

CSIR IN MEDIA



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Assam: Jorhat's CSIR-NEIST installs coke oven to keep pollution under check

CSIR-NEIST

25th November, 2020



secondary air circulation for proper carbonization of the feed materials,” said an official of the research institute. Director of the research institute G Narahari Sastry, emphasized the scientific exploration for better quality coke production and also for the production of advanced materials like activated carbon, nano-materials from charcoal in bulk quantity.

Sastry had commissioned the oven in the presence of innovators and CSIR NEIST scientists, Binoy K Saikia, Prasenjit Saikia, JJ Bora and Sanjay Deori, and other staff members and research fellows of the institute.

The Council of Scientific and Industrial Research-North East Institute of Science And Technology (CSIR-NEIST) in Jorhat district has installed a ‘non-recovery type low-sulphur emitting sole flue-heating coke oven in its premises to keep watch on pollution levels. The uniqueness of this remodeled coke oven is that it keeps a check on environmental pollution, maintaining it within the permissible limit prescribed by Central Pollution Control Board. It is an initiative of CSIR-NEIST’s materials sciences and technology division. The coke oven comprises of three chambers and can be operated for the production of coke and wood charcoal. “The coke oven has a sole heating system with a provision of

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Will Have To Wait For Final Words In Scientific Journal: CSIR Chief On Covidshield

CSIR

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A day after Serum Institute of India (SII) Chief Executive Officer Adar Poonawalla asserted that its "soon to be widely available COVID-19 vaccine will offer protection up to 90 per cent in one type of dosage regime", Council of Scientific and Industrial Research (CSIR) Director-General (D-G) Shekhar C Mande on Tuesday said that they would wait for the final peer-review of the vaccine candidate. "Based on the results revealed, Covidshield seems to be very encouraging.

But as a scientist one trusts scientific publications that are peer-reviewed. So we will have to wait for the final word till the paper (on the vaccine candidate efficacy) is published in a peer-reviewed journal," Mande told ANI. "But if the results are true, which are being flashed on channels, it seems very encouraging. The University of Oxford and AstraZeneca, a UK-based company, have collaborated with the Indian company, which is conducting a trial in the country," he added.

The CSIR chief said that if the results of the vaccine are very good as is being projected in the media then "the vaccine will be produced in large numbers. The SII is very capable of producing a very large number of doses of vaccines and therefore the COVID vaccine would be available very soon after regulatory approval around." Poonawalla on Monday tweeted, "I am delighted to hear that, Covishield, a low-cost, logistically manageable & soon to be widely available, #COVID19 vaccine, will offer protection up to 90% in one type of dosage regime and 62% in the other dosage regime."

Meanwhile, Mande said that Pfizer and Moderna have announced some interesting results about their COVID-19 vaccine candidate, claiming the efficacy of 95 per cent. "Pfizer and Moderna have developed the vaccine in the US and Europe.

We will have to see how they have planned to tie up with Indian companies and make it available to the Indian population," he said. On November 17, Moderna, in its official statement, had announced that the Phase 3 trial has met the statistical criteria with a vaccine efficacy of 94.5 per cent. Similarly, on November 18, Pfizer had said that final results from the late-stage trial of its coronavirus vaccine was found to be 95 per cent effective and had no serious side effects on older people. (ANI)

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Bengaluru to get Feluda test soon

CSIR-IGIB

22nd November, 2020



Bengaluru and seven other cities will soon have the world's 'Feluda' Covid tests whose results come out in about an hour. Apollo Hospital and Tata Medical and Diagnostics (Tata MD) expect to offer the diagnostic test at their laboratories in a phased manner in eight cities starting with New Delhi in the first week of December. The eight cities include Ahmedabad, Chennai, Kolkata, Mumbai, Hyderabad, and Pune. "Since this is a new technology and requires training, the technical teams of Tata MD and Apollo would be conducting training for technicians and clinicians. The training is already underway and after completion, the roll out will be done in a phased manner across the eight locations including

Bengaluru," said a spokesperson from Apollo Hospitals Enterprise Limited. The test kit, marketed as Tata MD CHECK, uses the Feluda test, which is named after the Bengali fictional detective Feluda created by filmmaker and writer Satyajit Ray. The paper strip test has an image-based result read out. It requires standard laboratory equipment and small batches of tests can be conducted. It gives out results in about 50 minutes. Feluda is an acronym for FNCas9 Editor-Limited Uniform Detection Assay which was developed by the Institute of Genomics and Integrative Biology (CSIR-IGIB) and is based on CRISPR Cas9, a genome editing technology. The process of collecting patient samples, RNA extraction and amplification remain same in TataMD CHECK as in other viral detection tests. However, the use of CRISPR-Cas9 technology ensures quicker results due to a more agile process and AI-based automated result detection methodology. Dr Sangita Reddy, joint managing director of Apollo Hospitals said, "The addition of Tata MD CHECK as part of the testing arsenal will be a boost to the ongoing efforts that the country has been waging against this pandemic."

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[The Indian Express](https://www.indianexpress.com)

सीएसआईआर-एनजीआरआई की हीरक जयंती पर व्याख्यान आयोजित

हैदराबाद, 21 नवंबर-(मिलाप ब्यूरो) सीएसआईआर-राष्ट्रीय भूभौतिकी अनुसंधान संस्थान (सीएसआईआर-एनजीआरआई) के हीरक जयंती वर्ष समारोह के अंतर्गत प्रतिष्ठित वैज्ञानिकों के व्याख्यान श्रृंखला के तहत प्रथम व्याख्यान फ्रांस के सीएनईएस की प्रो. एनी कैजनेव ने दिया।

आज यहाँ जारी प्रेस विज्ञप्ति के अनुसार, वर्चुअल व्याख्यान में सीएसआईआर-एनजीआरआई के निदेशक डॉ. वी. एम. तिवारी ने सभी का स्वागत किया और एनजीआरआई के हीरक जयंती वर्ष समारोह की जानकारी दी। उन्होंने बताया कि प्रथम व्याख्यान की व्याख्याता प्रो. एनी कैजनेव को

वेटलसेन पुरस्कार प्राप्त हुआ है, जो भूविज्ञान के लिए नोबल पुरस्कार के समान है। अवसर पर आयोजित व्याख्यान में प्रो. एनी कैजनेव ने वैश्विक, क्षेत्रीय और स्थानीय पैमाने पर अंतरिक्ष से समुद्र के स्तर में हुई वृद्धि के विषय में महत्वपूर्ण जानकारी दी। उन्होंने समुद्र के स्तर में वृद्धि से जुड़े प्राकृतिक और मानवीय कारणों पर चर्चा की और कारण बताये। प्रो. एनी ने कहा कि समुद्र का स्तर जो 20वीं सदी में 2 एमएम/वर्षिक रूप से बढ़ा, वह 1990 में 3 एमएम/वर्षिक तक पहुँच गया। इसके चलते समाज पर इसका बड़ा प्रभाव पड़ेगा।

शोधकर्ताओं के अनुसार, आगामी दशक में समुद्र का स्तर और बढ़ेगा और

समुद्र गर्म होगा, जिसका प्रभाव ग्रीनलैंड व अंटार्कटिका पर भी पड़ेगा और बर्फ पिघलने लगेगी। समुद्र में इस तरह के होने वाले बदलाव से व्यापक प्रभाव पड़ेगा। जिसके चलते गुरुत्वाकर्षण में भी परिवर्तन होगा। ग्लेशियर और बर्फ की चादरें बहुत ही संवेदनशील होती हैं, जिससे ग्लोबल वार्मिंग का खतरा भी बढ़ सकता है। अधिकतर ग्लेशियर पिघल कर पतली होती जा रही हैं।

प्रो. एनी ने समुद्री स्तर में वर्तमान में हो रहे बदलाव के कारणों को जानने के लिए गहन शोध करने पर बल दिया। अवसर पर सीएसआईआर के निदेशक शोखर सी. मांडे की उपस्थिति रही।



सीएसआईआर-एनजीआरआई में हीरक जयंती वर्ष समारोह पर आयोजित प्रथम व्याख्यान को सम्बोधित करतीं प्रो. एनी कैजनेव। साथ में सीएसआईआर के महानिदेशक प्रो. शोखर सी. मांडे, एनजीआरआई के निदेशक डॉ. वी. एम. तिवारी व अन्य।

ఎన్జీఆర్ఐలో జయో సైన్సెస్ శాస్త్రవేత్తల సమావేశం

హబ్బుగూడ, న్యూస్టుడే: సముద్రాలు వేడెత్తుడంతో పాటు మంచు పలకాలు కరగడం వల్ల రాబోయే దశాబ్దంలో సముద్ర మట్టం మరింత పెరుగుతుందని ప్రాన్స్ సీఎన్ఈఎస్కు చెందిన ప్రొ. అన్నీ కాజినేస్ పేర్కొన్నారు. శుక్రవారం హబ్బుగూడ ఎన్జీఆర్ఐ కేంద్రంగా 'సీ లెవల్ రైజ్ ఆబ్జర్వడ్ ప్రం స్పేస్ ఎట్ గ్లోబల్, రిజిసల్ ఆండ్ లోకల్ స్కేల్స్' అనే అంశంపై నిర్వహించిన జామ్ మీటింగ్లో జయో సైన్సెస్ రంగంలో ప్రముఖ శాస్త్రవేత్తలు మాట్లాడారు. ఎన్జీ ఆర్ఐ డైరెక్టర్ డా. తివారీ పాల్గొన్నారు.

What is FELUDA paper strip test for COVID19: Price, how it works, is it better than RT-PCR

CSIR-IGIB

21st November, 2020



Touted to be more accurate, faster and cheaper than rapid antigen test for COVID19, India's CRISPR 'Feluda' COVID-19 test is the new focal point as the number of cases increases at an alarming rate in India. The test that includes changing of colour on detection of the SARS-CoV-2 virus will be available by the first week of December. Union Health Minister Harsh Vardhan revealed that it is based on tests of over 2,000 patients during the trials at the IGIB and on testing in private labs which showed 96 per cent sensitivity and 98 per cent specificity. **What is FELUDA test for COVID19?** The FNCAS9 Editor-Limited Uniform Detection Assay (FELUDA) test is a paper

strip test, similar to a pregnancy test, and has been approved by the Drug Controller General of India for a commercial launch. Named after the renowned detective created by Satyajit Ray, the test was developed by Tata CRISPR (Clustered Regularly Interspaced Short Palindromic Repeats) and the Council of Scientific and Industrial Research's (CSIR) Institute of Genomics and Integrative Biology (IGIB). **What is the price of FELUDA Covid test kit?** Developed by Dr Souvik Maiti and Dr Debojyoti Chakraborty at the CSIR-IGIB, FELUDA has been touted to provide results in 45 minutes and is priced Rs 500.

Is FELUDA test better than RT-PCR?

FELUDA is an alternative to the quantitative RT-PCR tests and experts found it highly specific. As per the experts, it is capable of detecting low copy number nucleic acids (less viral RNA quantity) as well as single nucleotide variations. It can distinguish between SARS-CoV-2 and SARS-CoV sequences which differ by a single nucleotide. While RT-PCR needs a few hours, trained

manpower and a dedicated and expensive machine, FELUDA provides similar sensitivity and specificity but requires only a basic widely available PCR machine and no extensively trained manpower. Virologist Upasana Ray noted that the CRISPR based COVID-19 detection system is a cheaper option to RT-PCR tests, which cost over Rs 1,600.

How is FELUDA test done?

- Experts collect the nasopharyngeal swab. Then RNA is extracted
- Then a single step RT-PCR is done.
- FELUDA mix is prepared by incubating the dead FnCas9 protein, guide RNA and the amplified viral DNA. A dip stick is then immersed in the FELUDA mix.
- Gold nanoparticle on the strip bind to the FELUDA complex. A protein called Streptavidin on the test line captures this gold nanoparticle bound-FELUDA complex. Unbound gold particles are captured on the control line
- Change in color on the test line or control line shows the results
- One line indicates negative, two lines indicate positive

How is FELUDA better than rapid antigen test?

Compared with a rapid antigen test, which interprets results in 30 minutes, Virologist Upasana Ray said the Feluda test would take slightly longer, up to 45 minutes, but is more accurate and specific. Rapid antigen tests detect the viral proteins or parts thereof whereas CRISPR detects nucleic acids, or RNA in case of COVID-19, Ray said.

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