

# CSIR IN MEDIA



**CSIR**

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## Indian Air Force Is Flying Jets On Green Fuel, But Can We Scale Up?

CSIR-IIP

05<sup>th</sup> February, 2022

Two Swiss pilots Robin Wenger and Matthias Niederhauser are flying around the world to create a discourse around green aviation, particularly sustainable air fuel (SAF). On January 25, the duo landed their aircraft, Diamond DA50 RG, at Noida Greenfield International Airport to inaugurate Aerodrome Reference Point (ARP). The airport, which is under construction in Jewar, Uttar Pradesh, is being touted as India's first net-zero emission airport.



At COP26 in Glasgow held in 2020, Prime Minister Narendra Modi had committed to achieving net-zero emissions for India by 2070. Even the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA), which was adopted by the International Civil Aviation Organization in 2016, will become mandatory by 2027. All airlines and aircraft operators will have to offset any growth in CO<sub>2</sub> emissions above 2020 levels. Sustainable air fuel will indeed play a key role in meeting this target. As compared to normal jet fuel used in aircraft, green aviation fuels can reduce carbon emissions by up to 80 per cent.

### Sustainable Aviation

The aviation sector in India has taken some steps in this direction. Last year IndiGo signed an agreement with the CSIR-IIP in leading the deployment of sustainable aviation fuel in India and globally. The CSIR-IIP, Dehradun, is one of the leading agencies engaged in the research and production of sustainable air fuel in the country. The Indian Institute of Petroleum (IIP) is a major constituent laboratory of the Council of Scientific & Industrial Research (CSIR).



The airlines had stated in a press release, “Under this partnership, IndiGo and CSIR-IIP will enter into specific arrangements for projects for SAF based on techno-commercial feasibility and Environment, Social, and Governance (ESG) value creation.” It added that it “desires to be an anchor partner to such Institutes and oil refining companies in the future to address the core issue of carbon emissions and take a lead in demonstrating its commitment towards sustainable and responsible growth”.

Sustainable air fuel produced by CSIR-IIP technology has now been formally approved and certified for use on the Indian Air Force aircraft. In the commercial space, SpiceJet operated India’s first flight powered by biofuel in 2018.

While Sustainable air fuel holds out the promise of a greener planet, its production and cost remain sore points. Vinamra Longani, head of operations, Sarin & Co, a law firm specialising in aircraft leasing and finance reasons, “SAF has the potential to provide a lifecycle carbon reduction of up to 80 per cent compared to the traditional jet fuel it replaces. While it is, without doubt, the most feasible option to decarbonise the aviation industry, it is significantly more expensive than aviation turbine fuel. Until the Government of India incentivises the production, distribution, and use of SAF in India, its large scale use by Indian airlines may not become a reality anytime soon.”

In December 2021, civil aviation minister V.K. Singh, while responding to a question in Parliament, had revealed that carbon dioxide (Co<sub>2</sub>) emissions by Indian scheduled domestic flights rose to 12,307,000 tonnes during 2018 from 6,135,000 tonnes in 2012. Of course, the numbers declined during the pandemic and will swell again post-pandemic.

## Global Coalitions

Given India’s persistence with sustainable air fuel, things can change for the better. According to World Economic Forum’s “Clean Skies for Tomorrow Coalition Report 2021”, “India is particularly well-positioned to have a significant impact in the area. Of more than 80 private- and public-sector organizations that make up the Clean Skies for Tomorrow Coalition, around



20 are from India.” The Clean Skies for Tomorrow Coalition is an initiative to facilitate the reduction of carbon emissions in the aviation sector. The report stated that India not only is projected to go from its current position as the world’s eighth-largest aviation market to third place by 2025, it also generates abundant amounts of agricultural residues—farming byproducts, such as husks and chaff, used cooking oil, and other solid waste—which is used to produce sustainable air fuel.

The International Air Transport Association, the trade association of airlines across the globe, has opined, “Biofuels can be used directly in existing aircraft, which are designed to run on 50 per cent blends of kerosene. They have the potential to reduce CO<sub>2</sub> emissions by 80 per cent compared to kerosene over their entire life cycle but SAF accounts for less than 0.1 per cent of aviation fuel being used currently.”

### **Inadequate Production Infrastructure**

In India, the availability of feedstock is not a problem. According to Saleem Akhtar Farooqi, a scientist working on research and development of sustainable air fuel at the IIP, establishing the supply chain of non-edible oils poses the real challenge. “Indian jet fuel consumption is approximately 20,000 tonnes per month. With a 10 per cent blending of SAF with 90 per cent Jet A1 (a commonly used fuel in commercial aviation), the demand for SAF would be approximately 2,000 tonnes per month,” he said.

Farooqi feels that it will be hard to meet that kind of demand if the current situation persists. “Right from cultivation, aggregation, transportation, manufacturing in plants and then blending it with jet fuel, everything needs to be streamlined. We also do not have any plants that make SAF,” he said.

The CSIR-IIP has a pilot plant in Dehradun where it produces 30 liters of sustainable air fuel, which is approved by the American Society for Testing and Materials, per day primarily for the Indian Air Force for continuous flight tests. The maiden biofuel flight in the country by SpiceJet was also fuelled by the CSIR-IIP production facility. To date, the pilot plant has



produced approximately 9,500 liters of sustainable fuel from non-edible oils or waste from the edible oil industry, such as palm stearin, palm fatty acid distillates, used cooking oil, jatropha, karanja and algae oil.

The CSIR-IIP also procures its feed from Chhattisgarh Biofuel Development Authority and other sources like Food Safety and Standards Authority of India's repurpose used cooking oil. The IIP is now collaborating with an Indian refinery, and an Indian engineering company to set up a new sustainable air fuel plant.

“It can encourage others to set up SAF plants, but the government would need to do a bit of hand-holding,” Farooqui adds.



## Scientists Develop Self-Disinfecting, Biodegradable Face Masks To Combat COVID-19

CSIR-CCMB

05<sup>th</sup> February, 2022

A team of Indian Scientists in collaboration with an industry partner have developed a self-disinfecting 'Copper-based Nanoparticle-coated Antiviral Face Mask' to fight against the COVID-19 pandemic. The mask exhibits high performance against the COVID 19 virus as well as several other viral and bacterial infections, is biodegradable, highly breathable and washable. Public mask wearing is most effective in reducing the spread of the virus COVID-19 caused by SARS-CoV-2, an enveloped positive sense single-stranded RNA virus, where the mode of transmission is via respiratory particles that are mainly airborne.

With the science around the use of masks to impede transmission is advancing rapidly, the Indian market is selling expensive masks that neither exhibit antiviral nor antibacterial properties. Hence, it is very difficult to control the transmission by wearing the conventional mask particularly in densely populated places like hospitals, airports, stations, shopping malls and so on where the virus load is very high. In the present scenario, where mutations in coronavirus causing the COVID-19 pandemic are fast emerging, it is an urgent necessity to develop a low-cost antiviral mask.

To this end, Scientists at International Advanced Research Centre for Powder Metallurgy and New Materials (ARCI), an autonomous R&D Centre of Department of Science and Technology (DST), Govt. of India, in collaboration with the Centre for Cellular & Molecular Biology (CSIR-CCMB) and Resil Chemicals, a Bengaluru based company have developed the self-disinfecting 'Copper-based Nanoparticle-coated Antiviral Face Masks' under the DST sponsored Nano-Mission project, to fight against the COVID-19 pandemic.

ARCI developed copper-based nanoparticles of around 20 nanometres by a Flame Spray Pyrolysis (FSP) processing facility. FSP process involves conversion of solution precursors into nanopowders by high temperature pyrolytic decomposition. Stable nanoparticle



suspension were obtained by optimizing the solid loading and pH. A uniform layer of this nano-coating on the cotton fabric with good adhesion was achieved using a suitable binder. The coated fabric exhibited an efficacy of more than 99.9% against bacteria. CSIR-CCMB tested the efficacy of this fabric against SARS-CoV-2 for their disinfection properties and reported 99.9% disinfection, as evident from the standard results. Prototype masks having different designs such as single layer and triple layers with nanoparticle coated fabric as outer layer have been demonstrated. A single layer mask is especially useful as a protective antiviral outer mask over a regular mask.

Their Industrial partner Resil Chemicals Bengaluru is now producing such double layer masks on large scale. The present-day face masks only retain the viruses by filtering and do not kill them and hence, are prone to transmission if the masks are not properly worn or disposed. Simple multi-layer cloth masks present a pragmatic solution for use by the public in reducing COVID-19 transmission in the community and wearing these self-disinfecting cloth masks is definitely one of them.

Additionally, a huge concern is expressed around the globe regarding the disposal of used masks. Most of the conventional masks effective against COVID-19 are for single-use and are not bio-degradable, creating serious environmental concerns and waste-management issues. The present antiviral mask which is made from cotton fabric that is biodegradable would eliminate that problem too besides making it highly breathable and washable.



## IGIB develops future-proof primers, kits for RT-PCR test

CSIR-IGIB

05<sup>th</sup> February, 2022

**The pool of primers has been developed to target regions of the virus which are unlikely to undergo mutations**

Using its expertise in genome sequencing and analysis pipeline of genome sequence data, the Delhi-based CSIR lab Institute of Genomics and Integrative Biology (IGIB) has successfully developed a unique pool of primers and kits to be used in RT-PCR testing of SARS-CoV-2 virus. The most distinguishing aspect of the work carried by a team led by Dr. Sridhar Sivasubbu and Dr. Vinod Scaria at IGIB that was developing primers that will not be affected by mutations seen in SARS-CoV-2 variants. This may allow the primers to detect any new SARS-CoV-2 variants that might emerge immaterial of the novel mutations that the variants might have. The primers developed in a way future-proofs the ability to detect without fail any new SARS-CoV-2 variants that may emerge.

**Published in:**

[The Hindu](#)



## 500 city Covid samples studied by Neeri on global platform

CSIR-NEERI

04<sup>th</sup> February, 2022

NAGPUR: Thanks to the rapid whole genome sequencing (WGS) done by CSIR-NEERI, the Global Initiative on Sharing Avian Influenza and Coronavirus Data (GISAID) has published the SARS-CoV-2 WGS of 500 Covid positive samples.

The data would now be available for the scientific diaspora as well as any researcher for further study and understanding. The initiative helps in tracking newer variants of the virus and in developing deeper understanding for timely preventive measures.

Dr Krishna Khairnar, scientist and head of environmental virology, CSIR-NEERI, said that the initiative provides one-stop solution for scientific communities across the world. “It gives a holistic view of SARS-CoV-2 variants and emergence to the scientific diaspora, policy makers and even the WHO. It is supported by many government agencies. GISAID is a pioneer and has largest database for SARS-CoV-2,” he said.

Khairnar further said that Nagpur’s genotypic surveillance would now be available for the world. “GISAID through available data interface allows to keep track and raise alert for any oncoming emerging variant. Like when Omicron variant was detected in Africa, countries started preparing for it well in advance. Researchers across the globe got the access to the genome sequence to study the lethality of variants emerging across the globe. Genome is a blueprint of any life form and having access to it gives great insight into the dynamics. Consistent whole genome sequencing is already helping red flagging any new mutation that may be of concern in future,” he said.

Meanwhile, the NEERI lab processed another 89 Covid positive samples in which Omicron variant BA.2 was found dominant in its sixth genome sequencing series done for the Nagpur Municipal Corporation.



The samples included symptomatic and asymptomatic Covid positive patients from January 27 to 31. The study shows all 89 samples with Omicron variants. In terms of percentage, Omicron lineage B.1.1529 was found in 23.6% samples while BA.2 was in 76.4%. The BA.2 lineage has become dominant after mid-January.

BA.2 was also found in a couple of ICU patients whose swab samples didn't test positive for 'S' gene target failure (SGTF). The sublineage BA.2 is also called as stealth Omicron as it is skipping SGTF and even the latest Omisure kit test runs, leaving whole genome sequencing as the ultimate answer for surveillance.

Again, the percentage share of Omicron BA.2 lineage among symptomatic patients is higher than other Omicron lineages. Of the total BA.2 lineage samples, 29.5% belonged to symptomatic cases. On the other hand, among the total Omicron B1.1.529 samples, just 14.3% were symptomatic patients.



CSIR-NEERI

03<sup>rd</sup> February, 2022

## NEERI to take steps to control sound pollution

# ध्वनिप्रदूषण रोखण्यासाठी नीरीचा पुढाकार

त्रिस्तरीय धोरणाची आखणी : व्हीएनआयटी, जनआक्रोशसह अन्य संस्थांचा सहभाग

लोकमत न्यूज नेटवर्क  
नागपूर : शहरातील ध्वनिप्रदूषणाच्या समस्येवर मात करण्यासाठी निपटारा करण्यासाठी राष्ट्रीय पर्यावरण अभियांत्रिकी संशोधन संस्था (नीरी)ने पुढाकार घेतला आहे. यासाठी त्रिस्तरीय धोरण तयार केले असून, या कार्यात व्हीएनआयटी, जनआक्रोशसह अन्य संस्थांचा सहभाग घेतला जाणार आहे.

ध्वनीच्या स्रोतामध्येच गोंगाट कमी करणे, गोंगाटामुळे होणारा प्रभाव नियंत्रित करणे आणि ध्वनिप्रदूषणाबाबत जनजागृती कार्यक्रम राबविणे असे हे त्रिस्तरीय धोरण आहे. आरटीओ, वाहतूक पोलीस, महापालिका व इतर प्रशासकीय यंत्रणांची मदत घेत शहरातील सर्व शैक्षणिक संस्थांना या अभियानात सहभागी करण्यात येणार आहे. नीरीचे



वरिष्ठ प्रधान वैज्ञानिक डॉ. रितेश विजय यांनी संस्थेतर्फे चालणाऱ्या विविध संशोधनाची आणि महाराष्ट्रातील २७ शहरात केलेल्या ध्वनी अभ्यास अहवालाची माहिती दिली आहे.

जनआक्रोश संघटनेच्या पुढाकाराने नीरीचे संचालक डॉ. अतुल वैद्य यांच्या अध्यक्षतेत नुकतीच बैठक घेण्यात आली. यामध्ये व्हीएनआयटीचे संचालक डॉ. पी. एम. पडोळे, एलआयटीचे संचालक डॉ.

### महिन्याच्या तिसऱ्या दिवशी 'नो हॉर्न डे'

सर्व सहभागी संस्थांच्या आणि विद्यार्थ्यांच्या सहकार्यातून दर महिन्याचा तिसऱ्या दिवशी 'नो हॉर्न डे' म्हणून पाळण्याचे यात उपक्रमात नियोजन आहे. प्रारंभी यात संस्थांचे प्रतिनिधी, युवक सहभागी होतील. ही मोहीम व्यापक करीत हळूहळू शहरवासीयांना यात सहभागी केले जाईल. नीरीचे वरिष्ठ प्रधान वैज्ञानिक डॉ. रितेश विजय यांनी संस्थेतर्फे चालणाऱ्या विविध संशोधनाची आणि महाराष्ट्रातील २७ शहरात केलेल्या ध्वनी अभ्यास अहवालाची माहिती दिली.

राजू मानकर, जी. एच. रायसोनी अभियांत्रिकी कॉलेजचे डॉ. प्रमोद वाळके, प्रा. मंगेश भोरकर, रामदेवबाबा अभियांत्रिकी कॉलेजचे डॉ. स्वरूप लक्ष्मी मुदलियार, प्रियदर्शिनी कॉलेजचे डॉ. नितीन आंबटकर, यशवंतराव चव्हाण अभियांत्रिकी कॉलेजचे डॉ. अनिकेत मुंशी, डॉ. दिलीप लटाये, डॉ. प्रदीप शेंडे, मिलिंद पाठक यांच्यासह जनआक्रोशचे उपाध्यक्ष एस. के. भालेराव, अशोक करंदीकर,

रवींद्र कासखेडीकर, अनिल जोशी यांचा सहभाग होता. अभियानात सहभागी संस्थांच्या प्रतिनिधींच्या माध्यमातून विद्यार्थ्यांचे ध्वनिप्रदूषणाबाबतचे नवीन संशोधन, नवीन प्रस्ताव सादर करण्याचे आवाहन करण्यात आले आहे. या संशोधनांना नीरी अधिक व्यापक रूप देईल. हे सर्व प्रस्ताव विज्ञान व तंत्रज्ञान तसेच जलवायू परिवर्तन मंत्रालयाला पाठविण्यात येतील.



CSIR-NEERI

03<sup>rd</sup> February, 2022

## NEERI to take steps to control sound pollution

LOKMAT NEWS NETWORK  
NAGPUR, FEB 3

National Environmental Engineering Research Institute (NEERI) has taken initiative in reducing sound pollution in the city. Visvesvaraya National Institute of Technology (VNIT), Jan Akrosh and other organisations are part of this mission.

NEERI has chalked out a three-pronged action policy. This includes reducing sound pollution from its origin, controlling the effects of sound pollution and creating awareness about this pollution. Help of transport department, traffic police, Nagpur Municipal Corporation (NMC) and other agencies would be taken.

A meeting was recently held under the chairmanship of NEERI director Dr Atul Vaidya on the initiative of Jan Akrosh. VNIT director Dr P M Padole, LIT director Dr Raju Mankar, Dr Pramod Walke and Prof Mangesh Bhorkar of G H Raison Engineering College, Dr Swarooplaxmi Mudaliar of Ramdeobaba College, Dr Nitin Ambatkar of Priyadarshini College and Dr Aniket Munshi, Dr Dilip Lataye, Dr Pradip Shende and Milind Pathak of Yeshwantrao Chavan College, Jan Akrosh vice-president S K Bhalerao, Ashok Karandikar, Ravindra Kaskhedikar and Anil Joshi attended it.

Dr Ritesh Vijay, senior chief scientist at NEERI, provided information about various researches done by the agency and the study on sound pollution done in 27 cities of the state.

The students of the engineering colleges were



■ NEERI has chalked out a three-pronged action policy. This includes reducing sound pollution from its origin, controlling the effects of sound pollution and creating awareness about this type of pollution

appealed to do research to combat sound pollution through their professors. These research works would be fine-tuned by NEERI.

All the proposals would be sent to science & technology and climate change ministries.

### 'No Horn Day' on third day of every month

The attendees decided that the third day of every month would be observed as 'No Horn Day' with help of the colleges and their students.

Initially the representatives of these institutions and youngsters would observe this rule. Later support of other sections of society would be taken.

It is worth mentioning here that such action was much needed in the considering the drastic rise in the levels of sound pollution at some busy places in the city. Now, it is to be seen to what level it can be reduced.



## MP Pitches For National Institute Of Pharmaceutical Education And Research In Mysuru

CSIR-CFTRI

02<sup>nd</sup> February, 2022

Mysore/Mysuru: If everything goes as per plans, Mysuru is likely to get a National Institute of Pharmaceutical Education and Research (NIPER) as the city is ideally suited for it. Mysuru-Kodagu MP Pratap Simha has pitched for its establishment and has approached Bhagawanth Khuba, Minister of State, Chemicals and Fertilisers, New and Renewable Energy, with a proposal.



Meeting the Minister in New Delhi yesterday, the MP stated that students from all over India and abroad regularly flock to Mysuru to do their graduate and post-graduate studies.

The NIPER can add to the list of many engineering, medical, law, business colleges that are operating from Mysuru and moreover, two of India's prestigious labs — Council of Scientific and Industrial Research-Central Food Technological Research Institute (CSIR-CFTRI) and Defence Food Research Laboratory (DFRL), a unit of DRDO — are headquartered in Mysuru. They can provide excellent research collaboration opportunities with NIPER, Simha stated.

Mysuru has 50 small-medium, and large pharmaceutical companies, thus making it an ideal place for NIPER. Besides, Bengaluru, the pharmaceutical hub of South India is just 110 kms away. So, locating the NIPER centre in Mysuru will act as a regional force multiplier in building a strong academics and industry collaboration which will be mutually beneficial, the MP noted.



Also, the land for NIPER Mysuru can be allocated at the earliest, he added. It may be mentioned here that NIPER has been recognised as an institute of national importance following the NIPER (Amendment) Bill 2021 passed in the Lok Sabha. The Bill enhanced the status of six NIPERs in India making the institute autonomous with freedom to hold examinations, grant degrees and other academic distinctions or titles and will be entitled to receive Central funding. At present, NIPER is located in Ahmedabad, Guwahati, Hajipur, Hyderabad, Kolkata and Raebareli.



## CDRI (Lucknow), Biotech Desk develop testing kit to detect Omicron variant

CSIR-CDRI

02<sup>nd</sup> February, 2022

**CDRI says the kit can identify Omicron in a quick and cost-effective manner**

Central Drug Research Institute (CDRI), Lucknow, which functions under the aegis of the Council of Scientific and Industrial Research of India (CSIR) and Hyderabad-based Biotech Desk Pvt have developed one of the few testing kits to detect Omicron variant. According to the Government, this testing kit can identify Omicron variant in a quick and cost-effective manner.

“Currently, detection of the Omicron variant depends on tests such as ‘S-gene drop out’ or ‘NextGen sequencing’ of the entire viral genome. This kit developed by CDRI can identify Omicron in a quick, cost-effective manner,” Press Information of Bureau in Maharashtra tweeted.

Omicron is a highly transmissible variant but with moderate symptoms. According to the Health Ministry, currently the third wave is majorly driven by the Omicron variant. However, Delta variant, which causes more severe symptoms, has not completely faded away from various places in the country.

India conducted 17.42 lakh Covid tests on Wednesday with the total tests of 73.24 crore done so far. On Wednesday, 1.61 lakh Covid cases were registered in the country with 1,733 deaths in the last 24 hours till 8:00 am. The daily positivity rate and the weekly positivity rate stood at 9.26 per cent and 14.15 per cent respectively.

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## CSIR Scientist Explains When Will COVID-19 Pandemic End

CSIR

01<sup>st</sup> February, 2022

Several countries across the world are still under the grip of Covid-19 pandemic. India is facing the third wave of the pandemic and around two lakh daily new cases are being reported, most of them caused by the Omicron variant. It has been two years since the outbreak of the pandemic and now people are wondering when this new normal routine will come to an end. Most of the people are tired of wearing masks, social distancing and isolation as well as the work from home culture.

So far, scientists have not been able to give any clear answer on this. The Council of Scientific & Industrial Research (CSIR) is continuously advancing its research in understanding coronavirus disease. Anurag Agrawal, director of the Institute of Genomics and Integrative Biology at CSIR, has made an important observation on the matter.

Anurag Agrawal said that the Covid-19 situation is settling down in metro cities like Delhi and Mumbai, but it is still a problem in Tier 2 cities like Lucknow, Kanpur, Patna, Vadodara, Surat and others. Certainly, the speed of infection is not the same across India, so there may be an alarming increase in COVID-19 curve before it reaches its lowest point.

According to an Indian Express report, Anurag Agrawal has said that Covid-19 is not over yet.

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## CUO Inks MoU With CSIR-Institute Of Minerals & Metals

CSIR-IMMT

01<sup>st</sup> February, 2022

Koraput: The Central University of Odisha signed an MoU with the CSIR-Institute of Minerals and Metals (CSIR-IMMT), Bhubaneswar. Prof. S.K. Palita, Vice-Chancellor I/c, Central University of Odisha and Prof. Suddhasatwa Basu, Director, IMMT, Bhubaneswar signed the MoU at Bhubaneswar on 31 January 2022.



The MoU will cover collative research, and the exchange of knowledge, technical know-how and mentoring between the two institutions in areas of mutual interest such as Biological and Allied Sciences, Environmental Sciences and Engineering, Pharmaceutical Sciences and Technology, Intellectual Property and Innovation Management and Technology Development and Entrepreneurship, etc.

The mode of cooperation will include collaborative efforts in Developing joint proposals in basic and applied research for external sponsorship; Awareness/Sensitization & Mentoring; Setting up innovation/incubation centers; Giving impetus to societal relevance in developing technologies and disseminating information; Joint M. Sc, and Ph. D guidance; Sharing research facilities; Initiating professional development and capacity-building programmes; Sharing IP and Research Publications emanating from joint programmes and conducting joint HR programmes for industry and academia.

This MOU will remain in force for a period of 5 (five) years. Both the institutes shall, within the means available to each institute, promote the institutional exchange of scientists, faculty and student researchers to participate in appropriate research and academic activities and



jointly organize symposia, conferences, workshops, and meetings on current and futuristic research issues. This landmark MoU between these two institutions is expected to boost research and development and particularly will help tap both natural and biological resources for the betterment of Odisha in general and the underdeveloped regions of the state in particular.



## Govt scientists will examine twin towers demolition plan

CSIR-SERC

01<sup>st</sup> February, 2022

Noida: The Chennai-based Structural Engineering Research Centre (SERC), a laboratory of the Council for Scientific and Industrial Research, will go through the plan to bring down the Supertech twin towers in Noida and measures to keep an underground gas pipeline just 15 metres away from site safe from the impact of the explosion.

Scientists and experts of the government institute will conduct several tests of the structures and other components that could be affected by the explosion to demolish the Apex and Ceyane towers. SERC, which conducts instrumentation and response measurements of railway overbridges and vibration testing, has been helping GAIL to withstand stress on underground gas pipelines.

Edifice Engineering, the Mumbai-based company given the responsibility of bringing down the twin towers, hit the first hurdle in the demolition process in the form of the gas pipeline. “While preparing the preliminary plan itself, the presence of the pipeline was taken into account. It is a hurdle that can be cleared with some additional preparation. The timeline specified by the Supreme Court has to be adhered to,” said an official of the Noida Authority who has been coordinating between Supertech Limited and Edifice on the matter.

GAIL officials, meanwhile, have sought the entire plan from Edifice. The gas authority will give its go-ahead to the demolition process only after the plan is vetted by experts of CSIR-SERC. Sources said the pressure with which the debris would roll on the ground after the demolition and the vibration they would cause would have to be examined, among other aspects. The gas pipeline, owned by Indraprastha Gas Limited, runs parallel to the Supertech Emerald Court project. The supply of gas through the pipeline can neither be stopped for a few minutes during the demolition nor can it be rerouted.



Sources said Edifice was exploring the option of putting up heavy steel plates to cover the 200-metre long stretch of the pipeline to protect it from the impact of the debris. The other option, the sources said, is to dig the ground around the buildings to create a trench that would absorb the shockwaves and vibrations caused by the debris.

Residents also said they were curious to know how the company was planning the demolition process. “The gas pipeline is running below the green belt maintained by the Noida Authority. We are trying to find out how Supertech and the company engaged by it are planning to keep it insulated from the impact of the explosion,” said UBS Teotia, president, Emerald Court residents’ welfare association.

On August 31 last year, the Supreme Court had ordered the demolition of the twin towers in Sector 93A. It had ruled that the towers had been built by violating the building bylaws in collusion with a few Noida Authority officials.



CSIR-CDRI

01<sup>st</sup> February, 2022

# अमेरिका में भी मिलेगी CDRI की दवा

अस्थि स्वास्थ्य दवा को लेकर सीडीआरआई व अमेरिकी कंपनी के बीच करार

लखनऊ (एसएनबी)। हड्डी को स्वस्थ रखने और मजबूती देने के लिए केन्द्रीय औषधि अनुसंधान संस्थान (सीडीआरआई), लखनऊ द्वारा की तैयार की प्रथम श्रेणी की अस्थि स्वास्थ्य दवा अब अमेरिका के लोगों को भी उपलब्ध हो सकेगी। इस दवा के विकास और व्यावसायीकरण के लिए सीडीआरआई और अमेरिका की एवेता वायोमिक्स (वोस्टन) कंपनी के बीच करार हुआ है तथा सीडीआरआई ने अमेरिका की एवेता वायोमिक्स को लाइसेंस देने की घोषणा की है। अमेरिकी की कंपनी को लाइसेंस मिल जाने के बाद सीडीआरआई द्वारा वनस्पतियों से तैयार की गयी उक्त दवा वहां निर्मित हो सकेगी। यह दवा ऑस्टियोपोरोसिस, फ्रैक्चर उपचार, ऑस्टियोआर्थराइटिस और अन्य एंडोक्रिनोलॉजिकल विकारों के इलाज में काफी कारगर है।

सीडीआरआई के निदेशक प्रो. तपस कुमार कुंडू ने बताया कि यह लाइसेंस हमारे विज्ञान की क्षमता का एक प्रतिमान है जो हमारे वैज्ञानिकों की सशक्त एवं विश्व-स्तरीय अनुसंधान उत्पादकता के मूल्य को प्रदर्शित करता है। एवेता वायोमिक्स के साथ हाथ मिलाने से उम्मीद है कि सीडीआरआई के इस शोध के माध्यम से दुनिया भर में अस्थि संबंधित विकारों (रोगों) के साथ रहने वाले लोगों के लिए एक उत्तम औषधि तैयार की जा सकेगी।

इस दौरान वायोमिक्स, यूएसए के सीईओ डा.



परागजी मेहता ने कहा कि हम मरीजों के लिए इस नई दवा को लाने के लिए उत्साहित हैं और हमें खुशी है कि हम सीडीआरआई टीम की गूढ़ वैज्ञानिक जानकारी से लाभ उठा सकते हैं।

सीडीआरआई के एंडोक्रिनोलॉजी डिवीजन की डा. रितु त्रिवेदी ने बताया कि शीशम की पत्तियों में खास कैवियुनिन स्केफोल्ड तत्व पाया जाता है,

जो हड्डियों के लिए संजीवनी से कम नहीं है। इस तत्व को खास प्रक्रिया से गुजारने के बाद दवा तैयार की गई है। भारत में वर्ष 2017 से शीशम की पत्तियों से तैयार दवा टैबलेट की तरह बेची जा रही है। अब अमेरिका की कंपनी को लाइसेंस दिया गया है। कंपनी न सिर्फ दवा तैयार कर विक्री करेगी बल्कि आगे शोध भी करेगी।

## भारत में 50 मिलियन महिलाएं ऑस्टियोपोरोसिस से पीड़ित

लखनऊ। बढ़ती उम्र के साथ पुरुषों व महिलाओं की हड्डियां कमजोर हो जाती हैं तथा उन्हें तमाम तरह की हड्डियों की बीमारियों से जूझना पड़ता है। इंडियन सोसाइटी फॉर वोन एंड मिनरल रिसर्च (आईएसवीएमआई), भारत के अनुसार 50 मिलियन भारतीय महिलाएं ऑस्टियोपोरोसिस से पीड़ित हैं। दुनिया भर में हर तीन में से एक महिला और 50 वर्ष से अधिक उम्र के हर पांच पुरुषों में से एक को ऑस्टियोपोरोटिक फ्रैक्चर की संभावना होती है। अकेले अमेरिका में 50 वर्ष से अधिक आयु के अनुमानित 10 मिलियन लोगों को ऑस्टियोपोरोसिस है और संयुक्त राज्य अमेरिका में हर दो में से एक महिला अपने जीवनकाल में एक बार नाजुक फ्रैक्चर से अवश्य पीड़ित होती है। अमेरिका में 43 मिलियन से अधिक लोगों में हड्डियों का द्रव्यमान कम है, जिससे उन्हें ऑस्टियोपोरोसिस का खतरा बढ़ जाता है। विश्व स्तर पर वर्ष 2019 में 178 मिलियन नए फ्रैक्चर और फ्रैक्चर से जुड़े विकारों के 455 मिलियन मामले रिकॉर्ड किए गए थे।

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