

CSIR IN MEDIA



CSIR

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Aveta Biomics, USA and CSIR-CDRI, Lucknow Announce License to Aveta Biomics for the Development and Commercialization of First-in-Class Bone Health Drugs

CSIR-CDRI

31st January, 2022



CSIR-Central Drug Research Institute (CDRI), Lucknow, one of the premier drug research institutions in the world and Aveta Biomics, USA, a leader in developing the next generation of botanical drugs based on its evolutionary biology platform joined their hands and announced today the exclusive licensing to Aveta Biomics of CDRI's patented technology of Caviunin-based drug compositions for further clinical development and commercialization. Worldwide, one in three women and one in five men over the age of 50 years will suffer an osteoporotic fracture.

Worldwide, one in three women and one in five men over the age of 50 years will suffer an osteoporotic fracture. In the US alone, an estimated 10 million people over the age of 50 years have osteoporosis and one in two women in the United States will sustain a fragility fracture in her lifetime. Over 43 million more people in the US have low bone mass, putting them at increased risk for osteoporosis. Globally, in 2019, there were 178 million new fractures and 455 million prevalent cases of consequences associated with a fracture. According to Indian Society for Bone and Mineral Research (ISBMR), India, 50 million Indian women suffer from osteoporosis.

“Osteoporosis is a chronic condition requiring a life-long treatment. Approved treatment duration of currently available drugs ranges from 1 to 5 years (depending on the drug) due to waning efficacy and increasing risk of adverse events. Caviunin-based therapeutic has a huge potential to change the standard of care for osteoporosis. The potential benefit risk profile is expected to be second to none with desirable efficacy and safety for long-term use.” said Dr. Parag G. Mehta, CEO of Aveta Biomics, USA. “We are excited to bring these new drugs to the patients and pleased that we can benefit from deep scientific know-how of CDRI team”

Dr. Ritu Trivedi’s group from the Endocrinology Division (CDRI) has shown that the Caviunin scaffold has a targeted action that prevents bone breakdown, stimulates new bone formation and reduces bone turnover markers.

“This license is a testament to the calibre of our innovative science and demonstrates the value of strong research productivity of our world-class scientists. We joined hands with Aveta Biomics given their track record of obtaining four clinical INDs of their botanical drugs for several cancer indications from the US FDA. We expect, therefore, translation of CDRI’s research into real drugs for people living with bone-related conditions.” said Dr. Prof. Tapas Kumar Kundu, Director of CDRI”.

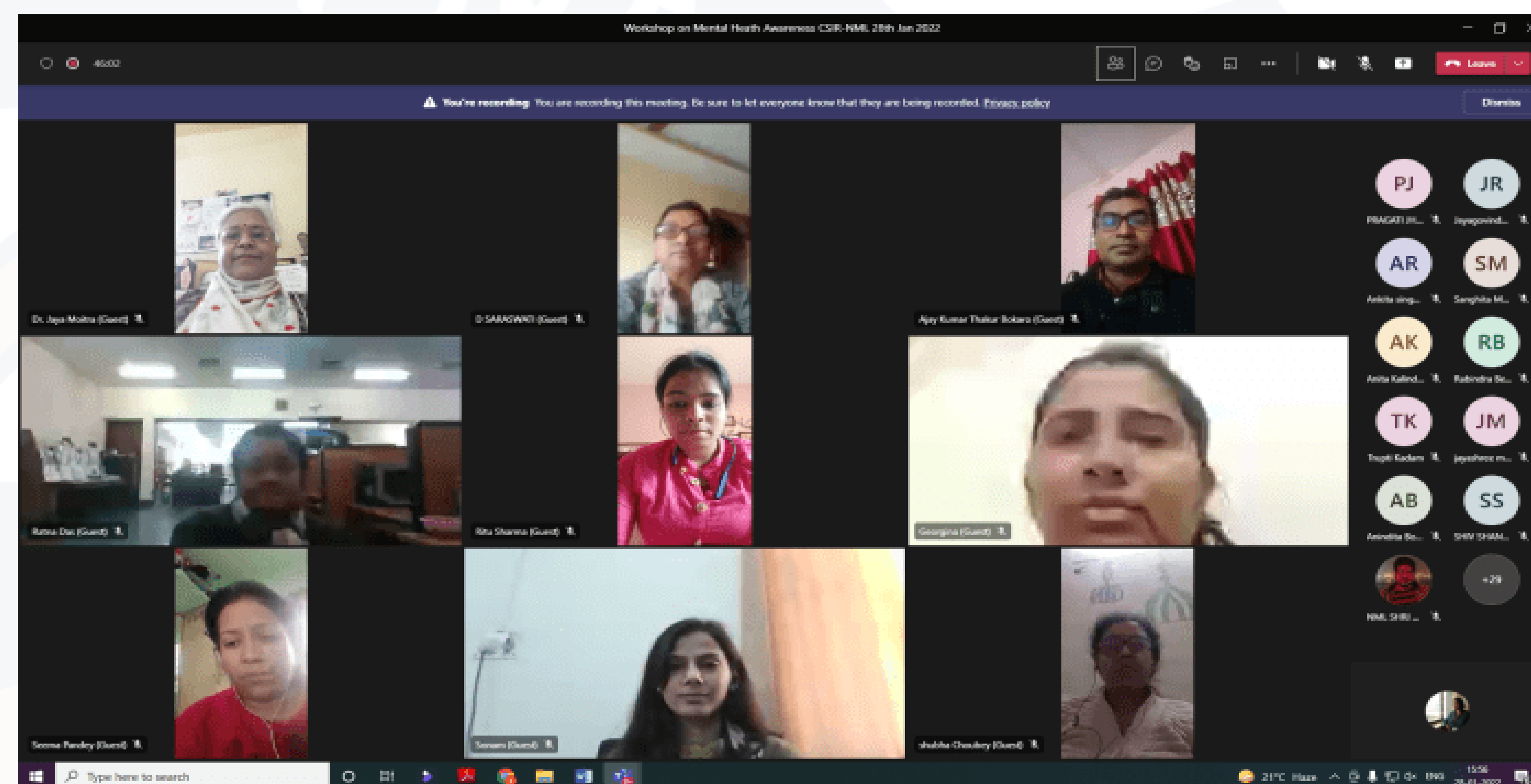
This decade-long research at CDRI, provides an insight to develop the first-in-class drug that is likely to modulate the host microbiome.

CSIR-NML Jamshedpur hosts workshop on mental health

CSIR-NML

31st January, 2022

Jamshedpur, CSIR-National Metallurgical Laboratory (NML), Jamshedpur organised a workshop on ‘Taking Care of Mental Health’ on virtual platform under the DST-Women Technology Park project. The workshop was organized under the joint programme of CSIR-NML Jamshedpur and National Institute of Advanced Manufacturing Technology (NIAMT), Ranchi under the



aegis of Department of Science and Technology. The main purpose of the workshop was to spread awareness among Indian citizens on the importance of taking care of mental health. This workshop was organised to highlight the issues faced by people during COVID-19 waves. The pandemic had a huge impact on people’s mental health. The virtual program commenced with a video showing ‘women in science’ and was followed by a brief speech on ‘Mental Health Issues by Dr Mita Tarafder, Chief Scientist and Head of KRIT Division at CSIR-NML. Her speech was highlighted through a powerful presentation on DST-Women Technology Park project. In her lecture, Dr Tarafder highly recommended following altruism. She briefly touched on various upcoming programs for women at CSIR-NML sponsored by Department of Science & Technology. Dr Jaya Moitra, a reputed mental health counsellor and psychiatrist, underlined the status of mental health care issues that were neglected in India. Dr Moitra advised, “A holistic approach in dealing with mental health care issues is absolutely necessary. Counselling plays a great role in the mental illness cure. My advice is that people should negate self medication especially in mental health issues and take time out for yoga.” The interactive online session was attended by more than 60 persons.

Published in:

[Avenuemail](#)

CSIR-IHBT

31st January, 2022

सेब के बाद हिंग की खेती की तैयारी में जुटे

नवज्योति, कपासन। सोनियाना के विनोद ने रचा इतिहास सेब के बाद हींग की खेती की तैयारी में जुटे। हिमाचल के पालमपुर से ट्रायल के लिये हिंग के पौधे लेकर आये व अपने खेत पर लगाये। युवा प्रगतिशील किसान विनोद कुमार जाट ने विनोद में एप्पल के बाद अब की खेती से इतिहास रच दिया है आमतौर पर 5 देशों में ही हींग की खेती होती है अफगानिस्तान, ईरान, इराक आदि अरब देशों में होने वाली खेती को विनोद अपने चित्तौड़गढ़ जिले में करके इतिहास



रच दिया है। विनोद में पालमपुर स्थित हिमालय जैव प्रौद्योगिकी

संस्थान आईएसबीटी से इनके पौधे ट्रायल के श्रू लेकर आए और अपने

खेतों में लगाए।

रोपण के बाद पालमपुर सेंटर के वैज्ञानिक उसके खेतों पर आये व पौधों के बारे में जानकारी ली व हिंग के पौधों की ग्रोथ व देखभाल के आवश्यक टिप्स दिये। तैयार होने में 5 साल लगते हैं। इसका बाजार भाव 35 से 40 हजार रुपए किलो है अगर यह प्रयोग जिले में सफल रहा और अधिक से अधिक किसान इसे स्वयं सहायता समूह या ग्रुप में करेंगे तो देश को हिंग को आयात नहीं करना पड़ेगा और किसानों की आय में बढ़ोतरी होगी।

Published in:

Dainik Navjyoti

Digital medicine, AI critical to future healthcare, says minister

CSIR-IIIM

30th January, 2022

Dr Jitendra Singh, Union Minister of State in PMO, said today that artificial intelligence (AI) and digital medicine was critical to future healthcare.

During a visit to the All India Institute of Medical Sciences (AIIMS) here for the inspection of the upcoming new blocks and inauguration of recently developed facilities,

Dr Jitendra Singh suggested that in order to develop an exclusive identity for the institution, the focus should be on these futuristic areas. “Telemedicine and robotic surgery have already taken over in a big way and the indispensable utility of these new options was realised during the pandemic times,” he said.

The minister announced that AIIMS-Jammu will function in close collaboration with CSIR-IIIM, Jammu. An MoU was signed between Dr Shakti Gupta, AIIMS-Jammu Director, and Dr D Srinivasa Reddy, CSIR-IIIM Director, on behalf of the two institutions.

The minister said it was an irony that CSIR-IIIM, Jammu, and Government Medical College (GMC) were located just about 4 km from each other and even though both the institutions were dedicated to medical research, there was hardly any collaboration between the two in the past. He said every effort would be made to bring in closer integration of IIIM with GMC and also between IIIM and AIIMS, Jammu, both of which happen to be the Central government institutions.



Unravelling the molecular biology of asafoetida

CSIR-IHBT

30th January, 2022

With many uses listed by researchers, perhaps it is time to go for this spice

Readers may recall our write-up in the column dated July 30, 2009 on Asafoetida (hing in Hindi, perungayam in Tamil, inguva in Telugu, ingu in Kannada) and how this smelly spice has been of use in our cuisine and also in traditional medicine. It has been known since the Mahabharata times, and has



been imported from Afghanistan. The Bhagavata Purana says that one should not eat hing before worshipping deity. Indian historical records suggest that we have been importing asafoetida since the 12th century BCE. The word asa comes from Persian, meaning mastic, while foetidus refers in Latin to its strong and stinking smell. And Wikipedia suggests that Jewish early literature mentions it as Mishnaha. Rabindranath Tagore wrote about how he would buy from “Kabuliwala” dry fruits, but did not mention asafoetida, since it was surely in his family kitchen already!

It is a thick gum, or a resin, which comes from the perennial taproots of the Ferula family. The article in Indian Mirror titled Asafoetida points out that asafoetida has a wide range of applications in the field of medicine. It has been suggested to fight viruses such as influenza. It may thus be worthwhile for current day drug chemists and molecular biologists to study its mode of action. (Indeed, this has been done by Professor M. S. Valiathan of The Manipal Academy of Higher Education, and his collaborators). Ayurveda specifies three types of Dosha, or deficiencies in the body, namely Pitta, Vata and Kapha each of which has specific functions.

Rashmi Saha, an activist and Founder of Mukty Mission, an organization that works on women empowerment and helps them in tackling various issues including health and hygiene. She said that growth and empowerment could not be unidirectional and should be considered as collective responsibility of all for the betterment of society. The session was interactive and informative.

Balancing dose

Asafoetida is believed to be one of the best spices to balance the Vata Dosha. The site Home Remedies for Hiccups says that asafoetida is good to stop hiccups! You mix it well with butter, and swallow –and the hiccups stop!

Make in India?

How long do we need to import it? Well, it appears no longer! In a report that has appeared in The Hindu dated November 10, 2020, and cited in The Wire, Science, Dr Sanjay Kumar, who is the Director of the CSIR Institute of Himalayan Biotechnology (CSIR- IHBT), says that the cold desert climatic conditions in the Lahaul–Spiti area in Himachal Pradesh are remarkably similar to those in the Iran and Afghanistan, and wondered whether asafoetida cannot be grown in India too. This led the IHBT to import its seeds from Afghanistan and began growing the plant in the research centre under the guidance of the National Bureau of Plant Genetic Resources. The experiment was a success. Two types of asafoetida resins became available – the milky white type and the red type. He further points out that since currently the farmers in Himachal Pradesh largely limit themselves to growing potatoes and peas, motivating them to grow asafoetida and offer technical support will increase their income. The article mentioned above describes these efforts of the laboratory, colour photographs of the flowers and the large-scale production of the plant at the Centre. Dr. Kumar also told this to the Times of India in the article, Why ‘made-in-India’ heeng is a big thing.

Long history

That this herb has been used for long in traditional medicine has a long history. Groups in

Egypt have used it since long. Ayurveda scholars have known it for centuries. We had discussed earlier how Prof. M.S. Valiathan and collaborators had shown, using fruitflies as models, that Ayurvedic formulations are effective in vivo. Likewise, Eigner et al., have shown how the herb is effective in the traditional medical practices and diet in Nepal (Journal of Ethnopharmacology, 1999; 67:1-6). It is in this context that an excellent and updated report by Dr. Poonam Mahendra and Dr. Shradha Bisht of the School of Pharmacy, Suresh Gyan Vihar University, Jaipur, titled, *Ferula asafoetida*: Traditional uses and pharmacological activity, in the journal *Pharmacognosy Reviews*, July-December 2012, Vol. 6, Issue 12, is of value.

Their analysis of its chemical constituents shows that the raw herb has about 70% carbohydrates, 5% proteins, 1% fat, 7% minerals, and has compounds of calcium, phosphorus, sulphur and various aliphatic and aromatic alcohols. It is the sulphide content in the fat that leads to the fecal odour. Chemical trials using rats in the laboratory suggests *asafoetida* plays an essential role in digestion. The group cites references to the role that the herb might play as an anti-cancer agent, and also against some women's ailments. They list about 30 molecules which form the chemical constituents in the herb that play roles as anti-oxidants, anticarcinogenic, antibacterial and antiviral and even anti-HIV. Given this list, it is time for groups across India to isolate these molecules from this herb and study their roles in these diseases, using modern methods of molecular biology, immunology and drug design. Let us go for it!

जय विज्ञान

थर्मिओनिक एमिटर सिस्टम इसरो को हस्तांतरित

इसरो के अभियान को पिलानी के वैज्ञानिक देंगे गति

पत्रिका न्यूज़ नेटवर्क
patrika.com

पिलानी. देश की सामरिक शक्ति को बढ़ाते हुए केन्द्रीय इलेक्ट्रॉनिक अभियांत्रिकी अनुसंधान संस्थान (सीरी पिलानी) के वैज्ञानिकों ने थर्मिओनिक एमिटर सिस्टम (तापानिक उत्सर्जन प्रणाली) के विकास में सफलता प्राप्त की है। थर्मिओनिक एमिटर सिस्टम से इसरो के अंतरिक्ष अभियान को गति मिलेगी।

दिसम्बर माह के अंतिम सप्ताह में सीरी, पिलानी में आयोजित एक समारोह में थर्मिओनिक एमिटर सिस्टम को इसरो को हस्तांतरित



पिलानी. सीरी के वैज्ञानिकों द्वारा विकसित थर्मिओनिक एमिटर सिस्टम।

किया गया है। थर्मिओनिक एमिटर सिस्टम को इसरो के आगामी एस्टीएस 1 मिशन में पीएसएलवी सी-54 में उपयोग में लिया जाएगा। वर्तमान में इन थ्रस्टर्स का आयात किया जा रहा है। सामरिक क्षेत्र में उपयोग होने के कारण इन एमिटर सिस्टम का व्यावसायिक उत्पादन नहीं किया जाता। इसीलिए विश्व में एक-दो उद्यमों के अलावा कोई अन्य उद्यम इसका व्यावसायिक उत्पादन नहीं करता है। पढ़ें इसरो @ पेज 06

क्या है थर्मिओनिक एमिटर

सीरी संस्थान के निदेशक डॉ. पीसी पंचारिया ने बताया कि थर्मिओनिक एमिटर, उच्च शक्ति की विद्युत प्रणोदन प्रणाली (ईपीएस) का महत्वपूर्ण घटक है। इसे अंतरिक्ष में प्रक्षेपित किए जाने वाले सैटेलाइट

में उपयोग में लाया जाता है। सुदूर अंतरिक्ष की कक्षा में उपग्रह की स्थिति एवं गति को कई प्रणोदन प्रणालियों, यथा रासायनिक तथा इलेक्ट्रॉनिक प्रणोदन प्रणाली से नियंत्रित किया जाता है।

स्वदेशीकरण की ओर बड़ा कदम

हाल ही में इलेक्ट्रॉनिक प्रणोदन

प्रणाली, जैसे कि आयन थ्रस्टर्स की पहचान उनके उच्च विकास प्रणोदक वेग के कारण बड़ी क्षमता के लिए की गई है। उन्होंने बताया कि इसरो उच्च शक्ति या थ्रस्ट वाली विद्युत प्रणोदन प्रणाली (ईपीएस) के स्वदेशीकरण की ओर बढ़ रहा है। इसके लिए उन्हें थर्मिओनिक उत्सर्जक की आवश्यकता है।

इसरो...

दिग्गजों की मौजूदगी में हस्तांतरण

तकनीक को विक्रम साराभाई अंतरिक्ष केंद्र, तिरुअनंतपुरम के तत्कालीन निदेशक तथा इसरो के चेयरमैन एस. सोमनाथ तथा एलपीएससी (इसरो), बेंगलूरु के निदेशक डॉ. वी. नारायणन की ऑनलाइन उपस्थिति में हस्तांतरित किया गया।

सीएसआईआर-सीरी के वैज्ञानिकों ने गहन शोध के उपरांत थर्मिओनिक एमिटर की तकनीक को विकसित किया है। डॉ. पंचारिया ने बताया कि थर्मिओनिक एमिटर के विकास के लिए 2018 को वीएसएससी-इसरो और सीएसआईआर-सीरी के मध्य समझौता हुआ था। इसी के तहत सीरी के वैज्ञानिकों ने इनको विकसित किया है। वीएसएससी-इसरो द्वारा निर्धारित मानकों पर एमिटर का परीक्षण तथा योग्यता की जांच सटीक पाए जाने पर तकनीक को हस्तांतरित किया गया है।

किसी वस्तु को गति देने के लिए लगाए गए बल को उत्पन्न करने की प्रक्रिया को प्रणोदन (प्रोपल्शन) कहते हैं और बल उत्पन्न करने वाले ऐसे साधन को प्रणोदक कहते हैं। प्रौद्योगिक प्रणालियों में यांत्रिक शक्ति स्रोत को अक्सर इंजन या मोटर कहा जाता है। मनुष्य या अन्य प्राणी भी अपनी मांसपेशियों को शक्ति स्रोत (अर्थात बल) के रूप में और अपनी टांगों, पंखों, फिनो आदि को प्रणोदक के रूप में उपयोग करते हैं।

CSIR research lab Director Dr Anurag Agrawal to be guest at online Explained session

CSIR-IGIB

27th January, 2022

India has reported more than 52 lakh cases of Covid-19 this month. Though the growth curve of the disease is showing signs of flattening, the peak might still be some distance away. However, the most remarkable thing about the third wave in India so far has been the fact that it has been considerably less painful, both in human and economic terms, than the first or the second.

The nature of the Omicron wave has led many to proclaim that this might be the beginning of the end of the pandemic. Differing arguments have been put forward to support this line of thought. While some have found parallels to the end of the Spanish flu a century ago, others have pointed to the weakness of the Omicron variant to suggest that future mutations are likely to be even weaker.

However, this is hardly the dominant view in the scientific community. Moreover, this pandemic has thrown up multiple surprises, and defied most predictions.

Are we therefore in an endless loop, or is there any hope in sight? Is Omicron the last major variant, or could there be more? Is it possible to predict how the virus will mutate in the future? Can we do anything to prevent future waves? Most importantly, is it really the endgame? These, and many such, questions are uppermost on the minds of everyone as India negotiates its third wave of Covid-19.

There are few people in the country who understand these questions better than Dr Anurag Agrawal, director of Delhi-based Institute of Genomics and Integrative Biology, a CSIR research laboratory, who will be the guest at the online Explained session of The Indian Express on Thursday evening. As head of an institution that is currently involved in generating the scientific information required to prepare response measures for the pandemic,

Dr Agrawal is one of the key voices in the government's decision-making apparatus. He also engages directly with the people through informative and educative posts on social media on the pandemic.



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