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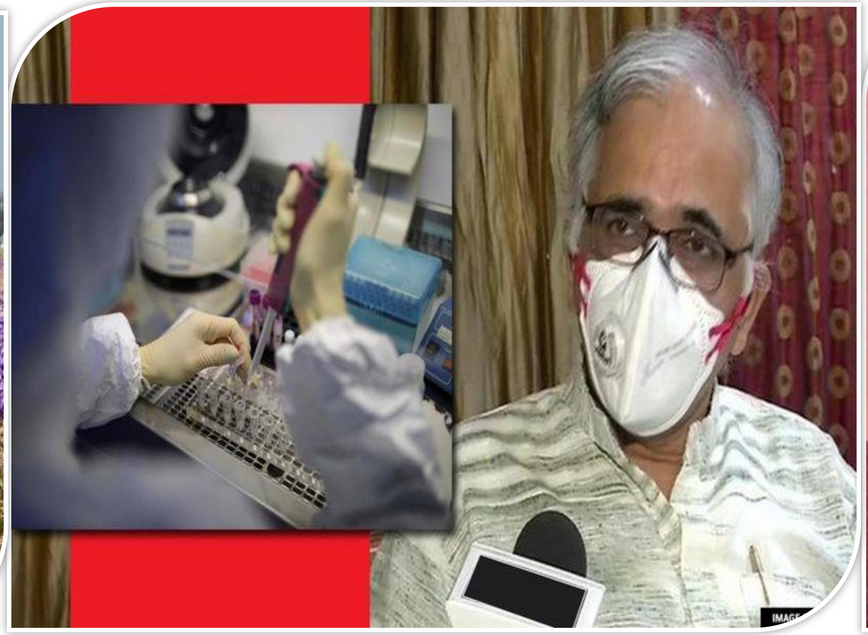

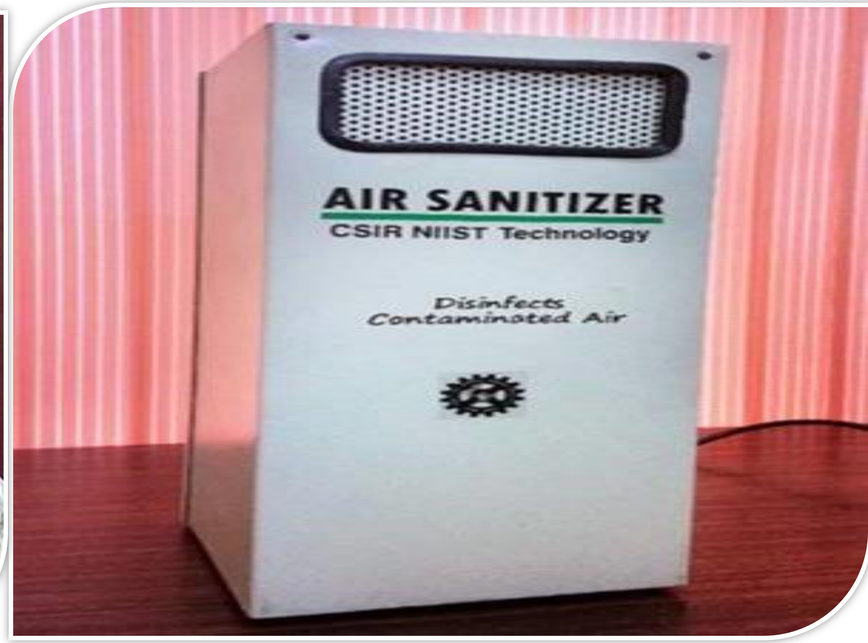

Produced by Science Communication and Dissemination Directorate, (SCDD), CSIR, Anusandhan Bhawan, New Delhi

एक लाख 'फेसशिल्ड'ची व्हेंचर सेंटरकडून निर्मिती

लोकसत्ता प्रतिनिधी

पुणे : करोना विषाणू संसर्गापासून संरक्षण देण्यासाठी राष्ट्रीय रासायनिक प्रयोगशाळेच्या व्हेंचर सेंटर या इन्क्युबेशन सेंटरने गेल्या दोन महिन्यांत एक लाख फेसशिल्डची निर्मिती करून पुरवण्याची कामगिरी केली आहे. हे संरक्षक साधन पोलीस, डॉक्टर, प्रशासन अधिकारी यांना उपयुक्त ठरले आहे.

करोना विषाणूचा प्रादुर्भाव वाढू लागल्यावर संसर्गापासून बचाव करणाऱ्या साधनांचा तुटवडा निर्माण झाला होता. त्यामुळे डॉक्टर, आरोग्य कर्मचारी, पोलीस यांना प्रत्यक्ष काम करताना अडचणींना सामोरे जाण्यासह संसर्गाचा धोका होता. अशावेळी 'व्हेंचर सेंटर'ने अल्पावधीत संशोधन करून पुणे फेसशिल्ड ॲक्शन ग्रुपच्या माध्यमातून त्रिमिती मुद्रणाच्या (थ्रीडी प्रिंटिंग) सहाय्याने अनोख्या फेसशिल्डची निर्मिती केली. कमी किमतीत तयार होणाऱ्या या फेसशिल्डची उपयुक्तता लक्षात घेऊन पुणे पोलिसांकडून मागणी करण्यात आली. त्यानंतर या फेसशिल्डला मागणी वाढू लागली. त्यामुळे व्हेंचर सेंटरने सातत्याने काम करून एक लाख फेसशिल्डची निर्मिती करून पुरवण्याचा महत्त्वपूर्ण टप्पा गाठला. व्हेंचर सेंटरचे संचालक प्रेमनाथ वेणुगोपालन म्हणाले, की एक लाख फेसशिल्डची निर्मिती करून पुरवठा करू शकल्याचा मोठा आनंद आहे. फेसशिल्डला मोठी मागणी येऊ लागल्याने अनेक नवउद्यमी, उत्पादक फेसशिल्डची निर्मिती करू लागले आहेत. चांगल्या प्रमाणात हे संरक्षक साहित्य उपलब्ध होऊ लागले आहे.

देणगीच्या रूपात निधी उपलब्धता

फेसशिल्डच्या निर्मितीसाठी १४३ व्यक्ती, ४३ संस्था आणि काही कंपन्यांकडून सामाजिक उत्तरदायित्वाच्या रुपात निधी उपलब्ध झाला. त्यामुळे एवढ्या मोठ्या प्रमाणात निर्मिती करणे शक्य झाले आणि केवळ निर्मिती खर्चाच्या किमतीत फेसशिल्ड पुरवता आले, असे वेणूगोपालन यांनी सांगितले.

Published in: Loksatta

CSIR-IHBT

10 June, 2020

उपलब्धि : सीएसआइआर-आइएचबीटी पालमपुर ने विकसित की स्वदेशी तकनीक

शुगर घटाएगी, इम्युनिटी बढ़ाएगी खिचड़ी

हारदा आनंद चौहान • पालमपुर

जिन लोगों का इम्युनिटी सिस्टम यानी रोग प्रतिरोधक तंत्र कमजोर है उन्हें अब घबराने की जरूरत नहीं है। आपकी इस समस्या का समाधान करेगी इंस्टेंट आयुर्वेदिक खिचड़ी। जी हां! यह संभव हुआ है वैज्ञानिक तथा औद्योगिक अनुसंधान परिषद-हिमालय जैव संपदा प्रौद्योगिकी संस्थान (सीएसआइआर-आइएचबीटी) पालमपुर की बदौलत। संस्थान ने रेडी-टू-ईट आयुर्वेदिक खिचड़ी के व्यावसायिक उत्पादन के लिए स्वदेशी तकनीक विकसित की है। आयुर्वेदिक खिचड़ी शुगर घटाने के साथ-साथ हृदय रोगियों के लिए भी रामबाण है। शरीर और दिमाग का संतुलन बनाने में यह महत्वपूर्ण है। पचाने में आसानी के कारण इसका उपयोग आयुर्वेदिक सफाई चिकित्सा में किया जाता है।

जागरण विशेष

- हृदय रोगियों के लिए भी रामबाण है आयुर्वेदिक खिचड़ी
- चावल, दाल,आंवला, मेथी, मुलैठी, हल्दी व हरड़ का किया गया है प्रयोग

यह खिचड़ी संक्रमण से भी बचाती है। यह सात्विक भोजन है और हर आयु वर्ग के लिए उपयुक्त है। आयुर्वेदिक खिचड़ी में चावल, दाल, आंवला, मेथी, मुलैठी, हल्दी व हरड़ को डाला जाता है।

50 से 100 रुपये में मिलता है डिब्बा

बाजार में गुणों के आधार पर खिचड़ी को अलग-अलग मूल्यों पर बिक्री के लिए रखा गया है। साधारण आयु, चुकंदी, चावल और मसालों से युक्त 425 ग्राम के डिब्बे की कीमत 50 से 55 और हर्बल खिचड़ी का डिब्बा 100 रुपये में मिलता है।

पालमपुर स्थित वैज्ञानिक तथा औद्योगिक अनुसंधान परिषद-हिमालय जैव संपदा प्रौद्योगिकी संस्थान (सीएसआइआर-आइएचबीटी) की ओर से तैयार आयुर्वेदिक खिचड़ी • जागरण

इंस्टेंट आयुर्वेदिक खिचड़ी को दिल्ली, पंजाब और उत्तराखंड सहित अन्य राज्यों में व्यावसायिक तौर पर तैयार किया जा रहा है। केरल में आपदा, ओडिशा में चक्रवात व हिमाचल प्रदेश सहित अन्य राज्यों में मजदूरों के लिए कोविड-19 महामारी के दौरान खाने के लिए खिचड़ी तैयार की है। संस्थान ने व्यावसायिक उत्पादन के लिए तकनीक मेसर्स ए अमूल्य एंड, लुधियाना, मेसर्स सिंह एग्रोटेक, रुद्रपुर (उत्तराखंड) और मेसर्स हेक्सटर रिटेल एंड डिस्ट्रीब्यूशन, तेनिपस इंक) लिमिटेड नई दिल्ली को तकनीक हस्तांतरित की है।

-डॉक्टर संजय कुमार, निदेशक आइएचबीटी पालमपुर।

इंस्टेंट आयुर्वेदिक खिचड़ी खाने से मनुष्य की रोग प्रतिरोधक क्षमता बढ़ती है। इसमें पौष्टिक अनाज के साथ-साथ ग्लूनिज और विटामिन भी है। पांच मिनट में इसे तैयार कर खा सकते हैं। यह शुगर घटाने के साथ-साथ हृदय रोगियों के लिए काफी उपयोगी है। विदेशों में इसकी काफी मांग रहती है।

-नीलम शर्मा, सहायक विशेषज्ञ (होम साइंस) कृषि विज्ञान केंद्र पालमपुर

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Published in: Dainik Jagran

Another ICMR-approved lab boosts Assam's testing facility for COVID-19

CSIR –NEIST

09 June, 2020

GUWAHATI: Assam Health Department's efforts to augment the sample testing capacity to detect COVID-19 positives cases as early as possible has received a shot in the arm with Indian Council of Medical Research (ICMR) giving accreditation to the laboratory at Diphu Medical College and Hospital in Karbi Anglong district of the state.

This will be a boon for the health department's efforts to carry out testing of two lakh samples by mid-June at the rate of 10,000 samples per day. This will help the state to cover maximum number of people now under quarantine at the earliest so that those with COVID-19 infection could be detected soon so as to prevent social transmission of diseases.

Early testing of samples also helps the health authorities to reduce the period of institutional quarantine to four days from seven days as the state is fast running out of space for institutional quarantine.

State Health Minister Dr Himanta Biswa Sarma informed that with ICMR according recognition to the laboratory at Diphu Medical College, each of the seven medical colleges in the state now has an ICMR-accredited COVID testing laboratory.

In addition, there are two more testing facilities for COVID in the state – one at Regional Medical Research Centre (RMRC) of ICMR at Lahowal in Dibrugarh and another at North East Institute of Science and Technology (NEIST), Jorhat. The laboratory at the NEIST at Jorhat was inaugurated on June 2 last by the Health Minister, Dr Sarma.

Published in: The Shillong Times

CSIR-IHBT Efforts to enhance cultivation of Heeng and Saffron

CSIR –IHBT

09 June, 2020

New Delhi: Saffron and Heeng (asafoetida) are the most valuable spices of the world and widely used in Indian cuisine since time immemorial. In India, the annual demand for Saffron spice is 100 tons per year but its average production is about 6-7 tons per year. Hence a large amount of Saffron is being imported. Similarly, there is no production of heeng in India and currently about 1200 tons of raw heeng worth Rs 600 crore is being imported from Afghanistan, Iran, and Uzbekistan.

To increase the production of these two spices in India, the Institute of Himalayan Bioresource Technology (CSIR-IHBT) and the Department of Agriculture, Government of Himachal Pradesh, have forged strategic and implementation partnership based on their mutual strengths. This partnership is expected to provide immense benefits to Himachal Pradesh by way of increased farm income, livelihood promotion, and rural development. To facilitate this development, a number of steps will be undertaken such as transfer of innovations by means of capacity building, skill development, and other extension activities of prospective farmers and officers of the Department of Agriculture.

"Introduction of these crops will reduce the import. CSIR-IHBT will provide technical know-how to the farmers, impart training to state agriculture department officers and farmers, and set up corm and seed production centres of Saffron and heeng, respectively, in the state," said Dr Sanjay Kumar, Director, IHBT.

At present, about 2825 hectares of land is under cultivation of Saffron in Jammu and Kashmir. IHBT has developed the production technology for Saffron and introduced its cultivation in

in non-traditional areas of Himachal Pradesh and Uttarakhand. The Institute has also developed tissue-culture protocol for the production of disease-free corms.

The Palampur-located Institute has introduced six accessions of heeng from Iran through the National Bureau of Plant Genetic Resources (NBPGR), New Delhi, and standardized its production protocols under Indian conditions. Heeng is a perennial plant and it produces oleo-gum resin from the roots after five years of plantation. It can be grown in unutilized sloppy land of cold desert region.

"Besides providing technical support for the achievement of physical targets of the project, we will also undertake technical supervision of Saffron production areas. Exposure visits of farmers will also be done. A total of 750 acres of land will be covered under these crops in the state in the next five years, said Dr. Kumar.

Dr. R. K. Koundal, Director of the Department of Agriculture, Government of Himachal Pradesh, said that this project will enhance the livelihood of the farmers and will benefit the state and country. "This programme will improve the farmer well-being of the farmers by providing better income prospects and the state will be benefited by cultivation of these high-value crops" he said.

A state-of-the-art tissue-culture lab will be established for large-scale production of quality planting material of these crops.

Published in: Indiaeducationdiary

Government looks to encourage tribals to cultivate spice in Karnataka

CSIR –CFTRI 09 June, 2020

To shore up the income levels of tribal communities in the State, the government will encourage them to cultivate spices such as ginger and turmeric with institutional support.

Nagapura, on the outskirts of Nagarahole National Park in Hunsur taluk of Mysuru district, will be developed as a 'Model Tribal Agricultural Village' with funding from the Ministry of Tribal Affairs, Government of India. The implementation will be overseen by various agencies, including the State's Department of Social Welfare.

Kumar Naik, Principal Secretary, Department of Social Welfare, told *The Hindu* that 280 tribal families in Nagapura who have been resettled and allotted cultivable land would be encouraged to cultivate spices. "It is the second generation of tribals who are living there, and the objective is to encourage them to go beyond conventional agricultural practices," he said

M.B. Prabhu, a tribal leader based in Hunsur, said tribals were not at home with conventional agriculture such as paddy or sugarcane cultivation. The adivasis are used to the forest environment and by introducing pepper cultivation in the second phase, the project will shift to tree-based agriculture, which will help replicate the forest ecology. It will not only help conserve the local ecology but will also lift up the economic status of the beneficiaries and bring about an attitude change in tribals towards agriculture, he added.

The project is expected to be rolled out this year. Also on the anvil is a farmer-producer company to be managed by tribals and a processing unit to add value to turmeric and ginger.

K.N. Harsha, scientist, Spice Board, Sakleshpur, said the broad contours of the project were to facilitate the tribal community to take up spice cultivation through good agricultural practices such as soil and water conservation, apart from helping improve their economic conditions.

Employment

The launch of a spice processing unit will not only add value to the produce, but will also provide direct employment to nearly 200 tribals throughout the year. "There are 530 hectares of cultivable land that will be brought under good agricultural practices, and the tribals will also be encouraged to take up seed production instead of grains as the former is more lucrative," said Dr. Harsha.

The authorities have identified cultivation of ginger and turmeric to start with, and once irrigation facilities are made available they can also cultivate garlic and pepper. A seed production centre, an accredited nursery to cater to pepper plantations in Kodagu, and a tribal agricultural knowledge centre will also come up at Nagapura.

Technical input will be provided by the Central Food Technological Research Institute, the University of Agricultural Sciences, Bengaluru, Horticultural University, Spice Board, NABARD, and other agencies for initial hand-holding. Once the model is established, the template will be replicated in other parts of the State where tribal populations are significant and adivasis have taken to agriculture, Mr. Kumar Naik said.

Published in: The Hindu

5.5 lakh COVID-19 cases in Delhi by July 31 possible, community transmission is on: scientists

CSIR –IICB

09 June, 2020

New Delhi, Jun 9 (PTI) Mathematical models of the progression of COVID-19 show it would be "possible" for Delhi to have 5.5 lakh cases by the end of July, several scientists said on Tuesday, and stated that community transmission of the disease may have started a while ago.

Warning of more trouble ahead, Delhi Deputy Chief Minister Manish Sisodia said the number of COVID-19 cases could surge to 5.5 lakh by July 31, up from about 30,000 on Tuesday. India's tally has crossed 2,66,000.

"The model that I used for India found that there could be around 8-10 lakh cases in India by mid or end of July. So it won't be surprising to get to those figures (5.5 lakh) in Delhi," said Samit Bhattacharya, mathematics professor and researcher at the School of Natural Sciences at Shiv Nadar University.

"Delhi getting around 5.5 lakh cases by end July might be possible as the number of cases is growing," Bhattacharya told PTI.

According to virologist Upasana Ray, only epidemiologists and statisticians can comment on exact numbers and predictions.

"I believe that if the government is telling something, there must be some basis to it," Ray, senior scientist at CSIR-IICB, Kolkata, added.

Reaching the alarmingly high figure of 5.5 lakh is possible using mathematical modelling, agreed Lovi Raj Gupta, executive dean of Science and Technology, Lovely Professional University (LPU) in Punjab.

"The validity and the accuracy would depend on the selection of the model based on the variation of data. As this is time-series data, trends and seasonality play vital role," Gupta told PTI.

Time series analysis is a statistical technique dealing with data in a series of particular time periods or intervals.

"You look at what is happening previously and average it out and on the basis of that you can create the differencing pattern of the future. It can be very well done using time series variation," Gupta said.

Mathematical modelling can be used to understand how a virus spreads within a population, according to a research article published in the journal BMC Public Health.

The essence of mathematical modelling lies in writing down a set of mathematical equations that mimic reality. These are then solved for certain values of the parameters within the equations.

The solutions of the mathematical model can be refined when information already known about the virus spread is used -- for example, available data on reported number of infections, the reported number of hospitalisations or the confirmed number of deaths due to the infection.

Talking to reporters after a meeting of the Delhi Disaster Management Authority, Sisodia also quoted officials from the Centre as saying there is no community transmission of COVID-19 in Delhi.

Delhi Health Minister Satyendar Jain added in a separate conversation with the media that the source of infection is "not known" in nearly half the fresh cases being reported.

Bhattacharya said community transmission "definitely" started a long time back in Delhi.

"It doesn't mean the whole of Delhi will have infections uniformly for community transmission to

happen. Nearly 30,000 infections in Delhi have already happened and according to the Delhi population it is definitely community transmission," he said.

"As far as my understanding of disease transmission, in local transmission there is a small spike in the number of infections. After that it gradually increases, and definitely at that point starts the community transmission." Bhattacharya added.

Ray explained that community transmission is said to happen or is a stage of disease transmission which by definition lacks exact source of transmission for many reported cases, that is the source of infection might not be traced back.

"We have seen a very long and stringent lockdown in our country. Yet, the number of cases have been seen to be rising. In many cases we can"t trace back the source.

"If the rise in COVID 19 cases can"t be linked to community transmission, then the next question should be.....what is the reason for such an increase? Is the virus more virulent? We don"t know that either. Are we bringing in infection from elsewhere? How can that be? It was a lockdown."

While all these assumptions are true, it will not be wrong to say that just an increase in infection numbers won"t point to community transmission, Ray added. PTI SAR MIN MIN MIN

Published in: Outlookindia

Firm designs city's first electrostatic disinfection machine

CSIR –CSIO 09 June, 2020

Nagpur: A firm has designed the city's first electrostatic disinfection machine named 'Encee-Spray' based on technology from Council for Scientific and Industrial Research's Central Scientific Instruments Organization (CSIR-CSIO), a Government of India's research institute, based in Chandigarh.

Claiming it to be the first of its kind in India, Rite Water Solution's director Abhijeet Gaan stated that the machine comprises an electrostatic spraying unit and an on-site disinfectant generator. Its demonstration was held at DCP Traffic office in Civil Lines on Friday.

"An electrostatic disinfection is one of the most efficient and effective methods to apply disinfectant and sanitizing agents to living and non-living surfaces. It offers a favourable approach to increase spray deposition to hidden areas with reduced usages of chemicals," said Gaan.

Explaining the usage of the machine, he said that it significantly reduced the chemical cost as disinfectant was generated on-site from the salt solution. "The electrostatic sprayers are ideal to disinfect any area by filling up the disinfecting chemicals in the sprayer. It's best suited for surface disinfection of coronavirus which is 0.1 micron in size," said Gaan.

The electrostatic spraying has several advantages over conventional sprayers. "It has become the most popular solution in the US for surfaced disinfection and many airlines such as Delta and Southwest, Marriott group of hotels, schools, restaurants and several private and the US government institutions are using these sprayers against Covid-19. A comparative study conducted by United States Environmental Protection Agency (USEPA) for electrostatic sprayer highlighted the advantages over conventional sprayer," said Gaan.

Quoting some findings, the young director said the MHA had mandated all workspaces to practice

disinfection on a daily basis, not only for the premises but also for all the staff, vehicles and other material. “There are approximately over one lakh hospitals, over 2.5 lakh local bodies, 9,000 trains, 8,500 stations, 673 aircraft, 123 large airports, 1.28 lakh hotel rooms, 8,000 cinema screens and over two lakh workspaces in India. All these would need disinfection solutions in a big way to keep their premises free from the deadly virus,” he said, adding, there was a large scale demand for providing efficient and cost effective disinfection solution for infection prevention at workplaces.

“Encee-Spray aims to be the one system which can ensure full proof and cost effective solution to meet the massive needs in the country with a Made in India product based on the government technology,” he said.

Published in: Times of india

CSIR holds webinar to raise awareness about environment

CSIR –AMPRI 09 June, 2020

CSIR- Advanced Materials and Processes Research Institute (AMPRI) Bhopal organized a webinar on World Environment Day under CSIR-Jigyasa programme.

Satanand Mishra, Senior Scientist and Coordinator Jigyasa programme said the aim of this webinar is to raise awareness about our environment.

Avanish Kumar Shrivastava, Director, CSIR- AMPRI Bhopal, chaired the session. He then explained about biodiversity and its importance.

Shrivastava emphasised on environment impact on ecosystem, effect of burning of agro waste, non-recyclable plastic, industrial waste and the ways it pollutes the environment.

He also mentioned the ways to make value added materials from waste such as red mud generated from alumina industries, fly ash from thermal power plants and agro waste.

He also said that it is one of the aims of CSIR-AMPRI to make value added materials from waste such as non-toxic radiation shielding tiles, etc.

Manish Mudgal, Senior Principal Scientist CSIR-AMPRI delivered a lecture on topic "Environmental Impact Assessment" (EIA. In India after Bhopal Gas tragedy as per Environmental Protection Act 1986, EIA studies were made mandatory before planning of any industrial project so as to finalize its specific site and technology, he said.

He also narrated about mitigation measures adopted for conservation of environment and contribution of CSIR-AMPRI in the field of Waste to Advanced Material development under Swachha Bharat Abhiyan.

More than 1200 participants like Deputy Commissioners, Assistant Commissioners, Principals, teachers, students of Kendirya Vidyalaya Sangthan, Navodaya Vidyalaya Samiti, State Government and Private Schools of Madhya Pradesh, Chhattisgarh and Odisha State along with scientists, academicians, project fellows and AcSIR research scholars took part in it.

Published in: Freepressjournal

CSIR-IMMT

09 June, 2020

CSIR-IMMT provides relief to Cyclone Amphan victims, donates 1,000 water filters

One thousand sets of Terafil water filters, with 50 litres per day capacity, developed by national R&D laboratory CSIR-Institute of Minerals & Materials Technology, Bhubaneswar have been sent to the CSIR-Central Glass & Ceramic Research Institute, Kolkata for free distribution among the victims of Cyclone Amphan. Director-CSIR-IMMT, Bhubaneswar, Prof. Suddhasatwa Basu flagged off two truck loads containing a total of 1,000 sets of water filters.

Published in: New Indian Express

CSIR-IMMT

09 June, 2020

IMMT tool to keep docs safe

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Bhubaneswar: The Institute of Minerals and Materials Technology (IMMT) in association with Gitanjali Awards, a city-based **manufacturer of awards and trophies, has developed a tool that would keep medical professionals safe while examining patients amidst the corona pandemic.**

"While treating patients suffering from cough and sneezing there are chances of droplets coming out of their mouths, which may infect doctors. The box covers the upper part of the patient's body completely and does not allow the droplets to go out of it and spread the infection," said director of IMMT Prof Sudhasatwa Basu.

With the technology and know-how provided by the IMMT, Gitanjali Awards will be manufacturing these intubation or aerosol boxes. These transparent safety hoods can be placed on a patient while a doctor carries out the examination. The patient will be able to breathe freely inside it. The boxes can also be of great use to dentists and eye specialists while they carry out their procedures.

"These boxes are made up of acrylic and are light weight. It is like a ticket counter and helps in maintaining a safe distance between the doctor and patient during medical examination," said Kishna Mohan Tata, director of Gitanjali Awards.

An agreement was signed between CSIR IMMT (Institute of Minerals and Materials Technology) and Gitanjali Awards for the technology transfer.

The number of corona positive cases is on the rise and with the coronavirus likely to stay for some more time these safety tools are very important. "We are planning to manufacture these boxes for different hospitals and clinics," said Tata.

The aerosol box on display at IMMT, Bhubaneswar

ITI designs shoe sanitiser

Berhampur: After designing technology-driven protective gears to contain the spread of the novel coronavirus, the government-run Industrial Training Institute (ITI) here on Monday launched the UV (ultra-violate) sole sanitiser to disinfect shoes.

Chairman of Odisha Skill Development Authority Subroto Bagchi inaugurated it. The first machine was donated to the Covid-19 hospital set up at Sitapalli in Berhampur. TNN

Published in: Times of India

CSIR-IMMT

09 June, 2020

सीएसआईआर-आईएमएमटी ने एरोसोल बॉक्स को डिजाइन किया

कोरोना मरीजों का इलाज करते समय डॉक्टरों और स्वास्थ्य कर्मचारियों की सुरक्षा के लिए, सीएसआईआर-आईएमएमटी ने एम्स भुवनेश्वर के डॉक्टरों के परामर्श से एक हूड इंटुबेशन को, जिसे एरोसोल बॉक्स के रूप में भी जाना जाता है, डिजाइन किया है. विभिन्न डिजाइनों के तीन इंटुबेशन बॉक्स एम्स, भुवनेश्वर को उनके उपयोग के लिए दिए गए हैं. दुनियाभर में भी स्वास्थ्यकर्मी कोविद-19 रोगियों के उपचार के दौरान इस तरह के एरोसोल बक्से का उपयोग कर रहे हैं. यदि कोरोना मरीजों की संख्या बढ़ती रही तो इसी तरह के बक्से की बहुत आवश्यकता होगी. इसका बड़े पैमाने पर उत्पादन और आपूर्ति करने के लिए सीएसआईआर-आईएमएमटी ने एम/एस गीतांजलि अवाड्र्स प्रा. लिमिटेड से हाथ मिलाया है.

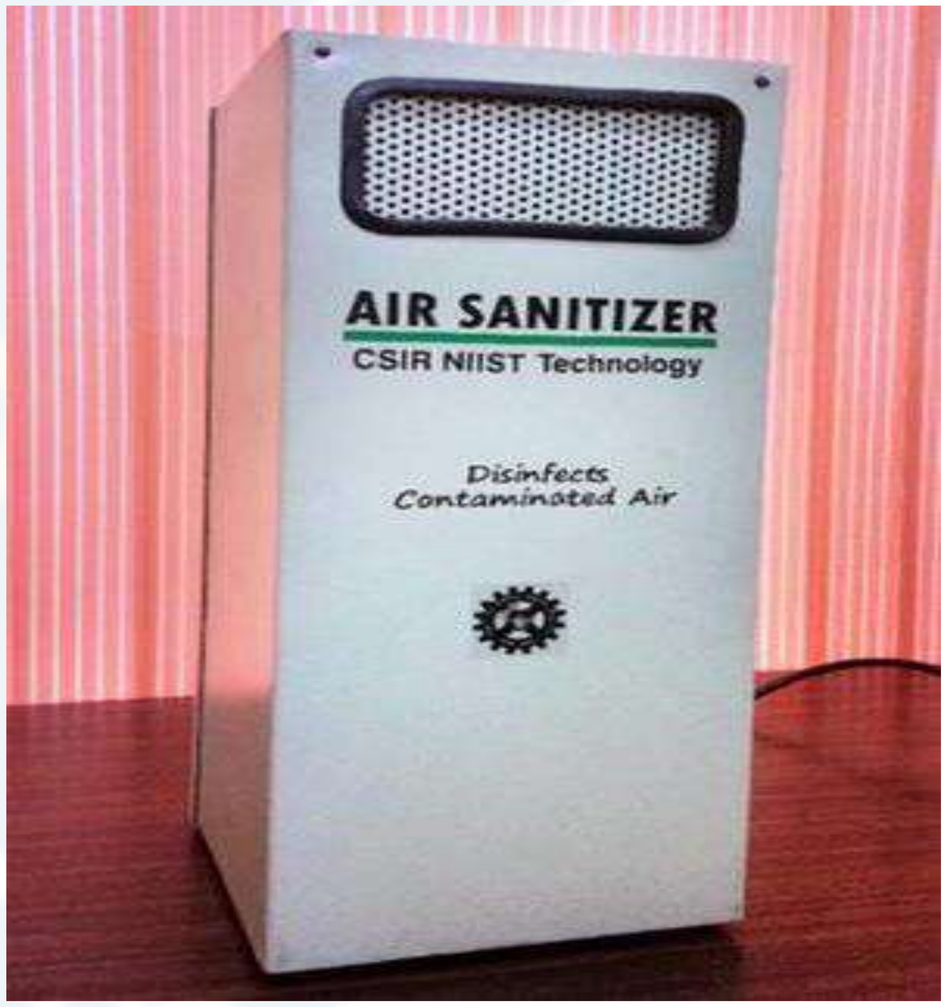
Published in: Navabharat Times

Air sanitiser from NIIST to disinfect aerosols

CSIR -NIIST

08 June, 2020

Low-cost unit ideal for enclosed spaces such as hospitals where chances of disease transmission are high



The National Institute for Interdisciplinary Science and Technology (CSIR-NIIST) here has developed a low-cost air sanitiser which could prove ideal for enclosed public spaces such as hospitals, given the COVID-19 scenario.

The system 'disinfects' aerosols, the fine particles suspended in air.

It exposes them to a combination of antimicrobial filters and germicidal UVC radiation and releases clean air.

Many infectious diseases of bacterial, fungal and viral origin are transmitted through aerosols, which are minute (micron size) respiratory droplets that reach air when people cough, sneeze or even talk.

It was reported that aerosolised COVID-19 could move around a radius of 13 feet from an infected person, NIIST officials said.

"Direct inhalation can take these aerosols deep into the lungs or aerosols can get deposited on surfaces leading to a source of contact transmission. Studies related to COVID-19 have further reported that coronavirus can stay active in aerosols up to three hours (depending on surrounding conditions) and on surfaces up to several days," the institute said in a statement here.

Reduction in bacteria

The air sanitiser was developed by a team led by Krishnakumar B., Principal Scientist, NIIST.

The team tested the unit with aerosols spiked with known bacterial cultures of Staph aureus and E. coli, and found a significant reduction in bacterial cell count in the exhaust air.

"Following the outbreak, we had embarked upon a number of initiatives to help the public fight the pandemic. The air sanitiser can find application in public spaces such as hospitals, seminar halls and clinics where the chances of aerosol-mediated disease transmission are higher," NIIST director Ajayaghosh A. told *The Hindu*.

The NIIST has now transferred the technical know-how to M/s Ecocure Technologies, Thiruvananthapuram, an MSME, for commercial production.

Published in: The Hindu

National Chemical Laboratory Develops Indigenous Nasopharyngeal Swabs For Collection Of COVID-19 Samples

CSIR –NCL 08 June, 2020

New Delhi: The National Chemical Laboratory (NCL), a lab under the Council for Scientific and Industrial Research (CSIR) on Saturday (June 6) said that it has developed an indigenous nasopharyngeal (NP) swabs for collecting samples from the throat cavity of COVID-19 patients. In an official release, the Ministry of Science and Technology said that the need for making available domestic technology for NP swabs was flagged by CSIR to NCL in mid-April.

Nasopharyngeal swab is a medical device with stringent specifications of quality, polymer grade, dimensions and sterilization. An NP swab consists of a cylindrical plastic stick with a brush-like tip of synthetic bristles/flocks. The flocking process helps align the fine bristles in a parallel orientation on the stick head, much like a tooth brush, except that this has round uniform geometry and the NP swab bristles are of micron diameter.

According to the release, the NCL team of polymer science and chemical engineering scientists – which included Dr. Chandrashekhar V. Rode, Dr. Prakash P. Wadgaonkar, and Dr. Anuya A. Nisal – successfully worked out the detailed specifications of NP swab polymers and adhesives.

The specifications of NP swabs included medical-grade materials that must be used for manufacture, the swab design and the packaging and sterilization protocols, reads the release.

Dr. Ashwini Kumar Nangia, Director, NCL, said,

This is an excellent example of optimizing the polymer specifications and validating the chemical analysis of an urgently needed medical swab product in a very short time.

The NCL has transferred the process knowhow of indigenous NP swabs for sample collection to a Mumbai-based chemical company under the COVID-19 technology transfer guidelines of CSIR.

After confirming the correct chemical and polymer composition of NP swabs, their diameter, alignment of bristles, and sterilization method, NCL has suggested the next regulatory pathway for approval of medical devices to the company. They will be able to produce 1 lakh NP swabs per day.

Published in: Ndtv

4.6-Magnitude Earthquake Strikes Delhi-NCR, 14th Tremor Since April

CSIR –NGRI 08 June, 2020

A low-intensity earthquake of magnitude 2.1 hit Delhi-NCR on Monday afternoon, said the National Centre for Seismology.

In a statement, the National Centre for Seismology said that the epicenter of the earthquake was at the Delhi-Gurgaon border and it occurred at 1 pm at a depth of 18 kilometre.

This was the 14th earthquake that the Delhi-NCR has reported since April.

Before this, a mild earthquake of magnitude 4.6 hit the national capital on May 29. The epicentre was in Rohtak in Haryana. Before that, an earthquake of 2.2 magnitude had hit the region on May 22 and its epicentre was in north Delhi's Pitampura.

The same location and the nearby areas were the epicentre of the earthquakes on April 12 and April 13 of magnitude 3.5 and 2.7, respectively. The quake occurred at a depth of five kilometres.

Of the five seismic zones, Delhi falls under the fourth zone. According to the Delhi Disaster Management Authority, seismicity around Delhi appears to be associated with a major geological structure, which is known as the Delhi-Hardwar Ridge.

It coincides with the extension of the Aravalli Mountain belt beneath the alluvial plains of the Ganga basin to the northeast of Delhi towards the Himalayan mountain.

Vineet Kumar Gahalaut, the Chief Scientist with the National Geophysical Research Institute, Hyderabad, had earlier said that the region around Delhi is known for seismic activities while adding that cities closer to Delhi like Alwar, Hisar, Sonepat, Ajmer have recorded seismic activities in the past.

"Areas adjoining Delhi witness smaller quakes every 10 days as it is on the Delhi-Aravalli fault line. Since they are in neighbouring areas and of small magnitudes, they don't garner much attention," Gahalaut, a former Director of the NCS, had said earlier.

Published in: English Jagran

CSIR's Anti-Cancer Drug IIIM-290 enters Clinical Trial

CSIR –IIIM 08 June, 2020

New Delhi: CSIR constituent lab CSIR-Indian Institute of Integrative Medicine (IIIM) Jammu, has received Investigational New Drug (IND) approval from New Drugs Division of Central Drugs Standard Control Organization (CDSCO) for a potent anti-cancer, New Chemical Entity (NCE) effective against pancreatic cancer after successful completion of preclinical development and IND submission. This will pave way for CSIR- IIIM for conducting the clinical trial of this important drug candidate IIIM-290 in pancreatic cancer patients. The proposed clinical trial is aimed to assess the safety, tolerability and exposure of the compound in humans along with the early efficacy indicators in pancreatic cancer patients. This drug was discovered and developed at the natural-products driven drug discovery program of CSIR-IIIM.

Dr. Shekhar Mande, DG, CSIR complemented team of scientists Sandip Bharate, Sonali Bharate, Dilip Mondhe, Shashi Bhushan and Sumit Gandhi who were led by Dr. Ram Vishwakarma, Director of CSIR-IIIM, on this significant milestone. They conducted close to a decade of high-end research as a prelude to granting of regulatory approval for clinical trials against pancreatic cancer.

Dr Ram Vishwakarma, highlighting the R&D carried out, informed that the anti-cancer screening against NCI-60 cancer cell lines panel and clinically validated protein kinase enzymes involved in cancer provided in 2011, provided an initial potent hit (rohitukine, a pure molecule natural product from the leaves of a tree from the Western Ghats Dysoxylum binectariferum,commonly known as Indian white cedar). Further medicinal chemistry designed to address efficacy/selectivity against a class of cell-cycle regulatory kinases (i.e. cyclin-dependent kinases) identified this preclinical candidate IIIM-290 showing excellent pharmacokinetics, oral bioavailability and potent anticancer activity in a number of animal xenograft models, with the best activity against the pancreatic cancer model. In the last three years, researchers completed all the pre-clinical safety, regulatory and other IND enabling studies, obtained global patents and published in, the Journal of Medicinal Chemistry in 2018.

Pertinently, the Pancreatic cancer currently ranks 12th among most common cancers in the world but has the notorious distinction of being the 4th leading cause of cancer-related deaths. The incidence of pancreatic cancer in India is 0.5–2.4 per 100,000 men and 0.2–1.8 per 100,000 women. Globally, it causes more than a quarter of a million deaths annually. This cancer is considered as one of the untreatable cancer type, because of its very late diagnosis and therefore there is a huge scarcity of drugs for the treatment of this cancer. This indigenous drug discovery program based on natural products opens potential therapeutic options for pancreatic cancer.

Published in: India Educationdiary

CSIR-CIMFR scientists support Mumbai-Ahmedabad Bullet train project

CSIR –CIMFR 08 June, 2020

The scientists from Central Institute of Mining & Fuel Research (CIMFR) are providing their immense support for the Mumbai-Ahmedabad Bullet train project.

The bullet train project will have 21 kilometres long underground corridor from BKC to Kalyan Shilphata in Maharashtra. Around 7 kilometres of this underground corridor is under the Thane creek while 1.8 km long section will be developed under the sea bed, while the remaining part of the stretch is to be built under the mangroves marshland on either side of the creek, official sources said.

CIMFR extended valuable contributions by providing technical support. The scientist conducted a study and suggested mitigation measures to avoid any possible disturbance to flora and fauna and also provided technical supports on the impact of Tunnel Boring Machine (TBM) induced vibrations on Mudflat and migratory bird sanctuaries at the tunnel alignment of the Mumbai bullet train project, informed Dr. More Ramulu Senior Principal Scientist and Project Leader.

For the construction of the tunnel National High-Speed Rail Corporation (NHSRC) required a scientific study to assess the effect of Tunnel Boring Machine (TBM) induced vibrations on the nearby Mangrove Creeks and Mudflats, where there are settlements of migratory birds, said Dr Ramulu adding "CIMFR was assigned to conduct a study and suggest mitigation measures to avoid any possible disturbance to flora and fauna."

A team compromising of Dr. P.K. Singh, Director CIMFR, Dr. More Ramulu, Senior Principal Scientist & Project Leader, Dr. Partho B. Choudhury Senior Principal Scientist, Pushpedra Patel Technical Officer, Abdur Rahman and Banti Kumar Dhar Technical Assistant conducted a study there.

Experiments were conducted on 'Rock Mass characterization by seismic profiling for assessment of vibration attenuation characteristics' by generating surface waves along the tunnel alignment on the ground surface, said Dr Ramulu.

The surface wave attenuation characteristics helped to simulate the TBM vibrations and to assess the likely damage to Mangrove trees and Mudflats; Regression analysis was done for deriving a seismic wave prediction model and calculated possible TBM vibrations while tunnelling, he said.

CIMFR recommended restricting the Thrust Force of TBM to contain the vibration levels below threshold limits to ensure safety to Mangrove Creeks and Migratory birds settlements during tunnel construction below 20 meter depth, said Dr Ramulu.

"This scientific study is going to facilitate the NHSRC in getting environmental clearances from National Green Tribunal (NGT)," added Dr Ramulu.

Published in: Dailypioneer

CSIR-IHBT

08 June, 2020

एमओयू साइन, अब प्रदेश में हींग-केसर की खेती

कार्यालय संवाददाता – पालमपुर

हिमालय जैवसंपदा प्रौद्योगिकी संस्थान तथा प्रदेश कृषि विभाग मिलकर पहली बार हींग तथा केसर की खेती बड़े स्तर पर करने जा रहा है।

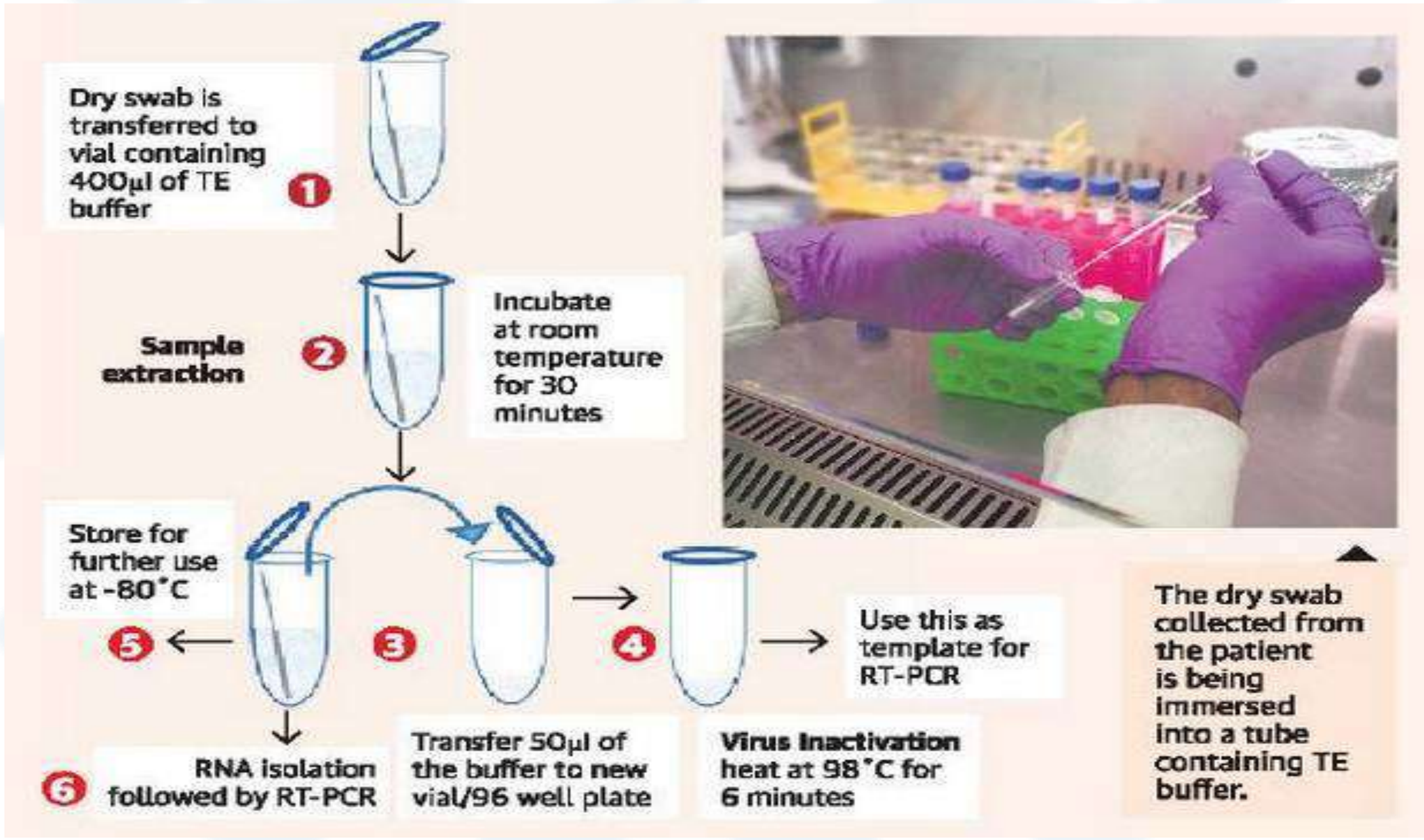
इस संबंध में आईएचबीटी के निदेशक डा. संजय कुमार तथा प्रदेष कृषि विभाग के निदेशक डा. आरके कौंडल की मौजूदगी में एमओयू साइन किया गया। इस अवसर पर कृषि विभाग के अतिरिक्त निदेशक डा. एनके धीमान, संस्थान के वैज्ञानिक डा. राकेश तथा डा. अशोक उपस्थित रहे। समझौते के तहत प्रदेश में हींग व केसर के बीज उत्पादन केंद्रों की स्थापना की जाएगी तथा आने वाले पांच वर्षों में 750 एकड़ भूमि को हींग तथा केसर की खेती के अंतर्गत लाया जाएगा। आईएचबीटी संस्थान प्रदेश के किसानों को इन दोनों फसलों से संबंधित पूरी जानकारी उपलब्ध करवाएगा, वहीं कृषि विभाग के अधिकारियों को प्रशिक्षण भी दिया जाएगा। केसर के रोग रहित कोरम के लिए संस्थान ने टिश्यू कल्चर प्रोटोकॉल विकसित किया है। वहीं हींग उत्पादन से अछूते रहे देश में हिमाचल हींग उत्पादन की पहल करने जा रहा है। हिमालय जैव संपदा प्रयोग की संस्थान ने एनबीपीजीआर के सहयोग से ईरान से हींग के छह परिग्रहण प्राप्त कर इसके उत्पादन के लिए प्रोटोकॉल का मानकीकरण किया है।

Published in: Divya Himachal

CCMB finds cheaper, more effective RT-PCR method to test COVID-19 samples

CSIR -CCMB

07 June, 2020



Increased tracing, testing and isolation of people with novel coronavirus infection is an effective way to contain the virus spread. Currently, the preferred protocol for testing uses the RT-PCR (Reverse Transcription-Polymerase Chain Reaction) test. This protocol does, however, take time and is expensive.

With the steeply rising number of infected persons, there is a need for a reliable test that would give results quickly and also be less expensive. Researchers from the Centre for Cellular and Molecular Biology (CCMB), Hyderabad, have studied such a method, also using RT-PCR but with dry swabs, bypassing the RNA isolation stage, which they find consumes less time and is less expensive.

They also suggest a variant method which apparently shows a higher efficiency that the conventional one. The results have been posted in *bioRxiv* and *medRxiv* preprint servers. Preprints are yet to be peer-reviewed and published in scientific journals.

In the usual method of testing, nasal swabs collected from a person are placed in a viral transport medium (VTM). From this, a part of the liquid is taken, the viral RNA is extracted and RT-PCR test is carried out. The remainder is stored. It is the step of isolating the RNA that takes time and is expensive. So, the authors have proposed an alternative method.

Dry swabs

Instead of placing the nasal swabs in the VTM, they are put in a Tris-EDTA (TE) buffer solution, protected by ice. "Virus in dry swabs can stay for several days at 4 degree [ice temperature]. For longer storage, it can be kept in minus 80 degree,... it [dry swab] is much more suitable than VTM, and testing can be delayed, if necessary," says Rakesh Mishra from CCMB, and one of the authors of the preprint. He adds that handling and transporting dry swabs is safer and more convenient.

A small part of the dry swab-TE extract was taken in a new vial and heated to 98 degree C. This destroyed the protective wall of the virus particles, releasing its RNA and this was sent for the RT-PCR test. In all, 40 patients were put through both testing protocols (heated TE without RNA extraction and current standard method). While 22 tested positive and 18 negative in the new method, the standard method yielded 23 positives and 17 negatives. The researchers found that the new protocol of using dry swab-TE extract for RT-PCR was at par with the standard method.

However, the standard method is known to have a problem of false negatives. To address this, the researchers took the dry swabs-TE extract, extracted RNA from it and studied the samples. In this variant method, they found that a few samples that were consistently negative in both methods now showed a positive result. So out of 40 samples they now had 28 positives and 12 negatives. This result was reproduced on testing multiple times. They surmise that this is because of low viral load, which was picked up in the new variant method.

Handy improvisation

"This is an improvised method, makes the COVID-19 testing rapid and less expensive. Both are welcome considering limited availability of reagents for VTM and RNA isolation," says L.S. Shashidhara, from Ashoka University, Delhi, who was not involved in the research. "This is a good development as we need to increase the number of tests considerably across India. More and more new labs are being enrolled as testing centres and large numbers of people are being trained in RT-PCR-based testing. Fewer the number of steps, fewer would be the errors," he adds.

Further study is needed to see if the samples collected and stored in TE can be used for culturing of the virus for any future studies and full sequencing of the viral genomes.

Published in: The Hindu

CSIR-NIO, Goa Announces Jobs For Graduates, Diploma Candidates

CSIR –NIO 07 June, 2020

The National Institute of Oceanography, a premier research Institute under the Council of Scientific & Industrial Research (CSIR), has invited application from graduates and diploma candidates for recruitment to the post of Technical Assistant. The last date for submission of application is July 17.

Apply Online

A total of 24 vacancies will be filled through this recruitment.

"The total emoluments excluding HRA and transport allowance is approximately Rs 41418," reads the job notice released by NIO, Goa.

"Selected candidates may be posted or transferred in between any of the regional centres of the institute at Kochi, Mumbai and Vishakhapatnam or headquarter of NIO or anywhere in India," the job notice adds.

Candidates will be selected on the basis of a competitive written exam. Prior to that, candidates will be called for trade or skill test and those who qualify the skill test will be eligible to sit for the written exam.

The written exam will have three papers. the second and third paper will be evaluated only for those candidates who secure the minimum threshold mark in the first paper.

The final merit list of candidates will be based on the performance of the candidate in the written exam.

Published in: Ndtv

कोरोना स्वॅबसाठी पॉलिमर धाग्यांचे स्वदेशी साधन

प्रतिनिधी | पुणे

कोरोना संसर्गाच्या तपासणीसाठी राष्ट्रीय रासायनिक प्रयोगशाळेने संपूर्ण स्वदेशी बनावटीचे, पॉलिमर धाग्यांचा वापर करून स्वॅब संकलन साधन विकसित केले आहे. कोरोना चाचणीसाठी नाक आणि घशातील स्त्रावाचा (स्वॅब) नमुना घ्यावा लागतो. परंतु सध्या स्वॅब संकलनात अनेक त्रुटी आढळत आहेत. त्याचप्रमाणे त्या साधनांचा तुटवडा जाणवतोय तसेच योग्य किमतीमध्येही पुरवठा होत नसल्याचे दिसून आले आहे. त्यामुळे सीएसआयआर (भारतीय विज्ञान आणि औद्योगिक संशोधन परिषद) या शिखर संस्थेच्या वतीने पुणेस्थित राष्ट्रीय रासायनिक प्रयोगशाळेने (एनसीएल) संपूर्ण स्वदेशी बनावटीचे स्वॅब संकलन साधन विकसित करण्याचे आव्हान स्वीकारले आणि ते यशस्वी केले आहे.

स्त्राव संकलनासाठी स्वदेशी साधन (nasopharyngeal swabs-एनपी स्वॅब) विकसित करण्यात एनसीएलमधील संशोधक डॉ. चंद्रशेखर रोडे, डॉ. प्रकाश वडगावकर आणि डॉ. अनुया निसाळ यांचा प्रमुख सहभाग आहे. सीएसआयआर-एनसीएलच्या वैज्ञानिक पथकाने एनपी स्वॅबच्या विस्तृत तपशिलांवर यशस्वीरीत्या काम केले. या एनपी-स्वॅबचे वैशिष्ट्य असे की याच्या डिझाइन, उत्पादन, पॅकेजिंग आणि निर्जंतुकीकरणासाठी वैद्यकीय श्रेणीची सामग्री वापरणे सर्वात महत्त्वाचे आहे. वैद्यकीय स्वॅब उत्पादनासाठी पॉलिमर्सच्या वैशिष्ट्यांमुळे आणि रासायनिक विश्लेषण करण्याचे काम अगदी कमी कालावधीत करता येईल, असे संचालक डॉ.अश्विनीकुमार नांगिया यांनी सांगितले.

अशी रचना : एक मायक्रॉनइतका व्यास

स्वॅब विकसित करताना त्याची रासायनिक रचना व जैविक अनुकूलता महत्त्वाची होती. हे साधन रुग्ण किंवा संशयित रुग्णाच्या घशात, नाकात घालून नमुने संकलित करणारे आहे. ॲल्युमिनियम किंवा प्लास्टिकपासून बनवलेली दांडी आणि टोकावर पॉलिमर धाग्यांचा संचय केला आहे. यात धागे दांड्याच्या टोकावर दातांच्या ब्रशप्रमाणे समांतर परंतु गोल गुंडाळलेले आहेत. याचा व्यास १ मायक्रॉन इतका असल्याचे डॉ.नांगिया म्हणाल्या

दररोज एक लाख एनपी स्वॅबची निर्मिती

सीएसआयआर-एनसीएलने नमुने संकलनासाठी स्वदेशी एनपी स्वॅबची ही प्रक्रिया मुंबईतील रसायन कंपनीला हस्तांतरित केली. एनपी स्वॅब, त्यांचे व्यास, टोकाची संरचना आणि निर्जंतुकीकरण पद्धतीची योग्य रासायनिक आणि पॉलिमर रचनेची पुष्टी केल्यानंतर एनसीएलने कंपनीला वैद्यकीय उपकरणांच्या मंजुरीसाठी पुढील नियामक मार्ग सुचवला आहे. दररोज एक लाख एनपी स्वॅब तयार करण्यास ते सक्षम आहेत.

Published in: Divya Marathi

CSIR-IMMT

07 June, 2020

ଆଇଏମ୍‌ଏମ୍‌ଟି ପ୍ରସ୍ତୁତ କଲା ଇନଟ୍ୟୁବେସନ୍ ହୁଡ୍

ଡାକ୍ତର ଓ ସ୍ୱାସ୍ଥ୍ୟକର୍ମୀଙ୍କୁ ସଂକ୍ରମଣରୁ ରକ୍ଷା କରିବ

ଭୁବନେଶ୍ୱର: ୬।୬(ଭୁ.ପ୍ର): କରୋନା ରୋଗୀଙ୍କ ଚିକିତ୍ସାରେ ନିୟୋଜିତ ଡ଼ାକ୍ତର ଓ ସ୍ୱାସ୍ଥ୍ୟକର୍ମୀଙ୍କୁ ସଂକ୍ରମଣରୁ ରକ୍ଷା କରିବା ଏବେ ବି ଏକ ଆହ୍ୱାନ ହୋଇ ରହିଛି। ବିଶେଷକରି ଆଇସିୟୁରେ ସଂକ୍ରମଣ ଭୟ ଅଧିକ ରହିଛି। ତେବେ ଭୁବନେଶ୍ୱରସ୍ଥିତ ଇନ୍‌ଷ୍ଟିଚ୍ୟୁଟ୍ ଅଫ୍ ମିନେରାଲ୍ସ ଆଣ୍ଡ ମ୍ୟାଟେରିଆଲ୍ସ ଟେକ୍ନୋଲୋଜି (ଆଇଏମ୍‌ଏମ୍‌ଟି) ପକ୍ଷରୁ ପ୍ରସ୍ତୁତ କରାଯାଇଛି ଏକ ଇନଟ୍ୟୁବେସନ୍ ହୁଡ୍ ଉଦ୍ଭାବନ କରାଯାଇଛି। ଏହାକୁ ଏରୋସୋଲ୍ ବକ୍ସ ମଧ୍ୟ କୁହାଯାଏ। ଭାରତୀୟ ଆୟୁର୍ବିଜ୍ଞାନ ପ୍ରତିଷ୍ଠାନ (ଏମ୍ସ) ଡ଼ାକ୍ତରଙ୍କ ପରାମର୍ଶକ୍ରମେ ଆଇଏମ୍‌ଏମ୍‌ଟି ଏହି ହୁଡ୍ ପ୍ରସ୍ତୁତ କରିଛି। ତିନି ପ୍ରକାର ହୁଡ୍ ବ୍ୟବହାର ପାଇଁ ଏମ୍ସକୁ ଦିଆଯାଇଛି। ଆଗକୁ ଅଧିକ ସଂକ୍ରମିତ ଚିହ୍ନଟ ହେଲେ ଏପରି ହୁଡ୍‌ର ଆବଶ୍ୟକତା ପଡ଼ିବ ବୋଲି କୁହାଯାଇଛି।

ଆଇଏମ୍‌ଏମ୍‌ଟି ନିର୍ଦ୍ଦେଶକ ପ୍ରଫେସର ଏସ୍. ବାସୁ କହିଛନ୍ତି, ଆଇସିୟୁରେ ରୋଗୀ ଥିବା ସମୟରେ ଇନଟ୍ୟୁବେସନ୍ ପ୍ରକ୍ରିୟାରେ ଭେଣ୍ଟିଲେଟର୍ ପାଇପ୍‌କୁ ରୋଗୀଙ୍କ ମୁହଁ ଭିତରେ ଭର୍ତ୍ତି କରାଯାଇଥାଏ। ଏହି ସମୟରେ ଡ଼ାକ୍ତର ଓ ସ୍ୱାସ୍ଥ୍ୟକର୍ମୀଙ୍କ ସଂକ୍ରମିତ ହେବାର ଯଥେଷ୍ଟ ଆଶଙ୍କା ରହିଥାଏ।

ବିଶ୍ୱର ପ୍ରମୁଖ ଦେଶର ଡ଼ାକ୍ତରଖାନାରେ ଏରୋସୋଲ୍ ବକ୍ସ ବ୍ୟବହାର କରାଯାଉଛି। ଏପରିସ୍ଥଳେ ଆଇଏମ୍‌ଏମ୍‌ଟି, ଭୁବନେଶ୍ୱର ଇନଟ୍ୟୁବେସନ୍ ହୁଡ୍ ପ୍ରସ୍ତୁତ କରିଛି। ବଜାରରେ ଏହାର ଆବଶ୍ୟକତା ପୂରଣ ପାଇଁ ଏକ ଘରୋଇ ସଂସ୍ଥାକୁ ଜ୍ଞାନକୌଶଳ ହସ୍ତାନ୍ତର କରାଯାଇଛି ବୋଲି ପ୍ରଫେସର ବାସୁ କହିଛନ୍ତି।

Published in: The Samaja

CSIR-NCL

07 June, 2020

NCL develops indigenous nasopharyngeal swabs for Covid-19 sample collection

HT Correspondent
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PUNE: The National Chemical Laboratory (NCL) here has successfully developed an indigenous nasopharyngeal (NP) swab for collecting samples from the throat cavity of patients affected with Sars-Cov-2 virus which causes the Covid-19 (coronavirus) infection.

The NCL, a lab under the Council for Scientific and Industrial Research (CSIR), will manufacture one lakh nasopharyngeal swabs a day, a press release issued by the organisation said.

A team of three scientists, namely, Chandrashekhar V Rode, Dr Prakash P Wadgaonkar and Dr Anuya A Nisal worked on the specifications of nasopharyngeal swab polymers and adhesives.

Ashwini Kumar Nangia, director, CSIR-NCL, said, "This is an excellent example of optimising the polymer specifications and validating the chemical analysis of an urgently needed medical swab product in a very short time."

It said that the nasopharyngeal swabs are in huge demand across the globe and therefore, their supplies are not dependable and could result in delays, escalated prices and variable quality. The organisation, therefore, decided to make indigenous nasopharyngeal swabs in mid-April. The nasopharyngeal swab is a medical device with stringent specifications of quality, polymer grade, dimensions and sterilization.

CSIR-NCL WILL MANUFACTURE 1 LAKH NASOPHARYNGEAL SWABS A DAY

"It consists of a cylindrical plastic stick with a brush-like tip of synthetic bristles/flocks. Flocking is a very important processing step in the manufacture of medical swabs, which is to align the fine bristles in a parallel orientation on the stick head, much like a toothbrush, except that this has round uniform geometry and the nasopharyngeal swab bristles are of micron diameter," the release said.

Published in: Hindustan Times

Tap traditional knowledge for biodiversity conservation'

CSIR –NEERI

06 June, 2020

CSIR-National Environmental Engineering Research Institute (CSIR-NEERI) and Vijnana Bharati (VIBHA) jointly organised various programmes to mark World Environment Day. It organised a panel discussion on 'Urban Biodiversity and Biodiversity Preservation for Integrating Society'. Dr Deepak Apte, Director, Bombay Natural History Society (BNHS); Prof Anindya Sinha, National Institute of Advanced Studies (NIAS); Prof P P Bakre, former Professor, Rajasthan University; Jayant Sahasrabuddhe, National Organising Secretary, Vijnana Bharati; and Dr R D Jakati, former Director, Indira Gandhi National Forest Academy, took part as expert panelists in the online panel discussion.

In his keynote address, Prof Sinha highlighted the challenges to biodiversity conservation in north-eastern India. Of 36 global biodiversity hotspots across the world, four were in India including the Indian Himalayan region, north-eastern India, Nicobar group of islands, and Western Ghats. Expressing concern over the Eastern Himalayas, he said that due to human interference and climate change biodiversity in Arunachal Pradesh is gradually diminishing.

The state of biodiversity and its significance were comparatively poorly known to conservationists in north-eastern India due to low priority in research, inaccessibility, and remoteness. However, one of his biological expeditions in this biodiversity hotspot resulted in the discovery of Arunachal macaque 'Macaca munzala' in the high altitudes of western Arunachal Pradesh, a primate new to science. He said. "We need to think about welfare of local people as human welfare is linked to preservation of biodiversity in a variety of ways. We also need to preserve our traditional knowledge to conserve biodiversity of north-eastern India." He advocated participation of local community and re-introduction of critically endangered species, as was done in the case of pigmy hog-a mammal found in the north-eastern region. Dr Apte said that while focusing on tiger, other species were neglected. "It is time we move from species-specific conservation projects to landscape conservation to sustain all species," he said.

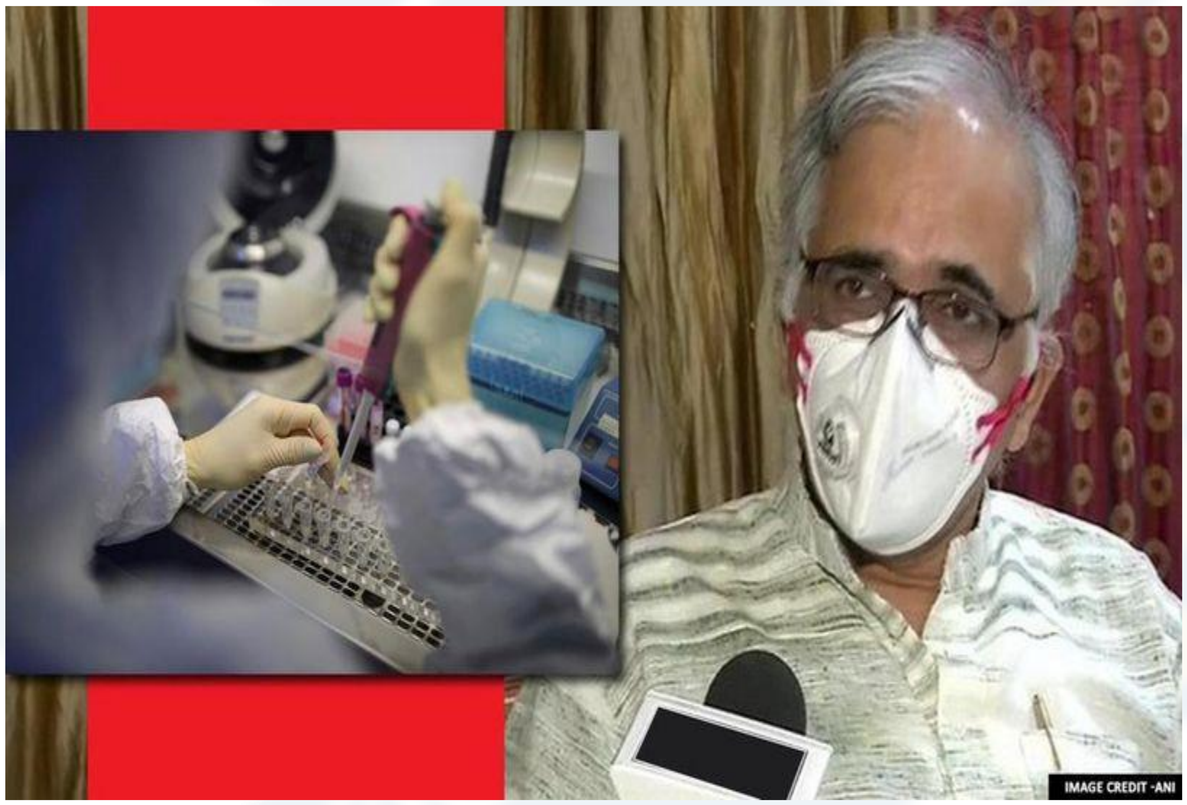
Prof Bhakre said that the feathers of birds might provide clues to air pollution. Artificial lighting is threatening urban biodiversity and suitable species need to be selected for plantation drive to conserve urban biodiversity, he cautioned. Sahasrabuddhe emphasised upon the need to elicit interest and motivation among people, especially children, to act in favour of biodiversity conservation. Dr Jakati expressed concern over the forest cover data as it did not indicate biodiversity of the region and thus not satisfy sustainability. Biodiversity surveys need to be done periodically in various ecosystems, he added. Dr Atya Kapley, Senior Principal Scientist & Head, DRC, CSIR-NEERI, moderated the panel discussion.

Published in: The Hitavada

CSIR Chief Hails Clinical Trial Nod To Test Plant-based Drug For COVID-19 Treatment

CSIR –IIIM

06 June, 2020



The Council of Scientific and Industrial Research (CSIR) has hailed the clinical trials of the plant-derived drug, ACQH, to treat COVID-19 patients that began on Friday in India, as "historic in modern medicine".

India's top drug regulator Drugs Controller General of India (DGCI) on Friday allowed Mumbai-based Sun Pharmaceutical to conduct a clinical trial for the first phytopharmaceutical or plant-based drug AQCH to treat COVID-19 patients. According to the company, the clinical trials will be conducted across 12 centres in India in 210 patients.

"CSIR Director-General Dr. Shekhar Mande said, "CSIR is pleased to inform that ACQH clinical trial has begun yesterday, by Sun Pharmaceutical in collaboration

with ICGEB New Delhi and CSIR IIIM Jammu with support by CSIR and DBT. We are going to attempt to combat COVID-19 and we do hope that it is successful."

Encouraging result

He said the DGCI's nod is "a historical day in modern medicine especially in India" and now scientists have chance to tap the country's traditional knowledge system that has been used to treat diseases. The ACQH, which is being developed for dengue, showed broad antiviral effect in studies.

"Phase 1 clinical trials went very well and based on encouraging result we decided we should try it against COVID-19," said Dr. Mande. "Typically a clinical trial takes a long time, we are expecting ACQH clinical trial will be done in three months or it might take some more time.

This is a multicentric clinical trial so not only Delhi but several places in India will take patients for the trial," he added.

Traditional system of medicines

Mande said that June 5, 2020, marks a red-letter day in India's history of modern medicine. He said the modern drugs and pharmaceuticals paradigm has evolved over the last 100 years and cited J. Drews, Science (2000) 287, 1960-64. According to this paradigm, any disease occurs due to a cause, which can be corrected by externally providing a chemical which can suppress that cause. This external chemical is what we call as a "drug" or "medicine".

The efficacy of the "drug" against the disease is typically established by conducting Randomised Controlled Trials (RCT) with all appropriate controls. Over the years, more than 2500 medicines have been approved all over the world to treat different diseases. While the paradigm has evolved identifying one cause of a disease, and one chemical entity to correct that cause, the traditional system in many countries/cultures which has used extracts from natural sources has by and large been ignored, said Dr Mande. Thus, the traditional system of medicines which used various natural sources and their extracts has not found use in modern medicine.

Botanical drugs

Due to increasing debates and concerns over the years, the US FDA in 2005 finally recognized a class of medicines termed as "botanicals", which are plant-derived natural extracts and complex mixture of compounds. Botanical drugs are not necessarily purified chemical entities to treat a disease. The same class of drugs was also adopted in India as "phytopharmaceuticals" in 2015. Yet, till date, no clinical trial (RCT) of any phytopharmaceutical has been undertaken in India.

"Today, the situation has changed. The clinical trial of extracts from Cocculus hirustus (in Hindi called as Patalgarudi) spearheaded by Sun Pharma has begun to mitigate COVID-19. This

is led by the ICGEB, Delhi and CSIR-IIIM, Jammu on the academic side. Thus, CSIR is once again playing a stellar role in modern medicine by attempting to change the paradigms," said Dr Mande.

Further Mande added that the entire tribal belt in India starting from Gujarat Maharashtra, Chhattisgarh and Jharkhand has been using extracts from this plant for treating various ailments.

Published in: Republic World

People panic as tremors felt in Ongole town

CSIR –NGRI

06 June, 2020

Vijayawada: Mild tremors were felt across Ongole town in Prakasam district on Friday morning at around 10.15 am.

The residents of Sharma College, Ambedkar Bhavan, NGO Colony and Sundaraiah Bhavan road areas panicked after feeling the tremors. According to National Centre of Seismology, the magnitude of the quake recorded around 2.6 on the richter scale.

District joint collector J Venkata Murali was quick to allay fears and described it as a 'mild one'. Officials said that it was an extension of the earthquake which occurred at Jamshedpur in Jharkhand with the magnitude of 4.7 on the richter scale.

Speaking to TOI, Dr Srinagesh, a seismologist from National Geophysical Research Institute (NGRI) Hyderabad said: "The final reading on the richter scale showed it as 2.6 and it is very mild." tnn

Published in: Times Of India

Pulichintala hit by 965 microquakes

CSIR –NGRI 06 June, 2020

HYDERABAD: Pulichintala area on the banks of river Krishna that divides Andhra Pradesh and Telangana has been witnessing hectic seismic activity.

At least 965 microearthquakes have been recorded on the Richter scale since January 26 after a 4.6 magnitude quake struck the region on that day. Both Suryapet district in Telangana and Guntur in AP have been witnessing tremors since then.

A microearthquake (or microquake) is a very low intensity earthquake which is 2.0 or less in magnitude. The epicentre of the microquakes is 5 km downstream of Pulichintala dam on Telangana side.

NGRI chief seismologist D Srinagesh said there are all tiny quakes. "The biggest was on January 26 with 4.6 magnitude. In the last four months, the area witnessed 965 microearthquakes," he told TOI. The 4.6 magnitude earthquake in Suryapet was felt in parts of Hyderabad too. Aftershocks were reported till evening on that day and a surveillance camera at Pulichintala dam had recorded the quake.

On June 30, 1969, an earthquake with a magnitude of 5.3 was reported in Telugu states. Since then, Pulichintala was the second biggest in magnitude.

Meanwhile, in Ongole, a microquake of 2.3 magnitude was recorded by the NGRI. Srinagesh said an earthquake of a magnitude of 2.6 on Richter scale occurred at Gudimellapadu near Ongole at around 10.18 am. "There was no impact," he added.

A local in Gaddalakunta in Ongole said, "We heard a big noise and the earth started shaking. We

came out and within a minute, it subsided."

The NGRI chief seismologist said there are all tiny quakes. Both Suryapet district in Telangana and Guntur in AP have been witnessing tremors since January 26

Published in: Times Of India

Recent Earthquakes Unlikely to be a Precursor to Major Event in Delhi, Local Fault Lines Hold the Clue

CSIR –NGRI 06 June, 2020

New Delhi: Since April the Delhi-National Capital Region (NCR) has recorded over 10 earthquakes, all below magnitude 5 on the Richter scale. In the middle of lockdown and Covid-19 pandemic, the likelihood of a big temblor hitting the national capital has got people in Delhi-NCR worrying. Scientists, however, said that these smaller earthquakes are not likely to be a precursor to a bigger quake.

Delhi and some parts of the NCR sit on a folded crustal ramp and these are bounded by two regional faults; the Mahendragarh-Dehradun Sub Surface Fault in the west and the Great Boundary Fault in East Delhi, as per the central government's 2016 report on seismic hazard microzonation. Besides, other fault lines of consequence in the region are the Moradabad fault and Sohna fault. Scientists explained that even as Delhi falls in seismic zone IV which is classified as a severe zone, seismic activity in and around the city is not potent enough to lead to a large earthquake.

"Earthquakes cannot be forecast. But if we look into the past of Delhi and adjoining regions, there has not been any major earthquake whose epicentre was in Delhi. The quake on Wednesday whose epicentre was in Noida is likely to have happened due to sub-surface adjustments in the Moradabad fault," said JL Gautam, head of operations at the National Centre of Seismology.

Kalachand Sain, the Director of Wadia Institute of Himalayan Geology, said that large seismic activity in the Himalayan region due to pushing of the Indian Plate underneath the Eurasian Plate is more likely to cause a bigger earthquake, as has been recorded in the past. These quakes, Sain said, will pose a bigger problem to Delhi's structures than local adjustments in the sub-surface. Sain also cautioned that more investigation is needed into the faults that exist in and around Delhi to examine how they facilitate release of energy that is builds up in the Himalayan region.

"The earthquakes in Delhi-NCR, at this point, appear to be the manifestation of the release of the

stress that must have accumulated in local faults and it can be considered that most of the energy has been released. Even as we cannot rule out an earthquake in Delhi-NCR whose magnitude could be more than 4, these recent events will not lead to a major event of magnitude 7-9," Sain said.

The recent earthquakes are likely to have happened due to the local tectonic movements and we need to examine these quakes further. Study on this region is meagre, he added.

The faults in Delhi and neighbouring regions are classified as plate interiors, said Vineet Kumar Gahalaut, Scientist, National Geophysical Research Institute (NGRI). In plate interior regions, the collision happens within the plate unlike in the Himalayan region where two plates collide against one another. "The deformation of the crust in the plate interior is much slower compared to the Himalayan region and these interior plates are more rigid. There is limited understanding of plate interior regions and such multiple instances of earthquakes definitely necessitate an examination," Gahalaut said.

The Kutch region, Narmada region and Godavari failed rift region are a few other examples of plate interior regions.

Past Earthquakes in Delhi and Neighbouring Regions

The 2016 Ministry of Earth Sciences report on Seismic Hazard Microzonation of NCT Delhi had stated that the 422 earthquake events in and around Delhi were recorded between 2005 and April 2012. "Of these, more than 90 per cent events are of magnitude less than 3.0, with shallow focal depth of less than 15km.

Delhi was also affected by the 1991 Uttarkashi earthquake which was of magnitude 6.4 on the Richter scale and the 1999 Chamoli earthquake of magnitude 6.8 on the Richter scale. Historically, the 1803 Mathura earthquake of magnitude 6.8, Bulandshahar earthquake of magntiude 6.7 and Faridabad quake of magnitude 6 were some of the worst ones to affect Delhi and neighbouring districts, the 2016 report shows.

The 1803 Mathura quake, in fact, reportedly caused damage to the Qutub Minar.

The report also mentions an earthquake in Gurgaon dating back to August 1960. The event was of magnitude 6 near Sohna and was felt as far as Kanpur and Jaipur. It led to property damage and injuries among Delhiites.

“The earthquake of October 10, 1956 is the largest instrumentally recorded earthquake near this (Moradabad) fault. This earthquake was felt in a very large area and was responsible for damage to buildings in which 23 persons perished in Bulandshahar and some were injured in Delhi,” the report said.

Published in: News18

CSIR-NML

06 June, 2020

एनएमएल में 78 यूनिट रक्त संग्रहित

जमशेदपुर. एनएमएल स्टाफ क्लब की ओर से शुक्रवार को रक्तदान शिविर का आयोजन किया गया. जिसमें 78 यूनिट रक्त संग्रहित किये गये. इस रक्त का उपयोग जमशेदपुर ब्लड बैंक में रक्त की कमी को दूर करने के लिए किया जायेगा. इस दौरान डायरेक्टर डॉ इंद्रनील चट्टोराज ने सभी को रक्तदान के प्रति जागरूक किया. आयोजन में डॉ जयंत कोनार, डॉ मनोज एम हुमने, परमार्थ सुमन, डॉ संचिता चक्रवर्ती, डॉ देवव्रत मिश्रा, डॉ श्रमिष्ठा सागर, अनिल कुमार शर्मा, गुलशन कुमार समेत कई अन्य का योगदान रहा.

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CSIR-NEERI

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'Tap traditional knowledge for biodiversity conservation'

■ **Staff Reporter**

CSIR-National Environmental Engineering Research Institute (CSIR-NEERI) and Vijnana Bharati (VIBHA) jointly organised various programmes to mark World Environment Day. It organised a panel discussion on 'Urban Biodiversity and Biodiversity Preservation for Integrating Society'.

Dr Deepak Apte, Director, Bombay Natural History Society (BNHS); Prof Anindya Sinha, National Institute of Advanced Studies (NIAS); Prof P P Bakre, former Professor, Rajasthan University; Jayant Sahasrabuddhe, National Organising Secretary, Vijnana Bharati; and Dr R D Jakati, former Director, Indira Gandhi National Forest Academy, took part as expert panelists in the online panel discussion.

In his keynote address, Prof Sinha highlighted the challenges to biodiversity conservation in north-eastern India. Of 36 global biodiversity hotspots across the world, four were in India including the Indian Himalayan region, north-eastern India, Nicobar group of islands, and Western Ghats. Expressing concern over the Eastern Himalayas, he said that due to human interference and climate change biodiversity in Arunachal Pradesh is gradually diminishing. The state of biodiversity and its significance were comparatively poorly known to conservationists in north-eastern India due to low priority in research, inaccessibility, and remoteness.

The panelists in on-line panel discussion organised by NEERI and Vijnana Bharati to mark World Environment Day.

However, one of his biological expeditions in this biodiversity hotspot resulted in the discovery of Arunachal macaque 'Macaca munzala' in the high altitudes of western Arunachal Pradesh, a primate new to science. He said. "We need to think about welfare of local people as human welfare is linked to preservation of biodiversity in a variety of ways. We also need to preserve our traditional knowledge to conserve biodiversity of north-eastern India." He advocated participation of local community and re-introduction of critically endangered species, as was done in the case of pigmy hog-a mammal found in the north-eastern region.

Dr Apte said that while focusing on tiger, other species were neglected. "It is time we move from species-specific conservation projects to landscape conservation to sustain all species," he said.

Prof Bhakre said that the feathers of birds might provide clues to air pollution. Artificial lighting is threatening urban biodiversity and suitable species need to be selected for plantation drive to conserve urban biodiversity, he cautioned. Sahasrabuddhe emphasised upon the need to elicit interest and motivation among people, especially children, to act in favour of biodiversity conservation. Dr Jakati expressed concern over the forest cover data as it did not indicate biodiversity of the region and thus not satisfy sustainability. Biodiversity surveys need to be done periodically in various ecosystems, he added.

Dr Atya Kapley, Senior Principal Scientist & Head, DRC, CSIR-NEERI, moderated the panel discussion.

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CSIR-IMMT

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Green house facility: The CSIR - Institute of Minerals and Materials Technology on the occasion of World Environment Day on Friday inaugurated a green house facility of the environment and sustainability department in its campus. The facility will cater to the immediate needs of plant research.

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