CSIR in Media

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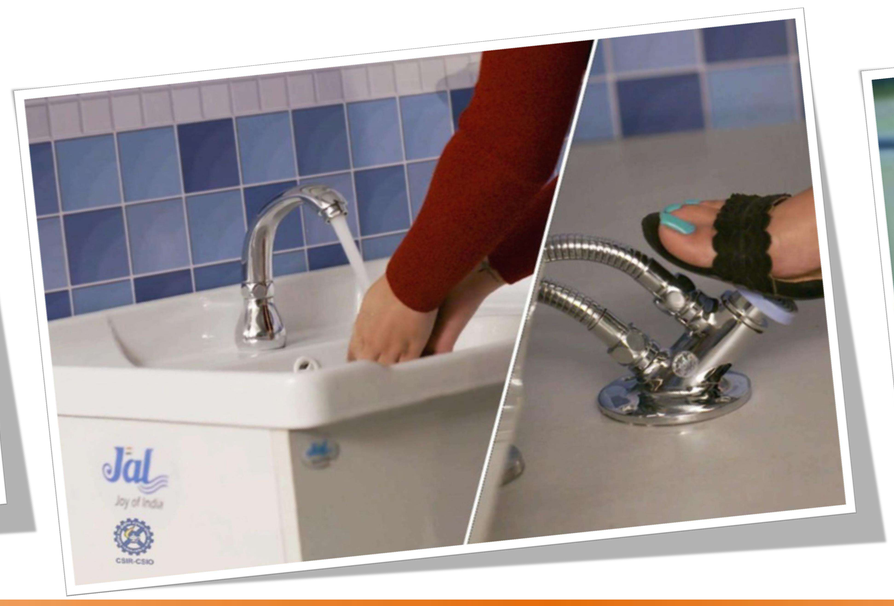
News Bulletin
06 to 10 April 2020



Produced by Unit for Science Dissemination, CSIR, Anusandhan Bhawan, 2 Rafi Marg, New Delhi

CSIR- National Chemical Laboratory ties up with BEL for production of medical devices

CSIR -NCL

10 April, 2020

Mass manufacturing ready hardware and software design will be available to manufacturers across India

CSIR's constituent Lab, CSIR- National Chemical Laboratory (NCL) Pune, has been leading the way in promoting innovation and entrepreneurship through its Venture Centre for the past decade and new innovations from there are helping in fight against the Corona outbreak. Two of the recent innovations that can help in the mitigation of the Corona outbreak are featured:

1)Digital IR Thermometer: CSIR-NCL's Venture Centre's incubatee BMEK headed by Pratik Kulkarni has developed hand held digital IR thermometer which is an important component of measures to mitigate Coronavirus outbreak. Mobile phone or power banks can be used as a power source. The design of IR thermometers is available open source where in the complete know-how with mass manufacturing ready hardware and software design will be available to manufacturers across India for free. This is an effort to enable a large number

of manufacturers to manufacture the thermometers and cater to their local demands. Now it is being scaled up in partnership with BEL (Bharat Electronics, Pune). About 100 prototype units will be made for pilot distribution and testing at TUV Rheinland India, Bangalore.

2)The second innovation is the oxygen enrichment unit (OEU): One of the critical needs of COVID-19 patients is the need to meet the oxygen requirements due to their lungs being compromised. Oxygen enrichment unit (OEUs) to increase the oxygen concentration from the ambient air of 21-22% to 38-40% have been developed by CSIR-NCL and Genrich Membranes, a start-up innovation venture founded by Dr. Ulhas Kharul, Head of Polymer Science & Engineering Divsion at NCL. OEU is hollow fiber membrane bundles for separation and filtration of ambient air to produce enriched oxygen for patients in home and hospital settings. The prototype units are ready at Pune and will be sent to TUV Rheinland India, Bangalore for testing/validation. About 10 OEU machines will be assembled by NCL BEL in Pune and after the trials, scale up will be done.

Published in:
Manufacturing Today India

Disinfection Walkway and Road Sanitizer Unit by CSIR-CMERI), Durgapur to fight COVID 19

CSIR–CMERI

10 April, 2020

New Delhi: In the wake of the Novel Coronavirus (COVID 19) wreaking havoc across the World, the Council of Scientific and Industrial Research (CSIR), has been stepping up efforts to deliver S&T solutions. One of the CSIR's premier engineering lab based in Durgapur, CSIR-Central Mechanical Engineering Research Institute (CMERI) has developed technologies and products, which can help in countering the menacing virus.

The following are a few of the customized technologies which are the need of the hour:

Disinfection Walkways: The Disinfection Walkway can be considered to be one of the most comprehensive Disinfectant Delivery Systems available. The Walkway ensures maximum target coverage with minimum shadow area of an individual. The Disinfection Walkways can be deployed at multiple critical locations such as Isolation/Quarantine facilities, Mass Transit System Entry points, Medical Centres and any other location with a considerable amount of footfall.

Two variants of the Disinfection Walkway developed by CSIR-CMERI are:

Pneumatic Variant Disinfection Walkway: This variant of Disinfection Walkway deploys Six Bar pressure Air Compressor to ensure optimum mist formation. The embedded sensors of the Walkway ensure that the operational time of the system can be varied within a range of 20 seconds to 40 seconds. Though the initial cost of this

variant is relatively higher, the operating cost of this system is much less, owing to optimum usage of disinfectant in this system. This has been installed at CMERI and the dimensions of the Walkway at the CMERI Institute Main Gate are 2 metre height by 2.1 metre length and 1 metre width.

Hydraulic Variant Disinfection Walkway: It deploys 1 hp pressurised motor High Velocity pump with necessary set up nozzles to ensure optimum mist formation. The initial cost of this variant is relatively lower. The embedded sensors of the Walkway ensure that the operational time of the system is just within a range of 20 seconds to 40 seconds. This variant of Disinfection Walkway has been installed at the CMERI Medical Centre. National Science Centre, Delhi, Durgapur Municipal Corporation, and Ishwar Chandra High School, Durgapur have expressed interest in installing the Disinfectant Walkway.

Road Sanitizer Unit:

The CSIR-CMERI Road Sanitizer Unit is a tractor-mounted Road Sanitizing System. This Road Sanitization unit can be effectively deployed in long stretches of highways, vicinity of toll plazas etc, where there is a massive volume of traffic and higher chances of infection spreading. It can also be deployed in Housing Complexes, Office Complexes, Sports Arenas, Apartment buildings etc.

The Road Sanitizer has a span of 16 feet, which uses 15 to 35 bars of pressure to ensure effective delivery of the sanitizer. 12 nozzles are used to ensure optimum radial coverage of sanitizer. The system utilizes a 2000 to 5000 litres tank with a pump of 22 LMP which can be used to sanitize a road stretch of up to 75 kms.

Asansol Municipal Corporation after Inspection of the Unit has placed an order for four such systems, of which one has already been delivered. Durgapur Municipal Corporation has also expressed interest for the Unit and procedural negotiations are under progress.

Some MSMEs and Small Business Clusters have also expressed interest for the Unit and interactions are underway for the same.

Published in:
India Education Diary

CSIR-CMERI

10 April, 2020

कोविड 19 के खिलाफ सीएसआईआर-सीएमईआरआई ने विकसित किया दो प्रकार का डिसइन्फेक्शन वॉकवे

दुर्गापुर. जब दुनिया भर में कोरोना वायरस यानी कोविड 19 कहर बरपा रहा है, ऐसे समय में वैज्ञानिक और औद्योगिक अनुसंधान परिषद (सीएसआईआर) ने वैश्विक महामारी कोरोना से निबटने के लिए डिसइंफेक्शन वॉकवे वितरित करने के लिए आगे कदम बढ़ाया है.सीएसआईआर-सेंट्रल मैकेनिकल इंजीनियरिंग रिसर्च इंस्टीट्यूट, दुर्गापुर ने प्रौद्योगिकियों और उत्पादों को विकसित करने के लिए अपने संसाधनों को प्रभावी ढंग से संचालित किया है, जो कि वायरस से निबटने में मदद करते हैं. डिसइंफेक्शन वॉकवे : डिसइंफेक्शन वॉकवे को उपलब्ध सबसे व्यापक डिसइंफेक्टेंट डिलिवरी सिस्टम में से एक माना जा सकता है. वॉकवे किसी व्यक्ति की न्यूनतम छाया क्षेत्र के साथ अधिकतम

लक्ष्य कवरेज सुनिश्चित करता है.

डिसइंफेक्शन वॉकवे दो प्रकार के हैं:

१) पनेउमाटिक वैरिएंट डिसइंफेक्शन वॉकवे: डिसिन्फेक्शन वॉकवे का यह वैरिएंट इंस्टीट्यूट मेन गेट पर लगाया गया है. यह इष्टतम धुंध गठन सुनिश्चित करने के लिए छह बार दबाव वायु कंप्रेसर को तैनात करता है. संस्थान मेन गेट पर वॉकवे के आयाम 2.1 मीटर लंबाई और 1 मीटर चौड़ाई से 2 मीटर की ऊंचाई पर हैं. हालांकि इस संस्करण की प्रारंभिक लागत अपेक्षाकृत अधिक है. इस प्रणाली की परिचालन लागत बहुत कम है. इस प्रणाली में कीटाणुनाशक के इष्टतम उपयोग के कारण वॉकवे के एम्बेडेड सेंसर यह सुनिश्चित करते हैं कि सिस्टम का परिचालन समय 20 सेकंड से 40 सेकंड के भीतर विविध हो सकता है.

२) हाइड्रोलिक वैरिएंट कीटाणुशोधन वॉकवे : डिसइंफेक्शन वॉकवे के इस संस्करण को सीएमईआरआई मेडिकल सेंटर में स्थापित किया गया है. यह इष्टतम धुंध गठन सुनिश्चित करने के लिए 1 hp दबाव मोटर उच्च वेग पंप को तैनात करता है. संस्थान मेन गेट पर वॉकवे के आयाम 1.7 मीटर लंबाई और 1.8 मीटर चौड़ाई से 2 मीटर की ऊंचाई पर हैं. इस संस्करण की प्रारंभिक लागत अपेक्षाकृत कम है. वॉकवे के एम्बेडेड सेंसर यह सुनिश्चित करते हैं कि सिस्टम का परिचालन समय 20 सेकंड से 40 सेकंड के भीतर विविध हो सकता है. डिसइंफेक्शन वॉकवे को कई महत्वपूर्ण स्थानों जैसे आइसोलेशन/क्वारेंटाइन फैसिलिटीज, मास ट्रांजिट सिस्टम एंट्री पॉइंट्स, मेडिकल सेंटरों और किसी भी अन्य स्थान पर काफी मात्रा में फुटफॉल के साथ लगाया जा सकता है.

Published in:
Prabhat Khabar

IIIM joins hands with CSIR to conduct COVID-19 sample testing in J-K

CSIR -IIIM

09 April, 2020

According to the Ministry of Health and Family Welfare, the total number of coronavirus positive cases in Jammu and Kashmir has climbed to 116.

The Council of Scientific and Industrial Research (CSIR) and Indian Institute of Integrative Medicine (IIIM) are working together for testing COVID-19 samples.

Dr Ram Vishwakarma, Director, IIIM said that samples of 400 people have been collected.

"In the coronavirus crisis, CSIR and our institution Jammu are contributing to three things. The main problem is testing. Along with Jammu Medical College and state government we are doing testing. We have tested samples of 400 people. This help to segregate those people who are infected with COVID-19," he said.

Vishwakarma said IIIM is also conducting synthesis procedure of 15 molecules which are in different stages of clinical trials.

"The new medicines which are in clinical trials in India and abroad. They are in advance phase 2 and phase 3 trials. If they are approved there, even then our people will not be benefited. So, we want to prepare the synthesis procedure of 15 molecules which are in clinical trials. As soon as they are approved, we will able to manufacture them quickly," he said.

According to the Ministry of Health and Family Welfare, the total number of coronavirus positive cases in Jammu and Kashmir has climbed to 116.

Published in:

Hindustan Times

Covid-19: Bengal mulls disinfection walkways to keep people safe

CSIR -CMERI

09 April, 2020

The authorities in West Bengal are exploring the feasibility of installing sanitising gateways and disinfecting walkways to keep SARS-CoV-2, which causes coronavirus disease (Covid-19), at bay, as markets, hospitals and some government offices are still open, despite the ongoing 21-day nationwide lockdown enforced since March 25 to contain the pandemic.

Scientists from a government research institute – the Central Mechanical Engineering Research Institute (CMERI) - have built prototypes of two sensor-based disinfecting walkways, which could help people to get sanitised in less than 40 seconds. The Kolkata Municipal Corporation (KMC) has started a pilot project, where sprinklers have been installed at one of the entry points of the century-old Hogg Market, one of the busiest markets in the city.

The Durgapur Municipal Corporation (DMC) has shown interest in the prototypes developed by the CMERI.

"A person needs to enter the chamber-like walkway and stand inside it. The embedded sensors will detect the person's presence and trigger a mist of disinfectant. This would kill the virus and disinfect you. It could take any time between 20 and 40 seconds depending on what type of disinfectant one is using," said Harish Hirani, director, CMERI.

The walkways can be deployed at the entry and exit points of isolation and quarantine facilities, hospitals, metro stations, shopping malls, and offices among other places where social distancing is few and far between and the chances of getting infected are abnormally high.

The CMERI is India's apex research and development institute for mechanical engineering under the Council of Scientific and Industrial Research (CSIR). Two variants developed by the institute have been installed on its campus -- one at the main gate and another at its medical centre.

"We've developed two variants. While the Hydraulic Variant Disinfection Walkway is rather simple and less costly, as it uses a pump, the Pneumatic Variant Disinfection Walkway uses a compressor and is costlier. The wastage of disinfectant is, however, less in the latter," said Ajoy Roy, one of the scientists of the institute.

The Hogg Market's contraption is basic. "The moment a person passes through the market's gate, sprinklers spray disinfectant to sanitise the passerby. We're using diluted hydrogen peroxide as a disinfectant," said a KMC official.

The KMC is planning to install more such 'sanitising corridors' after the lockdown is lifted, as all the markets will open.

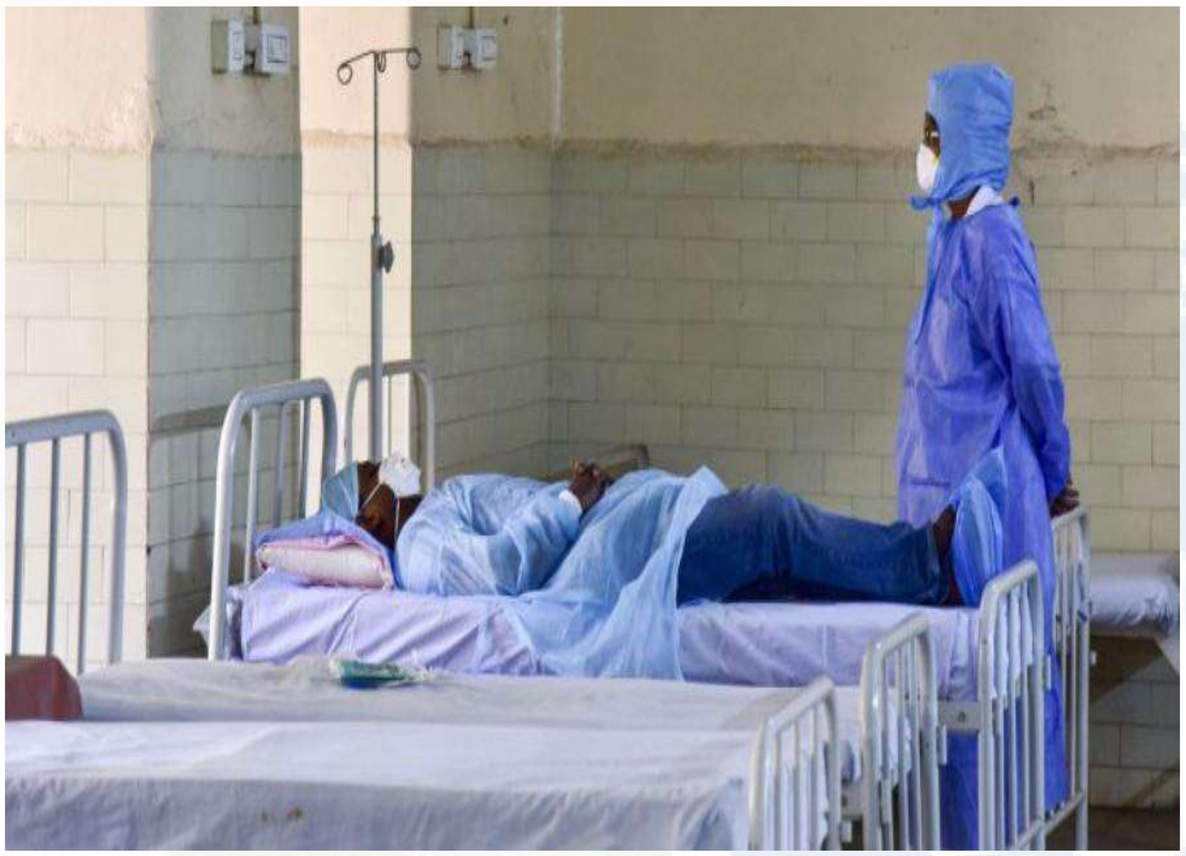
"The CMERI scientists had approached us. Our technical experts would visit their campus to get a sense of the two variants installed," said Dilip Kumar Agasty, mayor, DMC.

Published in:
Hindustan Times

CCMB starts sequencing isolates of Coronavirus

CSIR–CCMB

09 April, 2020



The CCMB plans to sequence hundreds of isolates in the next two-three weeks.

HYDERABAD: Hyderabad-based Centre for Cellular and Molecular Biology (CCMB) has started genome sequencing the isolates of novel Coronavirus. The CCMB plans to sequence hundreds of isolates in the next two-three weeks. Sequencing a large number of virus isolates can help in understanding various aspects of the virus — the path it took in spreading the infection, how it spread and from where it spread.

"With the help of genome sequencing, we can track the relatedness between different patients. For example, we can tell which group of people contracted the infection from Delhi or Kerala, where the virus originated, whether from China or Italy. We can also find which type of the virus is spreading fast. The data from sequencing will also be useful for drug designing process," CCMB Director Dr RK Mishra told Express. Once the sequencing is done, it will also be made public for further research.

Published in:

New Indian Express

CSIR-NEERI

09 April, 2020

High temperatures, pneumonia vaccine, alcohol won't protect you from Covid-19, says scientist

Manka.Behl@timesgroup.com

Nagpur: Temperatures higher than 25 degree Celsius do not prevent coronavirus, neither do vaccines against pneumonia. These and many other myths related to the disease were busted during the webinar observing 62nd Foundation Day of CSIR's National Environmental Engineering Research Institute (Neeri).

Due to the ongoing lockdown, the event was held online on Wednesday afternoon. Rup Lal, senior scientist at the National Academy of Sciences and platinum jubilee fellow at New-Delhi based The Energy and Resources Institute (TERI), stated that people need to stay away from misinformation.

"Drinking alcohol, being able to hold your breath for 10 seconds, vaccines and high temperatures do not protect you from coronavirus. Also, the disease cannot be transmitted through mosquito bites," said Lal.

Dr Sadhana Rayalu, chief scientist and head of environmental materials division, distributes personal protective equipments, prepared by Neeri, to corporators, NGOs, institutions and staff

Stating that the asymptomatic patients are turning out to be a serious problem, the scientist stressed that virology and microbiology should be introduced in the political system. "Our policymakers need to be aware of the havoc microorganisms and viruses can create," Lal added.

Further stating that strains isolated from USA are the most evolved, Lal stated this rapid evolution needs to be considered seriously for the development of drug or vaccine to combat the Covid-19.

BUSTING MYTHS

Scientists also drew parallels between the ongoing pandemic and climate change. Rajan Welukar, former vice-chancellor of GH Raisoni University, pointed out that policymakers should learn from coronavirus and implement them to combat the bigger battle of climate change.

"There is no better time than this to realize that investments in climate resilient infrastructure are very important. Coronavirus is giving us a wake-up call," said Welukar. He added that climate change was a challenge much more dangerous than the pandemic. "The curve of Covid-19 will become normal. But the problem of climate change will only increase," he said.

Neeri director Rakesh Kumar highlighted some prominent developments of the institute and its future projects. "One of the megaprojects is metagenomics study of Ganga river from its origin to end. We have also developed a noise pollution application which is currently being used worldwide by almost 3 lakh people," said Kumar.

The director further announced all employees of Neeri will be contributing their one day's salary to combat coronavirus for the next 12 months.

The institute also distributed personal protection equipments including gloves, sanitizers and masks to corporators and different NGOS.

Published in:

Time Of india

CSIR's CECRI helping people through scientific service in mitigating COVID-19

CSIR -CMERI

08 April, 2020

In line with Council of Scientific and Industrial Research CSIR's special efforts, its constituent lab Central Electrochemical Research Institute, CECRI at Karaikudi in Tamil Nadu, has come out with helping hands to reach out to the society through scientific service in mitigating COVID-19. CSIR-CECRI has prepared series of lab made PPEs that include Hand sanitizer solutions, as per the WHO recommendations, Hand wash solutions using coconut oil and Sodium hypochlorite based disinfectant solutions.

These solutions were packed in containers, printed for instructions to use and distributed to the needy organizations at free of cost. So far, around 350 Litres of Hand sanitizers, 250 Litres of Hand wash solutions and 1000 Litres of Hypo-disinfectants have been distributed. The beneficiaries include Karaikudi Municipal Corporation, Devakottai Municipal Corporation, Sivaganga Govt. Medical College Hospital, Govt. Hospital at Karaikudi, SP office in Sivaganga and other police stations in and around Karaikudi.

CECRI plans to continue this distribution till the COVID-19 situation restores to normalcy. CECRI has recently started offering digital training of making face masks by interested rural women to help them as well as to cater to the needs of their neighbourhood. On the other hand, 3D printed face shield with reusable options has been in-house printed and gifted to the Dispensary staff of CSIR-CECRI to protect them effectively from sneeze, cough and aerosol communication of the patients.

CECRI is tying up with industry to scale up the mass production and has partnered with a company 3D Lycan, Bangalore for Face Shield. CECRI is also transferring its own technology of electrochemical synthesis of hypo-chlorite (Disinfectant). This is transferred.

to an interested MSME for its mass production and supply as disinfectant spray for its wider deployment in public places and hospitals

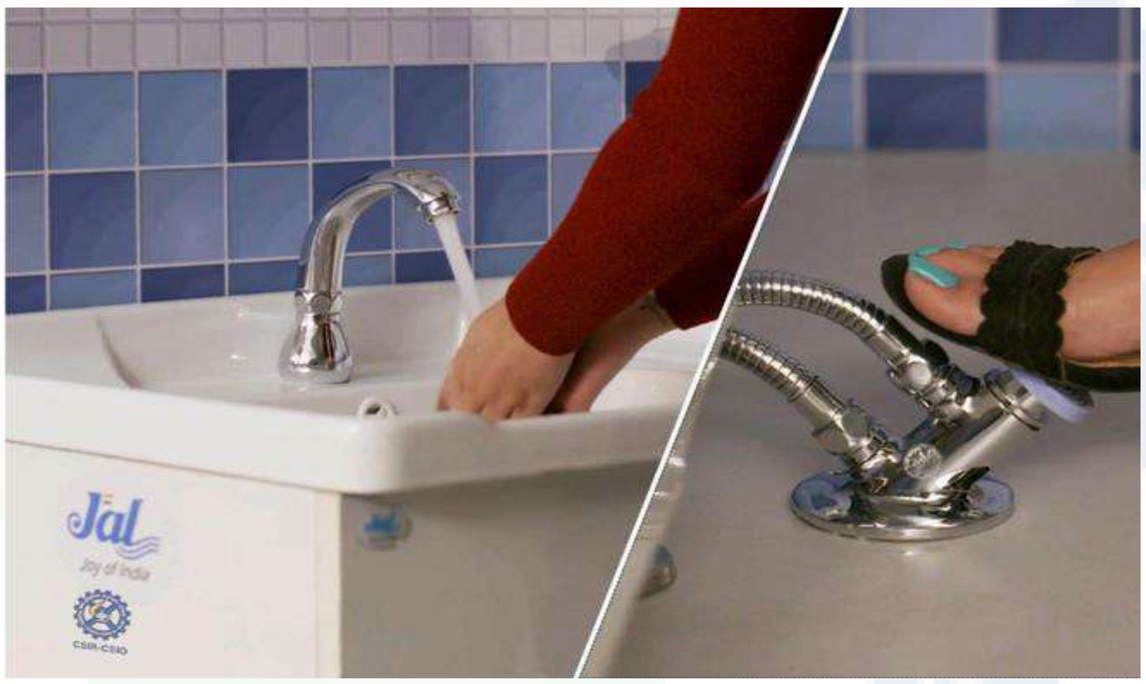
Published in:

Newsonair

CSIO develops foot-operated water dispensing faucet

CSIR–CSIO

08 April, 2020



As part of efforts to mitigate the spread of Covid-19, a 'Foot Operated Water Dispensation Faucet' has been developed by the Central Scientific Instruments Organisation (CSIO) here, in collaboration with a Mohali-based firm.

The device ensures hands-free delivery of water from a plumbing system to ensure defense against cross infections from viruses and microbes as well as preventing the wastage of water.

Announcing the development, Dr Sanjay Kumar, Director, CSIO, said they had developed the device to ensure protection from microbes and virus droplets and thus, its outreach vary at household, workplace, public places, hospitals, schools and industry.

Vivek Kapoor, Director, Jal Bath Fittings, Mohali, said the devices were being installed at some hospitals of the region. He said the company was ready with necessary infrastructure and consumables to scale up its production and subsequent installation at places across India in a short span of time.

According to Dr Vinod Karar, Chief Scientist, CSIO, the mechanism can be easily installed on the existing faucet systems for multi-level flow regulation without affecting the integrity and existence of original water tap systems. It also allows continuous water flow without any constant user engagement of the control pedal.

Respiratory viruses such as Covid-19 spread

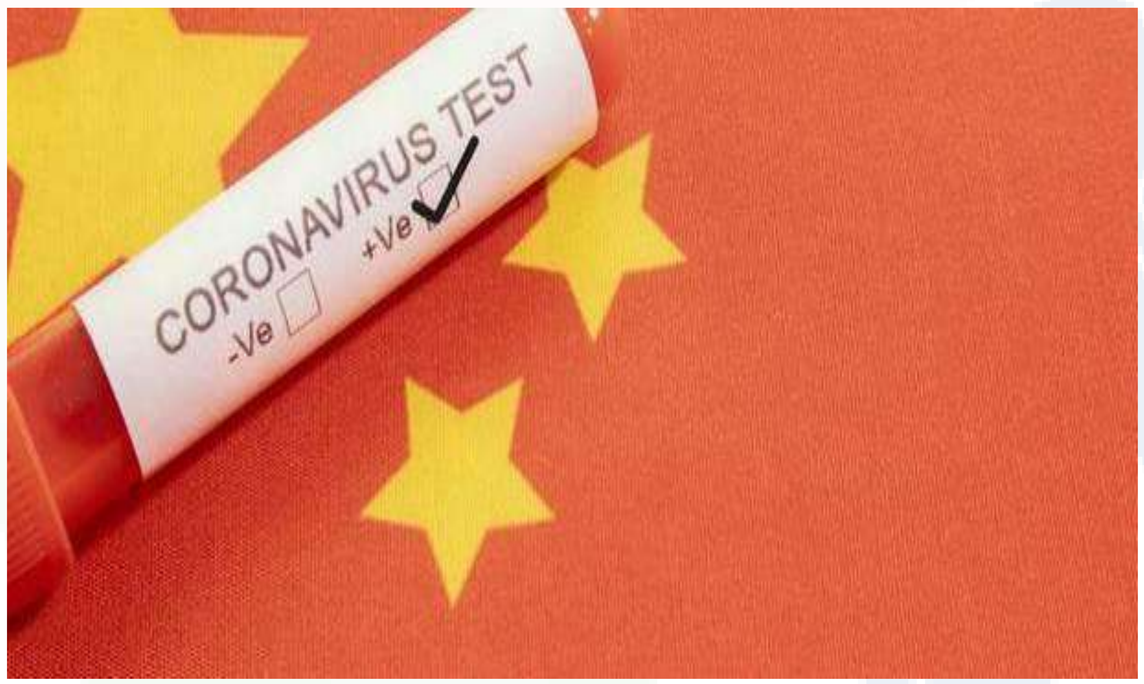
when mucus or droplets containing the virus get into your body through your eyes, nose or throat. Most often, this happens through our hands. Hands are also one of the most common ways that the virus spreads from one person to the next.

Published in:
Tribuneindia

Indian researchers begin work on novel coronavirus genome sequencing

CSIR–CCMB,IGIB

07 April, 2020



Novel coronavirus is a new virus and researchers are trying to figure out all the different aspects of it. Two institutes of Centre for Scientific and Industrial Research (CSIR) Centre for Cellular and Molecular Biology (CCMB), Hyderabad and Institute of Genomics and Integrative Biology (IGIB), New Delhi have started working together on the whole genome sequencing of novel coronavirus.

"This will help us to understand the evolution of the virus, how dynamic is it and how fast it imitates.

This study will help us to know how fast it evolves and what are the future aspects of it" said Dr Rakesh Mishra, Director, CCMB while speaking with India Science Wire.

Whole-genome sequencing is the method used to determine the complete DNA sequence of a specific organism's genome. The approach for sequencing the latest coronavirus involves getting samples from patients who are tested positive and sending these samples to a sequencing centre. Genome sequencing need very large number of samples for study. "Without much data if you make any conclusion that may not be right. At the moment we are accumulating as many sequencings as we can and once, we have few hundred sequencing with us then we will be able to make many inferences from many biological aspects of this virus" said Dr Mishra

Three to four people from each institute are continuously working on the whole genome

sequencing. In the next 3-4 weeks researchers would be able to get at least 200-300 isolates and this information would help them to make some further conclusion about behaviour of this virus. For this purpose, National Institute of Virology (NIV), Pune has also been requested to give virus that has been isolated from different places. This will help the scientists to cover the whole country to get a bigger and clearer picture. This will help the institutes to establish the family tree of the virus. Dr Mishra told that based on this they can study from where the virus has come which strain has more similarity, the varied mutations and which strain is weak and which one is strong. "This will give some strategic clues to understand it and to implement better isolation strategies" he said.

In addition to this, the institute has increased the testing capacity. A large number of people are undergoing testing and they would go for mass screening. This will help them to identify the number of positive cases and then send them for isolation or quarantine.

Published in:
The Hindu Business Line

CSIO''s new machine to disinfect more effectively, help fight coronavirus

CSIR -CSIO

07 April, 2020

CSIO''s new machine to disinfect more effectively, help fight coronavirus

New Delhi, April 7 (IANS) The Chandigarh-based CSIO has developed an electrostatic disinfectant machine which will help in the fight against coronavirus in the country

The Central Scientific Instruments Organisation (CSIO) is a national laboratory of CSIR dedicated to research, design and development of scientific and industrial instruments.

The Council of Scientific and Industrial Research had entered into an agreement with BHEL and drug company Cipla and TCS to fight coronavirus.

The order to manufacture the new equipment has been given to Bharat Heavy Electrical Limited, which is currently making it at its Haridwar unit in Uttar Pradesh. The cost of the machine, around Rs 50,000, can be further reduced with mass production, researchers believe.

The machine can spray molecules as small as 10-20 microns of a disinfectant as compared with 40-50 microns by machines currently available in the market, making it more effective in disinfecting any surface.

CSIO scientist Manoj Patel told India Science Wire that the machine can be used for sanitising both indoors and outdoors.

The machine can be used in the fight against coronavirus even though it was originally meant to be used at public places like bus stands, railway stations and airports.

Dr Patel said it could prove 80 per cent more effective in killing harmful microbes than other machines in use.

Published in:
Outlookindia

CSIR-CCMB

07 April, 2020

Telangana Governor interacts with CCMB Director on COVID 19

Hyderabad, Apr 7 (UNI) Telangana Governor Dr Tamilisai Soundararajan on Tuesday interacted with Dr Rakesh Mishra, Director, CCMB, Hyderabad through video conference and discussed about the various available facilities for testing the COVID-19 viral infection.

The Governor has advised the institute to take up research work on the use of our traditional herbal medicines. She also asked the team of CCMB scientists to study the use of tribal medicine in prevention and spreading of COVID-19 and other contagious diseases.

The Governor thanked and appreciated the efforts of the Director, CCMB and his team of scientists. The Director, CCMB has invited the Governor to their institute once normalcy is restored, a Raj Bhavan Communique here said on Tuesday.

Earlier, the Governor distributed Food packets and groceries to the poor and needy, especially the labourers at the Raj Bhavan premises.

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HDFC Bank Hyderabad Zonal branch has sponsored the grocery packets consisting of 2kg rice, 1/2 kg daal, 250 grams oil, 1 pickle packet, 100gm turmeric, 100 GMs red chilli powder, 100 gms garam
masala.

The bank has given 100 masks to the needy people. HDFC bank zonal head Mr RVG Kulkarni and other senior bank officials also participated, the Communique added.

Published in:
Uniindia

CSIR-IMMT

07 April, 2020

IMMT builds hands-free liquid soap dispenser

Sandip Mishra | TNN

Bhubaneswar: The Institute of Minerals and Materials Technology (IMMT) here has developed a one-of-its-kind hand-washing device that does not require the user to touch it in any way.

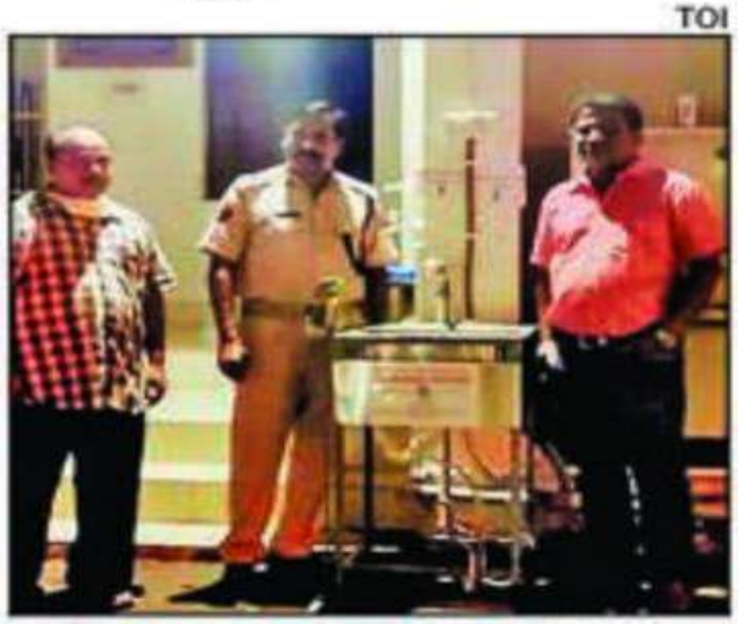
The portable machine, which can be mounted on a frame or installed on a wall, has two levers — one to extract liquid soap and the other to release water. Both levers can be operated with feet, which eliminates the need to touch either the soap or the pump unlike normal soap dispensers.

The scientists who have developed the machines at this CSIR institute here said the idea behind it was to reduce, as much as possible, the need to touch any surface. Three machines have installed at the institute itself and one has been donated to Saheed Nagar Police Station, they said.

The scientists said the machine was a simple one. It has a small case to hold the liquid soap and a basin to wash hands.

"The whole world is going through a challenging time. While frontline workers and governments are doing their best to contain the spread of the virus, we at our institute are also trying to contribute to the battle," IMMT director Suddhasatwa Basu said, adding that the next machine would be installed at AIIMS Bhubaneswar.

TOI



INNOVATION COUNTS: The hands-free hand-washing device

Published in:
Time Of india

CSIR forms five verticals to combat COVID-19

CSIR –IGIB,CCMB,IICT,IITR,CECRI,NEIST,CFTRI,IHBT,IIIM 06 April, 2020

Council of Scientific & Industrial Research (CSIR) has galvanised all its labs into action to battle COVID-19 in the last few weeks, with the Director-General Shekhar C. Mande, forming five verticals to coordinate various research activities into drugs, vaccine, testing, sanitisers, hospital equipment and the likes.

The digital and molecular surveillance is led by its directors Dr. Anurag Agarwal of Institute of Genomics & Integrated Biology (IGIB), rapid and economical diagnosis by Dr. Rakesh Mishra of Centre for Cellular & Molecular Biology (CCMB), development of new drugs/re-purposing of drugs by Dr. S Chandrashekhar of Indian Institute of Chemical Technology (IICT), hospital assistive devices by Dr. Jitendra J. Jadhav of National Aerospace Laboratories, personnel protective equipment and supply chain & logistics by Dr. Anjan Ray of Indian Institute of Petroleum.

A CSIR Strategic Group (CSG) has also been constituted with a video 'zoom' meeting organised every day and presided over by the DG to review the progress made by these verticals. Any lab or scientist willing to contribute to any of the five verticals can write to the lead directors mentioned above. The Director of Indian Institute of Integrative Medicine (IIIM), Dr. Ram A. Vishwakarma, has been made the overall coordinator.

Sequencing of coronovirus is being done at IGIB and CCMB including that of the host and virus RNA. Incidentally, the former has developed a paper-based diagnostic test while CCMB is setting up viral cultures for testing of drugs and making a vaccine, said informed scientific sources, privy to the meeting of top heads.

CSIR DG has mentioned the contribution of Dr. Debojyoti Chakraborti IGIB, for developing crispr/case-based paper diagnostics, Dr. Anthony Adlagatta of IICT for producing reverse transcriptase in large quantities, CCMB scientists for developing cell line and virus culture, sanitisers by IICT, Indian Institute of Toxicology Research (IITR), Central Electro Chemical Research Institute CECRI), North East Institute of Science and Technology (NEIST), etc., food packets by Central Food Technological Research Insitute (CFTRI), and Institute of Himalayan Bioresource Technology (IHBT).

Open invitation

Dr. Mande informed during the interaction that a platform for open innovation will be developed and hosted at the CSIR headquarters and a partnership has already been formed with the Ministry of Ayush for development of four botanicals/drugs.

CSIR labs are already working with private sector giants like Reliance for PPEs, diagnostics; Tatas for hospital assistive devices; Intel & TCS for digital surveillance; CIpla for repurposed drugs; Cadila for coronavirus therapy; Bharat Biotech for inactivated vaccine development; BHEL for electrostatic spray and ventilator; BEL for thermometer and Oxygen enrichment unit, etc,

Three of its institutes CCMB, IGIB and IIIM have been allowed to take up Covid-19 testing and other eight other CSIR labs too are ready to take it up once regulatory approvals come, said informed scientific sources.

Published in:
The Hindu

CSIR-CSIO

06 April, 2020

भास्कर खास • भेल हरिद्वार में प्रोडक्शन शुरू, सीएसआईओ चंडीगढ़ ने बनाई है तकनीक

कोविड-19 से जंग लड़ने के लिए मशीन हुई तैयार, 10-20 माइक्रोन के ड्रॉपलेट्स को भी करेगी खत्म

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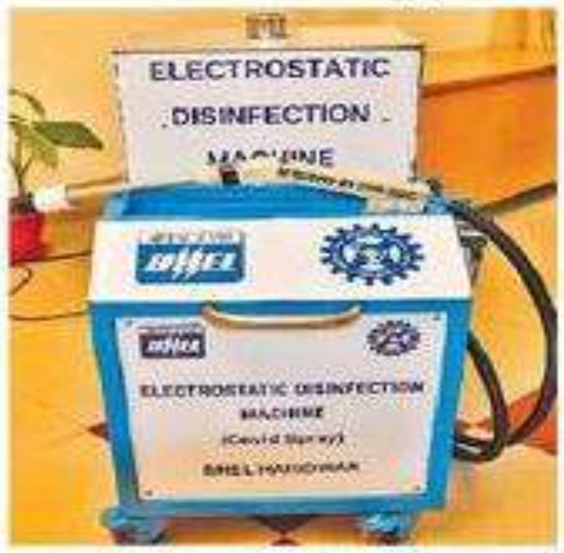
सीएसआईओ सीएसआईआर के वैज्ञानिकों की बनाई हुई डिसइन्फेक्शन मशीन अब कोविड-19 के खिलाफ देशभर में चल रही जंग में यूज होगी। इस डिसइन्फेक्शन मशीन की तकनीक को भारत हेवी इलेक्ट्रिकल्स लिमिटेड (भेल) हरिद्वार को सौंप दिया गया है और उन्होंने बड़े स्तर पर इस मशीन का प्रोडक्शन भी शुरू कर दिया है।



डॉ मनोज कुमार पटेल और उनकी टीम द्वारा तैयार इस मशीन में ड्रॉपलेट का साइज 10 से 20 माइक्रोन तक है जिसके कारण सतह पर किसी भी तरह के वायरस या इंफेक्शन के रहने की संभावना बिल्कुल नहीं रहेगी। इससे पहले बाजार में मौजूद मशीनों में ड्रॉपलेट्स आइस 40 से 50 माइक्रोन तक होता है। डॉ मनोज की मशीन में ना सिर्फ पूरा सरफेस कवर होगा बल्कि इसमें दवा का इस्तेमाल भी आधा हो जाएगा।

यह दवा खासतौर पर अस्पतालों, एयरपोर्ट बस स्टैंड होटल और रेलवे को ध्यान में रखकर बनाई गई थी ताकि वहां पर आसानी से सफाई हो सके। अब इसका उपयोग सैनिटाइज करने के लिए होगा। सीएसआईआर मिशन मोड प्रोजेक्ट फूड एंड कंज्यूमर सेफ्टी सलूशन के तहत तैयार मशीन पर 40 से 50000 का खर्च आया था। भेल में मास प्रोडक्शन के बाद इसकी कीमत और भी कम हो जाएगी। • शेष पेज 9 पर

• मशीन की खासियत...

इलेक्ट्रोस्टेटिक डिसइन्फेक्शन मशीन की खासियत यह है कि इसका स्प्रे यूनिफार्म है और ड्रॉपलेट्स आम मशीनों के मुकाबले बहुत छोटी। इसका फ्लो रेट 110 मिलीलीटर प्रति मिनट है, ड्रॉपलेट्स आई 10 से 20 माइक्रोन लेवल, एयर प्रेशर की जरूरत रहेगी और बैटरी 10 से 12 घंटे चलेगी। इसमें कोई भी दवा उपयोग की जा सकती है।

Published in:
Dainik Bhaskar

CSIR-CDRI,IITR

06 April, 2020

सीडीआरआइ और आइआइटीआर में जांच के लिए तैयारियां पूरी

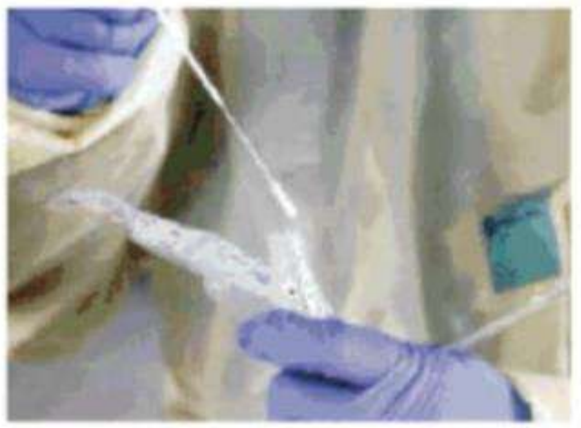
हारेगा कोरोना ▶ विपक्ष के आरोपों को संस्थानों के वैज्ञानिकों ने नकारा

केमिकल व अन्य जरूरी सामान मिलते ही शुरू की जाएगी जांच

रूमा सिन्हा, लखनऊ

कोरोना वायरस की जांच को लेकर विपक्ष द्वारा कहा जा रहा है कि देश में इसकी जांच कम की जा रही है। यदि ज्यादा लोगों की जांच की जाए तो संभवतः कोरोना से संक्रमित लोगों का आंकड़ा बढ़ सकता है। केंद्रीय औषधि अनुसंधान संस्थान (सीडीआरआइ) और भारतीय विश्व विज्ञान अनुसंधान संस्थान (आइआइटीआर) के वैज्ञानिक इससे सहमत नहीं हैं। उनका कहना है कि इंडियन काउंसिल ऑफ मेडिकल रिसर्च (आइसीएमआर) द्वारा इस संबंध में समय रहते हर जरूरी कदम उठाए जा रहे हैं। भारत में अभी कम्युनिटी स्प्रेड नहीं है। ऐसे में हमारे यहां की जा रही जांचों की संख्या कम नहीं है। बीते एक सप्ताह में ही हजारों जांचें की गई हैं।

साथ ही आइसीएमआर लगातार इस प्रयास में भी है कि ज्यादा से ज्यादा लैब में कोरोना की जांच सुविधा उपलब्ध हो। इस कड़ी में सीएसआइआर के महानिदेशक ने भी अपनी प्रयोगशालाओं को जांच के लिए तैयार होने के निर्देश दिए हैं। इस कड़ी में सीडीआरआइ व आइआइटीआर लैब में जांच के लिए तैयारियां शुरू कर दी गई हैं। सीडीआरआइ में वायरोलॉजी पर काम पहले से ही होता है।



प्रतीकात्मक

वहीं, आइआइटीआर ने भी अपने वैज्ञानिकों को किंग जॉर्ज चिकित्सा विश्वविद्यालय (केजीएमयू) के माइक्रोबायोलॉजी विभाग द्वारा ट्रेनिंग पूरी करवा दी है। दोनों ही लैब में आइसीएमआर के प्रोटोकॉल के तहत लॉजिस्टिक के लिए ऑर्डर दिए जा चुके हैं और जैसे ही किट व अन्य जरूरी सामान की आपूर्ति होती है, यहां कोरोना की जांच का कार्य शुरू कर दिया जाएगा।

आइआइटीआर के निदेशक डॉ. आलोक धावन ने बताया कि इस कार्य के लिए एक अलग लैब तैयार की जाएगी। इस संबंध में सोमवार को उन्होंने इंजीनियर और साइंटिस्ट की मीटिंग रखी है। उनका कहना है कि पीपीई किट के लिए आर्डर दिए जा चुके हैं। साथ ही आइसीएमआर द्वारा स्वीकृत डायग्नोस्टिक किट की भी व्यवस्था की जा रही है। जैसे ही जरूरी सामान उपलब्ध होता है, कोरोना वायरस की जांच शुरू कर दी जाएगी।

सीडीआरआइ के वैज्ञानिक बताते हैं कि सीएसआइआर दिल्ली में अधिकारी लगातार भारत सरकार के विभिन्न मंत्रालयों के संपर्क में हैं, क्योंकि कुछ सामान अमेरिका से भी आना है। ऐसे में यह कोशिश की जा रही है कि जल्द से जल्द सामान की आपूर्ति हो सके। जिससे सीएसआइआर की विभिन्न प्रयोगशालाओं में जांच का काम शुरू हो सके। सीएसआइआर की हैदराबाद और नई दिल्ली की लैब पहले से ही जांच का कार्य कर रही हैं। वैज्ञानिकों का कहना है कि कोरोना वायरस नया है, जिसके बारे में अभी बहुत ज्यादा जानकारी नहीं है। ऐसे में बायोसेफ्टी को लेकर भी पूरे एहतियात बरतने की आवश्यकता है।

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