speedily sanctioned works related to Ambazari Dam strengthening as High Court is monitoring the process after citizens approached the court in aftermath of flash floods on September 23, 2023, that resulted in considerable damage to the household material. This also includes plugging the gaps in the wall of Naag River and increasing its heights at some places and also deepening the bed to increase its carrying capacity.



As per the permission letter, MSTA has mandated NMC to submit report from NEERI, CSIR, NGRI, SERC specifying need for cutting the trees as same are necessary for the structural safety of the dam. It was also directed to the local body to explore possibility of transplantation of heritage trees as their conservation is necessary. Also, there was direction to first undertake plantation of new native or indigenous species trees before undertaking cutting as part of compensatory afforestation. The same would be equivalent to cumulative age of the trees that are earmarked for cutting.

Similarly, the NMC was also directed to geo-tag the new trees and their growth should be monitored using the latest technologies. These new trees are to be maintained for a period of seven years. In case of any mortality, then equivalent new trees are to be planted. Irrigation Department had undertaken assessment of structural safety of Ambazari Dam and flagged the high rise trees on the embankment as the problem. For a long the report lay in cold storage and NMC and other political leaders only woke-up in aftermath of the flash floods in city on the banks of Naag River.



## CSIR-NIScPR Organizes Workshop on how to Communicate Science in Print and Electronic Media

CSIR-NIScPR

01<sup>st</sup> March , 2024

The CSIR-National Institute of Science Communication and Policy Research (NIScPR) hosted an Orientation Workshop in New Delhi today, empowering its Science Media Communication Cell (SMCC) with valuable insights from renowned experts. The workshop aimed to nurture the SMCC with effective strategies to communicate science and technology (S&T) information of Indian science to society and public at large.



Director of CSIR-NIScPR Prof. Ranjana Aggarwal underscored the significance of leveraging electronic media for science communication, emphasizing its role in bridging the gap between scientific research and the public.

Shri Anjay Mishra, Program Producer at Doordarshan New Delhi, emphasized the efficacy of science programs on electronic media especially on television. He provided insights into techniques and tools to enhance the effectiveness and presentation of Science programs on electronic media. During his discussion, he expressed a commitment to incorporate SMCC products into Doordarshan's programming, highlighting their potential to significantly amplify the impact of dissemination efforts undertaken by SMCC.

Shri Mohan Sagoriya, Associate Editor, 'Electroniki Apke Liye' (Bhopal) discussed about the precautions of popular science writing. He also provided a nice inputs how we should select S&T content for print media especially in a science magazine.



The workshop, facilitated by SMCC, not only equipped participants with refined skills of science centric content creation-dissemination but also provided them with a profound understanding of visuals and video features that prove to be effective in the realm of science communication. The insights gained are expected to enhance SMCC's capabilities for more impactful and accessible communication of scientific information.

Dr. Manish Mohan Gore, Scientist, CSIR-NIScPR and Principal Investigator, SMCC, provided a brief outline about the mandate of SMCC, its key activities and purpose of the orientation workshop.

The Council of Scientific and Industrial Research - National Institute of Science Communication and Policy Research (CSIR-NIScPR) is dedicated to advancing science communication, evidence-based S&T policy research and promoting scientific awareness among the public. Through innovative initiatives and collaborative efforts, CSIR-NIScPR strives to bridge the gap between the scientific community and the general public. Science Media Communication Cell (SMCC) is a recent initiative of CSIR-NIScPR to disseminate S&T achievements of Indian laboratories through various media.



## Please Follow/Subscribe CSIR Social Media Handles



[CSIR INDIA](#)



[CSIR\\_IND](#)



[CSIR India](#)



[CSIR India](#)



[csirindia](#)



[CSIR India](#)