

# CSIR IN MEDIA



CSIR

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## CCMB invites startups to join fight against COVID

CSIR-CCMB

10<sup>th</sup> January, 2022

Atal Incubation Centre-Centre for Cellular & Molecular Biology (CCMB) is inviting entrepreneurs and innovators with promising technologies to join its COVID-19 Technology Deployment (CoviTeD) Acceleration Program.

This is a CSR initiative of Security Printing and Minting Corporation of India Limited (SPMCIL) to provide high impact mentoring, financial, regulatory and marketing support to take these products and technologies to market. The focus areas are medical devices for management of COVID-19 patients, quantifiable tests for ancillary markers of COVID, rapid diagnostics, drugs and therapeutics, sterilisation and hygiene, and logistics for biologicals.

The applicant must be a startup/company registered in India, with at least 51% Indian shareholding, and with a competent team in place, preferably with a domain expertise. Association with the incubator (resident or virtual mode) would be preferred. Individual innovators with promising technologies can be supported.

The startup should be less than 10 years old, or in proof of concept or prototype stage. Startups with products at commercialisation stage can also apply. Applicants should have developed clear product to market fit, customer discovery with clarity on intended customers and value propositions for its targeted customers with preferably at a revenue stage or has raised fund earlier.

MSMEs needing scale-up, quality assurance and regulatory support can also apply with preferably ready-to-deploy product within a few weeks. Products requiring approval from competent authorities and startups whose technologies/ products are deemed to be of huge importance in the ongoing fight against COVID, will be recommended for NIDHI-Seed Support Scheme of Department of Science & Technology.



Each module involves prototyping, validation at CSIR-CCMB, interaction with end user and mentoring from best industry leaders. The winner will get seed fund/ award of ₹15 lakh, while the runner up will get seed fund/ award of ₹10 lakh. Participants will get access to validation and analytical services at CCMB, a chance to work with scientists directly working on SARS-CoV-2 genomics, accelerated deployment and early deployment and commercialisation through partners and policy makers. Plus, a strong ecosystem connect for higher value creation and recognition. The last date for application (<https://aic.ccmb.res.in/contact-us/>) is January 31.



## Omicron variant found in 96% of 53 Covid cases sequenced by Neeri lab

CSIR-NEERI,CCMB

10<sup>th</sup> January, 2022

Nagpur: Less than a month after the first Omicron case was confirmed at Nagpur, the new highly transmissible variant has become the dominant strains among SARS-CoV-2 positive cases, reveals a study. Of 53 samples sequenced between January 1 and 6, the Omicron variant was found in 51, or 96% of the cases. The development was confirmed in the first run of the newly-installed genome sequencing facility at the environmental virology cell of CSIR-NEERI. The cell had also been running an ICMR-recognised Covid-19 RT-PCR lab since the first wave in 2020.

CSIR-NEERI's cell has been able to set up Vidarbha's first genome sequencing facility, much before any of the three medical colleges – IGGMCH, GMCH and AIIMS Nagpur.

Krishna Khairnar, head of the cell, told TOI that the most recent samples were taken up for the study. "We performed whole genome sequencing on 53 samples received from January 1 to January 6. The study showed 51 of them positive for the Omicron variant (B.1.1529) while two samples were of other variant (20A)," he said.

Only one among the 51 confirmed Omicron patients had foreign travel history. Others are believed to have come in contact with Omicron carriers. Thus, the recent surge in the district, which had been registering less than 20 cases till December-end, may be attributed to Omicron.

Khairnar added that though proportionately 96% samples are of Omicron variant, more sequencing is needed. "The question whether Omicron has replaced Delta would be further ratified through sequencing a bigger sample size. It took us two days to study the 53 saline gargle samples for whole genome sequencing," he said.



The Neeri cell, in collaboration with CCMB Hyderabad, had sequenced 900 samples collected between October 2020 and December 2021 for Nagpur district. As per its study on the previous lot of samples, Delta variant had been dominant till early December.

The cell receives saline gargle RT-PCR samples from the RPTS sample collection centre and other mobile collection centres, where citizens from different parts of the urban and rural areas come. The cell had also been sequencing all positive samples of Nagpur district from August onwards. Sequencing results of all these samples had shown presence of Delta and its sub-lineages.

The first Omicron patient in the city had arrived from West Africa via Delhi on December 3. His sequencing result had shown Omicron-like variant on December 12. The second Omicron patient's sample was confirmed by NEERI-CCMB study. Strangely, NMC had stopped sending suspected Omicron samples to Neeri. The cell then continued the study on samples coming for RT-PCR tests.



## IICT collaborates with Cipla foundation to train students from North East

CSIR-IICT

09<sup>th</sup> January, 2022

Hyderabad: City-based Indian Institute of Chemical Technology (IICT) has announced its collaboration with Cipla Foundation (CF) to conduct orientation-cum-training programme for M.Sc. (Chemistry) students from the North-Eastern (NE) states for a period of three years starting from 2021-22 under its Corporate Social responsibility (CSR).

The initiative aims to provide students from North East an opportunity to learn and interact with CSIR-IICT scientists, prepare them to be industry ready or pursue Ph.D in chemistry and at the same time expose them to the diverse cultures.

The three-month hybrid (online and hands-on) course began with a virtual inaugural session was attended by around 50 students representing the seven NE states, chemistry faculty from respective universities and faculty from IICT.

Dr D Shailaja, Chief Scientist and Nodal Officer for Skill and CSR Programmes, IICT, informed students about the various skill development programs of IICT to upskill the UG and PG students.

Director, IICT, Dr V M Tiwari advised faculty to empower students with state-of-the-art skills that will equip them take up assignments on a global platform. Senior Principal Scientist and course coordinator, Dr. Pradosh Chakrabarti and CEO of Cipla Foundation, Anurag Mishra also addressed the students.

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## Hyderabad's IICT enters into MoU with BPCL to utilise paddy stubble for producing biogas

CSIR-IICT

08<sup>th</sup> January, 2022



Hyderabad: In a novel initiative at ensuring biomass like paddy stubble is not wasted through burning, Hyderabad-based Indian Institute of Chemical Technology (IICT) is now collaborating with Bharat Petroleum Corporation Limited (BPCL) Research and Development (R & D) Center, in Noida, to install commercial scale compressed biogas (CBG) plants for treatment of such agricultural biomass.

In its endeavor to convert waste to wealth, IICT had developed and patented a high rate biomethanation technology based on Anaerobic Gas lift Reactor (AGR) to generate methane rich biogas and nutrient rich biomanure. In fact such a plant has been installed at the Bowenpally vegetable yard, which received praise from Prime Minister, Narendra Modi in his Mann Ki Baat.

To leverage AGR technology and generate methane rich biogas from nutrient biomanure by treating agricultural biomass, the CSIR-IICT and BPCL R&D center, Noida have jointly entered into MoU in December, 2021 to execute a research and development project for 18 months.



“The MoU includes development of a pilot scale reactor in the first phase and development of another novel digester in the second phase. Upon successful pilot reactor demonstration at IICT, the same process/product would be scaled up, validated and deployed at BPCL R&D Centre in Noida,” IICT officials said in a release.

A team of officials from BPCL R&D Centre visited CSIR-IICT in October 2021, to witness the pilot biogas plant based on AGR technology installed at IICT for the treatment of food waste generated in the campus kitchen and finalize the objectives of the proposed project.

Upon successful negotiations and the finalization of the project, a team from IICT including Dr. A. Gangagni Rao, Chief Scientist and Principal investigator of the project and Dr. D. Shailaja, Chief Scientist and Head, Business development group visited BPCL R & D Centre on December 23, 2021 and entered into an MoU to kick start the project.

Dr. V. M. Tiwari, Director IICT said that “the teams at CSIR-IICT and BPCL R & D Centre are keenly looking forward to a fruitful product/process as an outcome. The successful execution of this project would create a paradigm shift in the biomass burning issue”.



## Webinar On 'Innovations And Advancements In Food Protection And Grain Storage' At CFTRI

CSIR-CFTRI

08<sup>th</sup> January, 2022

Mysore/Mysuru: CSIR-Central Food Technological Research Institute (CSIR-CFTRI), Mysuru, had organised a webinar on “Innovations and Advancements in Food Protection and Grain Storage” on Jan. 5. It was themed on five different research fields related to stored grain protection from insect infestation, namely, “Grain storage management”, “Pesticides and insect toxicology”, “Hermetic storage technology”, “Insect pest management” and “Fumigation technology.”



Dr. Sridevi Annapurna Singh, Director, CSIR-CFTRI, inaugurated the programme by lighting the lamp along with Head and staff members of Food Protectants and Infestation Control (FPIC) Department, CFTRI. Professional experts working in the field of integrated pest management from scientific and industrial domains delivered talks.

During the inaugural session, Dr. Sridevi Singh discussed about country's current situation with respect to post-harvest management of food systems and the necessity of immediate actions in the current scenario.

Dr. Prakash M. Halami, Head of FPIC Department, spoke about the current innovations and advancements in the field of food grain protection such as Grain ATMs, utilisation of PICS bags and silo bags for grain storage and importance of hermetic storage technology. Dr. Nachiket Kotwaliwale, Director, ICAR-CIPHET, Ludhiana, emphasised on minimising food loss and wastage as technological solutions for protection and storage.



Dr. S. Senthil Nathan, Professor in Manonmaniam Sundaranar University in Alwarkurichi, Tamil Nadu, explained about the importance of developing environmental soft pesticides from a researcher's perspective.

Praveen Gupta, Country Manager in GrainPro Ltd. spoke on significance of hermetic technology as a sustainable solution to post-harvest problems. Problems and prospects associated with stored product pest management in India was explained in detail by Dr. S. Subramanian, Principal Scientist, Division of Entomology, ICAR-Indian Agricultural Research Institute, New Delhi.

Dr. S. Rajendran (Retd. Scientist, CSIR-CFTRI and currently working with UPL Ltd. as a Technical Consultant) provided insights into the role of fumigation technology in food protection in context to Indian subcontinent.

The webinar focused on the ongoing research and technological advancements the world is witnessing with respect to food protection and safety. It provided an opportunity to young Indian scientists and students working in scientific labs and Institutions to interact with experts directly during the event. A total of 138 participants who had registered for the online webinar will be receiving e-Certificates.



## Hyderabad NGRI Campus Gets India's First Rock Museum

CSIR-NGRI

07<sup>th</sup> January, 2022



Hyderabad: On the first day of his two-day visit, 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, Dr Jitendra Singh today inaugurated India's first unique "Rock" Museum and later addressed the Hyderabad Scientists at the CSIR-National Geophysical Research Institute (NGRI).

The Open Rock Museum, set up with the aim to educate and enlighten the masses about several lesser known facts, displays around 35 different types of rocks from different parts of India with ages ranging from 3.3 Billion years to around 55 Million years of the Earth's history. These rocks also represent the deepest part of the earth up to 175 kms of distance from the surface of the earth.

Addressing the galaxy of eminent scientists, Dr Jitendra Singh said that "Big Earth data" occupies the strategic high ground in the era of knowledge economies and India is fully exploiting this new frontier contributing to the advancement of Earth science. He said, geosciences is contributing significantly towards the self-reliance and national priorities in New India.



The Minister said, Science blended with creative innovation brings “ease of living” for the common man and Scientists should adopt out of box thinking to address the problems of the common public. He said, the expectations of society from scientists are ever growing and scientists should continuously be involved in providing the best S&T solutions. Dr Jitendra Singh said that the out of box idea was suggested by Prime Minister Narendra Modi, who not only has a natural predilection for science but is also forthcoming in supporting and promoting science and technology-based initiatives and projects.

Dr Jitendra Singh said, when country is celebrating 75 years of Independence as “AzadiKaAmritMahotsav”, CSIR is celebrating 80 years of its foundation and it is the right time that all ministries and departments who are pursuing science should explore S&T innovations for making India self-reliant in many of the sectors. He emphasised that India should be a global leader in matters ranging from defense to economics with strong scientific and technological inputs in another 25 years when India celebrates 100 years of Independence.

Referring to CSIR-NGRI's future research efforts designed for Deep-Earth and Near-Surface explorations, which are critical to understand the processes responsible for shaping Earth's structure and dynamics, and for sustenance of life on Earth, respectively, Dr Jitendra Singh expressed hope that with its charted vision and mission, CSIR-NGRI will play a vital and pivotal role in coming years to fulfill the aspirations of the nation.

It may be recalled that Dr Jitendra Singh launched state-of-the-art Heli-borne survey technology for groundwater management, developed by CSIR-NGRI Hyderabad with Union Minister for Jal Shakti, Gajendra Singh Shekawat from Jodhpur in October, last year. To start with, the States of Rajasthan, Gujarat, Punjab and Haryana are being taken up for this latest heli-borne survey, the Minister added.

Dr Jitendra Singh said that the water technologies of CSIR from source finding to water treatment will benefit millions of people across the country and positively contribute to Prime



Minister Narendra Modi's "HarGharNal Se Jal". He said, the latest state-of-the-art technology is being employed by Council of Scientific & Industrial Research (CSIR) for mapping groundwater sources in arid regions and thus help utilise groundwater for drinking purposes.

Dr Jitendra Singh also released Earthquake Risk Maps of Lucknow and Dehradun Cities and handed over the maps to the Chairpersons or nominees of UPSDMA and UKSDMA on the occasion. He informed that CSIR-NGRI has made earthquake risk maps for Lucknow and Dehradun cities which are vulnerable for future earthquakes in the Indo-Gangetic plains area. The risk maps were prepared by characterising the hazard and its uncertainty, to serve as input for risk assessment and earthquake resistant design for different applications – ranging from private homes to multi-storied buildings and critical infrastructures such as bridges or dams, he added.

Both the maps were shared with Uttarakhand and Uttar Pradesh State Disaster Management authorities who are the main stakeholders. They agreed to use the outcome for revising land use maps with revised hazard components and revise building bye-laws to outlaw unsafe and vulnerable typologies of houses in both the cities.

Director, CSIR-NGRI Hyderabad, Dr V.M. Tiwari gave a resume of the activities of the institute while Director General CSIR Dr Shekhar C. Mande also spoke.



## Pune: CSIR-NCL Celebrates Its 72nd Foundation Day

CSIR-NCL

06<sup>th</sup> January, 2022

Pune, 6th January 2021: CSIR-National Chemical Laboratory (CSIR-NCL), Pune, celebrated its 72nd Foundation Day on January 3, 2022. On the occasion, Subroto Bagchi, Chairman, Odisha Skill Development Authority, and co-founder MindTree, delivered the CSIR-NCL Foundation Day Lecture on “NCL at 100: Building Memories for the Future.”



Bagchi's talk was focussed on the concept of “memories for the future.”

“Human brain essentially is a memory device. And most of the memories are about the past. Memory implies the collective remembrance of the past. But it is also possible to build memories for the future. The synaptic activity of the brain is related to the past. When we look at the unfolding events or unscripted events that have never happened, there is no memory of the past and hence the brain confronted with alternate choices tends to pick up the one that would smoke earlier. The speculation is that while thinking about the future that doesn't exist, we train our brains to sight with something that looks submitted. So in many ways, it is humanly possible to build memories for the future and build those memories for us to create the future in which we and others tend to live. He shared his life lessons picked up from his personal experiences of working with the scientific institutions, scientists and geeks, and what he called the “alternate life forms, and microbes.”

Bagchi said that all greatness is fundamentally weird. He shared the idea of existential thinking. The minds of the innovators actually innovate by emulating the knowledge. The body of knowledge remains the same and exists for everybody. But how people relate to the



same body of knowledge first is essential. At the bottom of this knowledge body is the technical layer, and then comes the experiential layer and at the highest is the existential layer. The highest level is the level of innovation. At the existential layer, you have to step into the customer's shoes and creep into their minds. Existential thinking is the domain of wonder. He underlined that if you look beyond your own body, you go into the order of the universe. Then you begin to realise the actual width of the universe, and finally, you are the one with the identity of the universe, and that is the moment where the innovation begins.

Dr Ashish Lele, Director, CSIR-NCL, in his welcome remarks, highlighted the glimpses of the past and significant contributions made by the laboratory during the last seven decades of service to the nation. He asserted that the current decade would be very crucial for us. He shared his ideas to go forward talking on “NCL Beyond 72: Planning for the Next Decade.” He pointed out the four guiding principles for CSIR-NCL to function, namely, focusing on Global context, National Context, Strengths of the laboratory, and the expectations from the Stakeholders. It is essential to understand these four pillars to perform better and play an important role in the coming decade.

Dr Shekhar C. Mande, Director General, CSIR, in his remarks highlighted the power of working together and how it has made a difference for society while sharing a few examples. Earlier, Dr Sarika Bhattacharyya, Sr. Principal Scientist, introduced the chief guest Shri Subroto Bagchi to the program's audiences virtually and in person.

The former directors of CSIR-NCL, including Dr R. A. Mashelkar, Dr Paul Ratnasamy, Dr S. Sivaram, Dr Sourav Pal, Dr Vijaymohanan K., Dr Ashwini K. Nangia, attended the program. They put up valuable suggestions and pieces of advice to move forward on the path of development in their remarks.



## CSIR to empower Lahaul farmers

CSIR-IHBT

06<sup>th</sup> January, 2022

To strengthen the agriculture sector in Lahaul-Spiti, DC Neeraj Kumar signed an MoU with Director of the CSIR-IHBT, Palampur, Dr Sanjay Kumar today. The MoU will increase the production to enhance the economy of farmers in the district. Dr Sanjay Kumar said, “Under the MoU, the action plan for food processing, branding and marketing of agricultural products will also be involved.



Apart from this, the focus will also be on soil, water conservation and waste management,” he said.

“Awareness and information about processing will also be shared with farmers. They will be equipped with the latest technology related to cash crops other than floriculture,” he added.

Neeraj Kumar said, “The livelihood of the people of Lahaul-Spiti is based on agriculture. There are some distinct challenges in this area. These are limited diversification of high-yielding varieties, lack of storage capacity, limited industrial reach, value addition and branding of products, etc.”

“The MoU has been signed with the CSIR-IHBT, Palampur, to open new doors of economic and social prosperity in the geographically largest district of HP,” he said.



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