CSIR in Media

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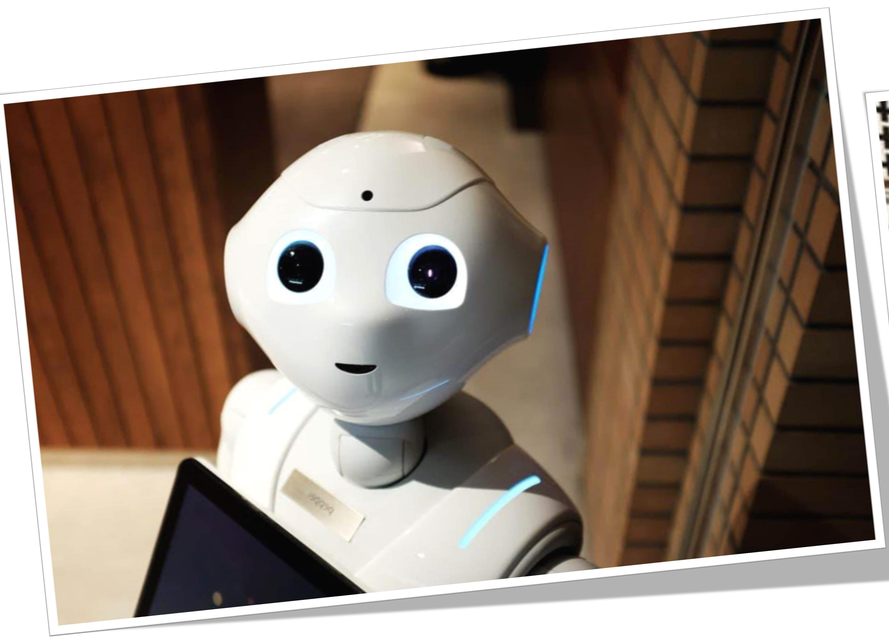
News Bulletin
26 to 30 April 2020



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

IICT develops synthetic process for Favipiravir, transfers to Cipla

CSIR -IICT 30 April, 2020

Hyderabad, (IANS): As part of its efforts for repurposing drugs in the fight against Covid-19, the Council of Scientific and Industrial Research-Indian Institute of Chemical Technology (CSIR-IICT) has developed a convenient and cost-effective synthetic process for Favipiravir.

As a collaborative effort with industry, Hyderabad-based CSIR-IICT transferred the entire process and significant quantities of pharma grade Active Pharmaceutical Ingredient (API) of Favipiravir to Cipla, a leading pharmaceutical company.

Favipiravir was developed by Fujifilm Toyama Chemical Ltd,and is an approved treatment for common influenza and is marketed in Russia, China and Japan. The generic drug is already being used for treatment of influenza and also is in clinical trials for Covid-19 in countries like China, Japan and Italy.

Cipla will be conducting the investigations prior to launching on this drug against Covid-19 in India. Cipla approached regulatory authority Drug Controller General of India (DCGI) for approval for Favipiravir to be launched in India, an official release said.

Under the auspices of Indian Council of Medical Research (ICMR), Cipla will conduct a suitable limited trial prior to marketing the product as Ciplenza.

CSIR's emphasis is on repurposed drugs as they can be quickly deployed for treatment as opposed to new drugs which need almost a decade of development.

CSIR has identified top 25 drugs/drug candidates for repurposing to provide drugs for

coronavirus patients in India. Among these top 25 drugs, Favipiravir, a broad spectrum inhibitor of viral RNA polymerase, has emerged as one of the most promising drugs.

CSIR and Cipla have a long history of working together for affordable drugs in India and globally. Many of the technologies for HIV generic drugs were established at CSIR labs and Cipla was successful in providing affordable treatment to HIV patients worldwide which led to saving millions of lives. They have assured the government that they will do the same for Favirpiravir, said the statement.

Published in:
Daijiworld

CSIR Labs such as CSIR-CFTRI, Mysore, CSIR-IHBT, Palampur, CSIR-IMMT, Bhubaneswar, CSIR-CIMFR, Dhanbad and CSIR-IIP, Dehradun providing emergency interventions

CSIR –CFTRI,IMMT,CIMFR,IIP 30 April, 2020

New Delhi: With physical distancing being the key mantra for preventing the rapid spread of the SARS-CoV-2 virus in the population, lock down has emerged as the practical solution to slowdown of the epidemic in the country. Much as it is necessary, it is also proven to cause hardship to the vulnerable section of society like the migrants and the socio economically weaker population.

Apart from being known for its R&D and S&T knowledge base,CSIR has a track record of providing emergency interventionsin the past during major calamities in the country.Whether it was the Uttarkashi and Chennai Floods or during cyclone Fani, CSIR laboratories have pitched in with their expertise and resources to provide succour and support in the form of water purification technologies, hand pumps, cyclone shelters, structural rehabilitation, and ready-to-eat nutritious food.

Says DG-CSIR, Dr Shekhar Mande, "Even as CSIR put together plans to sequence the viral genome, develop drugs and diagnostic kits and explore vaccines against COVID-19, since CSIR has developed major interventions in food-related research and technologies, we decided to provide food assistance to the migrant labour and other needy persons in various places in the country. I am happy to note that CSIR labs across Indiaare coming to aid of the needy by providing food, sanitizers, masks etc in their respective regions and beyond."

The country's most prominent food technology research institute, the Mysuru-based CSIR-Central Food Technological Research Institute (CSIR-CFTRI), has over the years developed innumerable food and food processing technologies that have not only benefited farmers but also led to highly nutritious value-added food products. This time around, CSIR-CFTRI

stepped in to provide 10 tonnes of high-protein biscuits, 1 tonne of spirulina chikki, 10 tonnes of cardamom-flavoured water, and 5 tonnes of nutrifruit bars to more than 56,000 migrant labourers, patients, doctors and police in two metropolises.The food items supplied by CSIR-CFTRI have longer shelf-life and so sustain for a longer time. They are also supplemented with micro-nutrients that boost immunity and help to fight against the SARS-CoV-2 virus.

For instance, fruit bars contain added Vitamin C and Zinc which are known to improve the immunity. Spirulina chikki, a snack,provides micronutrients from spirulina and micronutrients such as Vitamin A, Beta Carotene and easily digestible algal proteins.In the cardamom-favoured water, the spice extract (cardamom flavour) has been infused to make it a healthy alternative to commercially available beverages.

In fact, the CSIR-CFTRI also supplied 500 kg of high protein biscuits and 500 kg of high-protein rusks to the AIIMS-New Delhi for recuperating COVID-19 patients, on special request from the AIIMS.The biscuits are 60-80% richer in protein than usual biscuits.

“The nutritious products were chosen in such a way that they supplement the staple with either protein or minerals and vitamins that affect immunity positively, because the severe anxiety and uncertainty associated with lockdown and isolation need both these to be boosted,” says Dr. KSMS Raghavarao, Director, CSIR-CFTRI.

Mr Zakir Thomas, Principal Income Tax Commissioner, who undertook relief work on behalf of the Income Tax Office for migrant workers in Benguluru city “CSIR-CFTRI have been an awesome partner in this endeavour. Without any bureaucratic hindrances we could immediately distribute protein-enriched biscuits and spirulina chikkis among the migrant labour. It was heart-warming to see children relishing the products. I think this is also a fine example of taking science to the people.”

In the North meanwhile, on being informed by a Panchayat representative that several families of migrant labour who were stuck due to the lockdown were struggling to find food, Palmpur-based CSIR-Institute of Himalayan Bioresource Technology (CSIR-IHBT), another Institute well-known for its food processing technologies, put its act together and supplied 5000 boxes containing 60 tons of Dal Chawal Aloo Mix, 2.16 tons of ready-to-eat local (Kangra) cuisine, 1500 Spirulina Peanut Bars, 1000 Multigrain Energy Bars, and 1500 Multigrain Protein Powder not only for the migrant labour but also for frontline workers like doctors, paramedical staff, health workers and policemen. The food is free of chemicalsand preservatives, has probiotic effects and its shelf-life is 12 months.

CSIR-IIP, in Dehradun has also been providing food for the past one month to nearly 300 persons every day.

CSIR-Institute of Minerals & Materials Technology (CSIR-IMMT) in Bhubaneswar also delivered 30 Kof ready-to-eat food (Khichidi) along with hand snitizer, and soap provided by CSIR-IHBT to the Commissionerate Police, Bhubaneswar.The staff of CSIR-Central Institute of Mining and Fuel Research (CSIR-CIMFR) posted at the Donimalai Iron Ire Mine in Karnataka also put in their bit by distributing food packets containing essential rations for the needy.

In addition, to providing food assistance, CSIR is also planning to support the creation of Rural/Social Enterprises through rural entrepreneurship with support from Industry. This would provide opportunities to those who are increasingly migrating to rural and semi-rural areas during the outbreak. This would involve training on synthesis and manufacture of disinfectants, sanitizers, soaps, masks, gloves, food products, water purification kits, etc. through social and voluntary organizations.

Published in:
Indiaeducationdiary

69 fresh COVID-19 cases in Uttar Pradesh, total climbs to 2,203

CSIR –CDRI,IITR 30 April, 2020

Lucknow, (PTI) Uttar Pradesh reported 69 fresh coronavirus cases on Thursday, taking the total number of COVID-19 cases in the state to 2,203, a senior official said.

The state has reported 39 deaths due to the virus - one each in Bareilly, Basti, Bulandshahar, Lucknow, Varanasi, Aligarh, Mathura, Shravasti, five in Meerut, six in Moradabad, two in Firozabad, 14 in Agra and four in Kanpur.

"Total number of cases reported in the state is 2,203 of which 513 have been treated and discharged. Thirty-nine deaths have been reported so far in the state due to the virus. The number of active cases are 1,651," Additional Chief Secretary, Information, Awanish Kumar Awasthi told reporters here.

These cases were reported from 60 districts of which there is no active cases in six districts presently, he added.Â

Awasthi said central institutions like Central Drug Research Institute (CDRI), Indian Institute for Toxicology Research (IITR) and Birbal Sahni Institute of Palaeosciences (BSIP) have been given permission for testing. PTI ABN TDS TDS

Published in:
Outlookindia

COVID contract given to ineligible pharma unit: Revanth

CSIR –IICT

30 April, 2020

TPCC working president and Malkajgiri MP, A. Revanth Reddy, alleged that a company without much name and experience in the pharma sector has been given a contract to manufacture pharmaceutical ingredients and intermediates for medicine to be used to treat coronavirus patients.

At a press conference here, he claimed that the company Laxai Life Sciences Private Ltd has entered into a MoU with the Indian Institute of Chemical Technology (IICT) after the Union Cabinet approved a special package for promotion of bulk drug manufacturing in India. This collaboration will primarily focus on Umifenovir, Remdesivir and a key intermediate of Hydroxy Chloroquine (HCQ) tablets, he said.

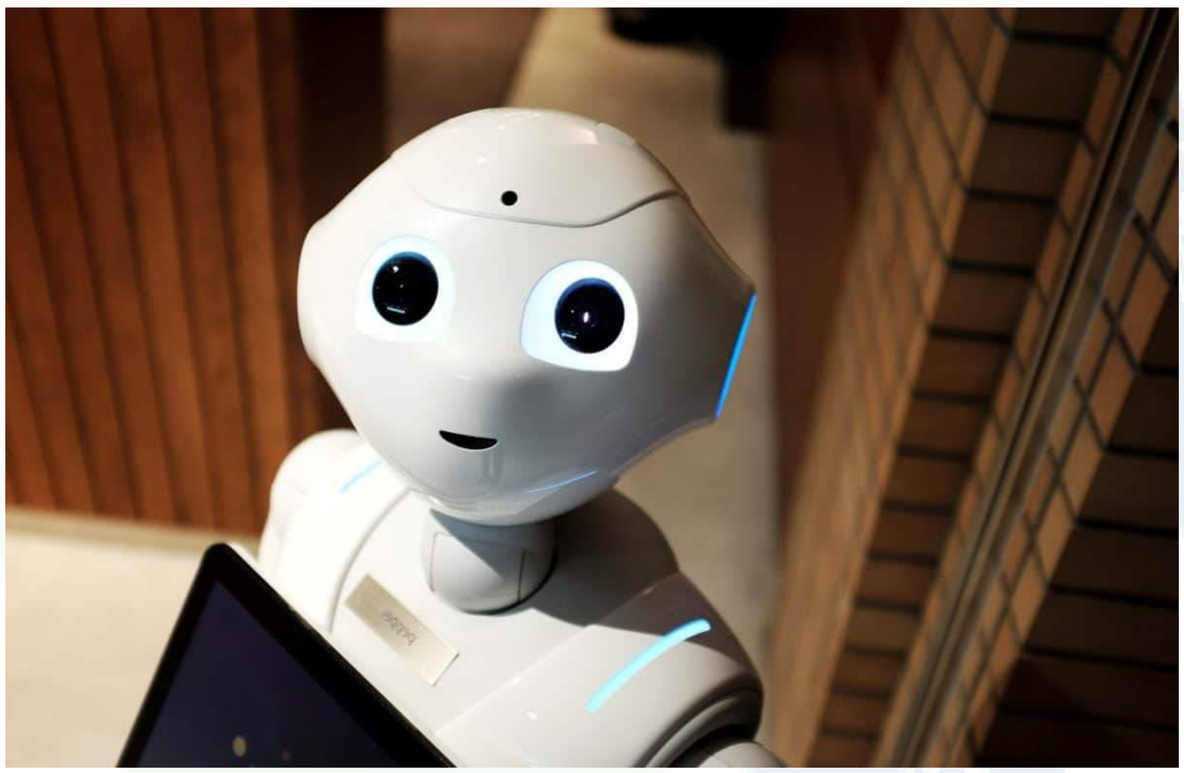
He alleged that the MoU was suspicious because one of the company's directors was a close relative of a Minister in the TRS government. Moreover, he joined the company only in 2018 and since then it has been awarded more contracts, he alleged. This suspicion needs to be cleared, he said.

Published in:
Thehindu

CMERI Durgapur's Robot 'HCARD' to assist frontline COVID-19 healthcare warriors

CSIR–CMERI

30 April, 2020



This device is equipped with various state-of-the-art technologies and works both in automatic as well as manual modes of navigation

The Central Mechanical Engineering Research Institute (CMERI) lab at Durgapur has developed a robotic device 'Hospital Care Assistive Robotic Device'(HCARD) that can help frontline healthcare workers in maintaining physical distance from those infected by Coronavirus.

This device is equipped with various state-of-the-art technologies and works both in automatic as well as manual modes of navigation.

This robot can be controlled and monitored by a nursing booth with a control station having such features as navigation, drawer activation for providing medicines and food to patients, sample collection and audio-visual communication.

Describing the advantages HCARD, the CMERI Director Dr Harish Hirani said: "This Hospital Care Assistive Robotic Device could be effective for frontline healthcare officials dealing with COVID-19 patients in delivering services while maintaining mandatory physical distancing".

The cost of this device is less than Rs 5 lakh and the weight is less than 80 kilograms, Dr Hirani added.

CMERI, an autonomous body under the

Council of Scientific and Industrial Research (CSIR) is working on a war- footing to minimize the impact of COVID-19 through technological interventions.

Scientists at CMERI have also developed a few other customised technologies, including Disinfection Walkway, Road Sanitizer Unit, Face Mask, Mechanical Ventilator.

Published in:
Edexlive

CSIR-CSIO

30 April, 2020

अब 'एयरोसॉल रिस्ट्रिक्टिंग कैनोपी' कोरोना वायरस के संक्रमण से बचाएगी

सीएसआईओ ने पीजीआईएमईआर के साथ डेंटिस्ट के लिए बनाया उपकरण

एजुकेशन रिपोर्टर | चंडीगढ़

डेंटल ट्रीटमेंट और ओरल सर्जरी आदि के दौरान एयरोसोल से कोविड-19 का खतरा नहीं रहेगा। इस से निबटने के लिए सीएसआईआर सीएसआईओ ने 'एयरोसोल रिस्ट्रिक्टिंग कैनोपी फॉर डेंटल प्रोसीजर - सेफ्टी एआरसी' बनाई है, जो पोस्ट ग्रेजुएट इंस्टीट्यूट फॉर मेडिकल एजुकेशन एंड रिसर्च के ओरल हेल्थ साइंस सेंटर के सहयोग से बनाई गई है। इसके कमर्शियल प्रोडक्शन के लिए लैब ने इसकी टेक्नोलॉजी निगम साइंटिफिक वर्क्स को सौंप दी है। सीएसआईओ के बिजनेस इनीशिएटिव एंड प्रोजेक्ट

प्लॉनिंग हेड डॉ. सुरेंद्र सिंह सैनी ने डायरेक्टर, डॉ. संजय कुमार, डॉ. विनोद करार, डॉ. दिनेश पंकज, डॉ. संजीव वर्मा, डॉ. नीलेश कुमार की मौजूदगी में इस तकनीक को सौंपने के हस्ताक्षर किए।

प्रोजेक्ट प्रिंसिपल इन्वेस्टिगेटर डॉ. संजीव वर्मा ने बताया कि हालांकि कोविड-19 से निपटने के लिए इमरजेंसी सुविधा के तौर पर पर्सनल प्रोटेक्टिव इक्विपमेंट पीपीई हैं लेकिन डेंटिस्ट की जरूरतें अलग हैं। फिलहाल फेस मास्क या फेस शील्ड जैसे चीजों का इस्तेमाल होता है। इसकी मदद से पेशेंट या डॉक्टर को इंफेक्शन से बचाया जा सकता है लेकिन एयरोसॉल एटमॉस्फेयर में रहते हैं। यह खासतौर पर डेंटल ट्रीटमेंट के हिसाब से बनाई गई है। इसमें मरीज ढका तो रहेगा लेकिन डॉक्टर को भरपूर जगह मिलेगी जहां से वह अपने काम के लिए बाजू हिला सके या अपना काम कर सके। सेफ्टी एआरसी को मूवेबल प्लेटफार्म पर हाइट एडजस्ट करके लगाया जा सकता है। इसकी विंडो स्लाइडिंग है।

Published in:
Dainik Bhaskar

CSIO develops electrostatic disinfection technology to combat COVID

CSIR–CSIO

29 April, 2020

The Central Scientific Instruments Organisation (CSIO) here has developed an innovative technology based on electrostatics for effective sanitisation to fight against the COVID-19 pandemic and has transferred it to a Nagpur-based company for commercial manufacture and marketing.

Called Electrostatic Disinfection Machine, it produces a fine uniform spray of disinfectants in the range of 10-20 micrometers to kill microorganisms and viruses.

The machine uses very less disinfection material as compared to conventional methods, which is helpful in saving natural resources with negligible increase of chemical waste in the environment.

"Charged droplets emitted from the disinfection machine can cover the directly exposed and obscured surfaces uniformly with increased efficiency and efficacy. The disinfectant reaches to any hidden areas of the target, where there is a maximum possibility to find the viruses. Therefore, it kills or inhibits the growth of pathogens very effectively," said Dr Manoj K Patel, senior scientist and innovator of the technology.

"We have come up with this innovative concept of electrostatic spraying for disinfection and sanitisation of public places, especially hospitals, poultry, trains and buses, airports and airplanes, offices, classrooms and hotels. It contributes to healthy lifestyle and healthcare of masses and is directly linked to Swachh Bharat

Mission of Government of India," said CSIO Director Dr Sanjay Kumar.

The technology transfer agreement was signed by Abhijeet Gaan, Director, Rite Water Solutions Private Limited, Nagpur, and Dr Surender Singh Saini, Head, Business Initiatives and Project Planning at CSIO. The meeting was held through video conferencing.

Published in:
Tribuneindia

Two Covid hospitals from the district to participate in research project on

CSIR -IGIB

29 April, 2020

NOIDA: Government Institute of Medical Sciences (GIMS) Greater Noida will participate in a research project of the Institute of Genomics and Integrative Biology (IGIB-Delhi) for the study of the coronavirus and its pattern. An in-house team of 10-12 researchers will be part of the project which is expected to begin the research work soon. GIMS also awaits the Indian Council of Medical Research's (ICMR) sanction for plasma therapy treatment of Covid-19 patients at the hospital.

"We have cleared all formalities including clearances from an ethical committee for our in-house research team to participate in IGIB's project on the study of coronavirus. The project is helmed by Council of Scientific and Industrial Research (CSIR) under which IGIB will be conducting the study. We have submitted our proposal with details including lab facility, technicians, doctors and senior medical experts from the hospital," Brigadier (retd) Dr RK Gupta told TOI

According to Dr Gupta the research project will entail a study of coronavirus and its pattern, incubation period in patients and results to treatments. "We will participate in the research project based on our experience in treating the Covid-19 patients at GIMS and the treatment pattern and response on patients carried out at the hospital. The aim is to find a cure for the virus based on a study of its pattern and response to various medicines and treatment," said Dr Gupta who adds that IGIB is a premier institute of CSIR, engaged in research of national importance in the areas of genomics, molecular medicine, bioinformatics and proteomics.

The Super Speciality Paediatric Hospital and Post Graduate Teaching Institute SSPHPGTI hospital sector 30 is also participating in few projects of ICMR, department of science and

technology (DST) and department of biotechnology (DBT), Government of India. “Few projects are under preparation from SSPHPGTI and under considerations by ICMR, DST and DBT. We cannot disclose the nature of the project right now,” said Dr DK Gupta director SSPHPGTI, popularly called Child PGI hospital Sector 30 Noida.

Published in:
Timesofindia

INTERVIEW | Virus mutation is there, but no lethal strain: Experts on COVID-19

CSIR–CCMB

28 April, 2020

Rakesh Kumar Mishra
Director, Centre for Cellular & Molecular Biology

FAQ

Dr Anurag Agrawal
Director, Institute of Genomics and Integrative Biology

After concerns being raised by Gujarat and Madhya Pradesh over lethal strain of COVID-19 virus, experts engaged in genome sequencing call it too early to jump to any conclusion. India needs to scale up work to better understand virus mutation, they said. Rakesh Kumar Mishra, Director, Centre for Cellular & Molecular Biology (CCMB) and Dr Anurag Agrawal, Director, Institute of Genomics and Integrative Biology spoke to TNIE's Richa Sharma on various aspects. Excerpts.

Is there a severe COVID-19 strain in Gujarat and MP?

l RKM: They (doctors) are suspecting more lethal kind of strain in Ahmedabad and Indore based on more deaths. But that is not likely the case as there is no scientific evidence and data. First, you need a larger number (of samples) to make any conclusion and you have to rule out that those patients have co-morbidity which is the case in most of the deaths. It needs to be validated properly. Isolate (the strain) from these patients needs to be sequenced, if there is any signature in terms of mutation which is not there in other isolates, which are so-called less lethal.

l AA: There is no reason at this point to believe that we have a special virus strain in India that is either weaker or stronger. Specific sequence from cases in Indore has to be done to understand — it can become weaker or stronger. There is nothing very significant so far. Of course, there are lineage differences but nothing on the line of something very severe or mild strain. So far, at the pan-India level, strain in India has more or less matched the strain from around the world.

What is the prevalent strain in India?

lRKM: We have found virus mutation which is unique in Indian strain, but they are not unusual and do not arouse suspicion immediately about any unique feature. The number (genome sequencing) is small, so we will have to wait for few more days. Once our data comes, more like couple of 100s, then we will be able to make better conclusion. Now, it is too weak to make conclusion what we (strain) have and what we don't have.

l AA: Actually, it is impossible for India to have a very different strain because most of our cases came from abroad. Effectively, they brought those strain and it is mixture of strains from all over the world.

Is there slow progress in full genome sequencing as India has done only 35 (April 26)?

l RKM: Availability of sample is an issue and these need to be freely available, but it is not easy as it is infectious and paperwork needs to be done. Another reason, most of the time when you get sample, the number of viral particle are small and you need special technique to increase the number. But things are being streamlined from 10-12 sequence in a week, and we will be able to increase the numbers in coming weeks.

lAA: One word of caution. Looking at sequence to determine the severity of strain must be

followed by actual experiment because these are computer predictions. It is important to know that something has changed but one must verify that.

Are less number of people being tested for COVID-19?

lRKM: Maybe around 60 per cent are asymptomatic and we never know how much they will spread. More testing need to be done for that will help as instead of locking down the entire country, we can specify and lockdown specific areas.

l AA: The total number of people infected will be more than those tested. We will not know until we do surveillance testing and that is what ICMR was trying to do. If antibody kits had worked better, we would have the results but they are trying to work out. They are trying to get us better data to understand the prevalence of infection and expand the testing base.

Published in:
Newindianexpress

CSIR-CMERI

28 April, 2020

सीएसआइआर-सीएमईआरआइ ने विकसित किया हॉस्पिटल केयर असिस्टिव रोबोटिक डिवाइस

- कोविद-19 के मरीजों को सेवा प्रदान करते समय सामाजिक दूरी बनाये रखने में सक्षम

दुर्गापुर. सीएसआईआर-सीएमईआरआई ने हॉस्पिटल केयर असिस्टिव रोबोटिक डिवाइस (एचसीएआरडी) विकसित किया है. इस रोबोट में वीडियो कॉन्फ्रेंसिंग सुविधाएं, मरीजों को दवाइयां देने के लिए डिलिवरी सिस्टमके अलावा रोगी से नमूने एकत्र करना या रोगी को भोजन उपलब्ध कराना है. यह डिवाइस ऑटोनोमस मोड के साथ ही नेविगेशन के मैनुअल मोड में भी काम करता है. एचसीएआरडी स्वास्थ्य पेशेवरों और मरीजों के बीच की दूरी को हल करने में सहायता करता है. डिवाइस को एक कंट्रोल बूथ के साथ नर्सिंग बूथ द्वारा नियंत्रित और मॉनिटर किया जाता है. इसकी कई विशेषताएं हैं, जैसे नेविगेशन, रोगियों को दवा और भोजन प्रदान करने और रोगी से नमूने एकत्र करने के लिए दराज सक्रियण, ऑडियो विजुअल कम्युनिकेशन. सीएसआईआर-सीएमईआरआई के निदेशक, प्रोफेसर (डॉ.) हरीश हिरानी ने कहा कि हॉस्पिटल केयर असिस्टिव रोबोट डिवाइस, फ्रंटलाइन हेल्थ केयर के अधिकारियों के लिए बहुत प्रभावी होगा, जो कोविद-19 मरीजों के साथ काम कर रहे हैं. वे कोविद-19 के मरीजों को सेवा प्रदान करते समय सामाजिक दूरी को बनाए रखते रख सकते हैं. प्रो.हिरानी ने आगे कहा कि डिवाइस की लागत 5 लाख रुपये से कम है और वजन 80 किलोग्राम से कम है.

Published in:
Prabhat Khabar

Scientists created herbal spray to remove suffocation caused by applying mask

CSIR–NBRI

27 April, 2020

The lockdown is underway in many countries around the world due to the epidemic caused by the coronavirus. Scientists from many countries are engaged in preparing medicines and vaccines for their treatment. Meanwhile, people are in their homes and go out only to shop for goods in need. It is said to be necessary to wear a mask while exiting. But many people feel a little stuffy when wearing a mask. When such people feel suffocated in a short period of time, then think about how much trouble will be felt by the health workers of the country, who have to wear masks for hours during their duty. Now scientists have found a solution to this..

To avoid wearing masks, the scientists of NBRI, National Botanical Research Institute have claimed to make an herbal spray, which will not cause suffocation. Scientists have claimed that using this spray will not cause any harm. This spray is completely herbal, using medicinal plants and fragrant flowers.

According to Dr. Sharad Srivastava, senior scientist of NBRI, since health workers have to wear masks for a long time. During this time they feel suffocated. Therefore this spray has

been prepared. This spray will remove the stiffness, suffocation, and breathing problems, that is, there will not be any kind of suffocation.

Dr. Srivastava claims that it is prepared from aromatic medicinal plants, so it is safe. By using this spray on the mask, the person's respiratory system is fully opened and there is no problem in breathing. Technology transfer will be done soon. He says that the guidelines of the Ministry of AYUSH have been taken into consideration in preparing this spray.

Published in:

Ourbitcoinnews

Research institutes and experts of Hyderabad aid COVID-19 fight

CSIR –CCMB,IICT

26 April, 2020

Major scientific institutions and startups of Hyderabad launched multiple initiatives solely aimed at checking the proliferation of Coronavirus and also play their part in the exit strategy of the ongoing lockdown

Dominant players among these research institutions are CCMB and IICT who take up the fight against COVID-19 at multiple levels.

Hyderabad: The outbreak of the novel strain of Coronavirus and the ensuing crisis has played a huge role in bringing together the community of scientists, researchers, biologists and academicians of Hyderabad on a single platform to pursue solutions for challenges thrown by the virus.

Between March and April, major scientific institutions and startups of Hyderabad launched multiple initiatives solely aimed at checking the proliferation of Coronavirus and also play their part in the exit strategy of the ongoing lockdown.

The city scientific community is fighting the Coronavirus on multiple fronts by launching a series of research initiatives including vaccine development, identifying ideal anti-virals with potential to treat COVID-19, genetic research of the Coronavirus , collaborating with pharma companies to repurpose drugs, developing Coronavirus kits, providing diagnostic facilities to identify positive patients, enabling starts-up to launch critical technologies to combat Coronavirus , training volunteers, young science graduates and microbiologists on how to read Coronavirus tests.

The scientific community in Hyderabad, especially those pursuing research in genetics,

infectious diseases, virology and drug-development in government-run research institutions, startups and innovators rose to the challenges posed by the novel Coronavirus (SARS-CoV-2) by committing significant amount of their resources to the cause.

These institutions have launched multiple initiatives aimed at diagnosing SARS-CoV2 quickly, screening and rapid drug repurposing, providing training to young microbiologists on COVID-19 diagnostics and developing drugs and vaccines.

The Council of Scientific and Industrial Research (CSIR) institutions, including Indian Institute of Chemical Technology (IICT), Centre for Cellular and Molecular Biology (CCMB), Atal Incubation Centre (AIC) of CCMB, Centre for DNA Fingerprinting Technology (CDFD), National Institute of Nutrition (NIN), have now simultaneously focused on COVID-19.

Dominant players among these institutions are CCMB and IICT who take up the fight against COVID-19 at multiple levels. Recently, the AIC-CCMB announced its support to six Hyderabad-based startups and innovators to fast track deployment of critical technologies to help combat coronavirus.

The CCMB is supporting startups in screening and rapid drug repurposing, developing new technology for rapid detection kits, PCR-based diagnostic kits, drug targeting and novel sensitive detection of COVID-19.

Apart from all these initiatives, the facility has already invested heavily in coronavirus testing, validating testing kits, genome sequencing the SARS-CoV2 and also developing viral cultures which are needed to develop repurposed drugs for the novel Coronavirus.

On its part, the IICT has already announced its collaboration with Cipla to prepare anti-virals, including Favipiravir, Remdesivir and Bolaxavir. With the support of IICT, the

biotech plans to start next phase trials of the anti-viral drugs for treatment of COVID-19 disease.

Apart from this, the IICT has also entered into collaboration with Hyderabad-based LAXAI Life Sciences to manufacture Active Pharmaceutical Ingredients aimed at reducing the over-reliance of India on China for raw materials and developing treatment modalities for the novel coronavirus based on anti-virals, including Umifenovir, Remdesivir and a key intermediate of Hydroxychloroquine.

Joining the fight against COVID-19, recently the Centre for DNA Fingerprinting and Diagnostics (CDFD) also started testing coronavirus samples in Telangana.

Explore Indian compounds to treat Covid: Expert

Hyderabad: Distinguished scientist and CCMB former Director Dr Ch Mohan Rao has urged Indian researchers to explore Indian compounds and their potential applications in treatment of COVID-19. Talking to Telangana Today, the senior biologist praised the State and Central governments for taking the hard decision of lockdown at the right time.

Indian research related to COVID-19

Indian scientific effort to address COVID-19 is very important to become self-reliant because we are way too much dependent on China, Europe and United States for everything. I agree that it would be difficult for our researchers to develop new drugs.

However, since there is already lot of focus on existing antivirals like HCQ etc., why not explore anti-viral properties of Indian compounds like turmeric, which has cur cumin, a known anti-viral. Indian compounds to fight the coronavirus will act as an adjunct to the already existing anti-virals like HCQ etc.

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हिमालयन जैव प्रोद्योगिकी संस्थान ने प्रशासन को सौंपे 5000 फूड टिन

खाद्य सामग्री प्रशासन को सौंपते हुए।

पालमपुर (जसवंत कठियाल) : हिमालयन जैव प्रोद्योगिकी संस्थान पालमपुर ने शुक्रवार को पालमपुर प्रशासन को 5 हजार फूड टिन भेंट किये। इस टिन में एक व्यक्ति के खाने के लिये भरपूर भोजन है तथा खाना पोष्टिक होने के साथ लगभग 12 माह तक खाने योग्य रहता है। एसडीएम पालमपुर, धर्मेश रामोत्रा ने हिमालयन जैव प्रौद्योगिकी संस्थान पालमपुर के निदेशक संजय कुमार द्वारा पालमपुर प्रशासन को लगभग 5 लाख की सहायता उपलब्ध करवाने के लिये आभार प्रकट किया है। उन्होंने कहा कि फ्रंट लाइन पर रहने वाले कोरोना योद्धाओं के लिये जिनमे पुलिस के लोग, स्वास्थ्य कर्मचारी, सफाई कर्मचारियों और प्रवासी मजदूरों को भोजन उपयोग में लाया जाएगा।

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सीएसआईआर- आईएमएमटी भुवनेश्वर ने मदद का हाथ बढ़ाया

◆ नवभारत ब्यूरो | भुवनेश्वर.

www.navabharat.org

लॉकडाउन के बीच जरूरतमंदों के लिए सीएसआईआर-आईएमएमटी भुवनेश्वर ने मदद का हाथ बढ़ाया है. बताया जाता है कि प्रो सुधात्सवा बसु, निदेशक, सीएसआईआर-आईएमएमटी भुवनेश्वर ने सीएसआईआर- आईएचबीटी पालमपुर (हिमाचल प्रदेश) तथा आईएमएमटी द्वारा विकसित 10 लीटर हैंड सेनिटाइजर और 10 लीटर लिक्विड सोप के साथ-साथ रेडी टू ईट, दाल, चावल, आलू से बनी खिचड़ी के 10,000 डिब्बे जरूरतमंदों के लिए सौंपे. यह सब कमिश्नरेट पुलिस को सौंपा गया. इस मौके पर पुलिस आयुक्त भुवनेश्वर, डॉ सुधांशु षाड़ंगी, अतिरिक्त पुलिस आयुक्त संजय कुमार सिंह और एडीसी सुधाकर मिश्रा मौजूद थे. 20 लीटर लिक्विड साबुन और इतना ही हैंड सेनिटाइजर को क्रमशः एम्स भुवनेश्वर और क्राइम ब्रांच पुलिस के स्पेशल टास्क फोर्स, ओडिशा को सौंपा गया है. बताया जाता है कि खिचड़ी पौष्टिक है और इसकी 12 महीने की शेल्फ लाइफ है. यह प्राकृतिक आपदाओं और महामारी के समय राहत पैकेट के रूप में उपयुक्त है.

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LITTLE IMPACT OF LOCKDOWN

IMMT's air pollution data throws up a riddle

Sandip Mishra | TNN

Bhubaneswar: Amid social media buzz of the air quality of cities improving significantly during the lockdown, an analysis by scientists of CSIR-Institute of Minerals and Materials Technology (IMMT) has thrown up completely different data.

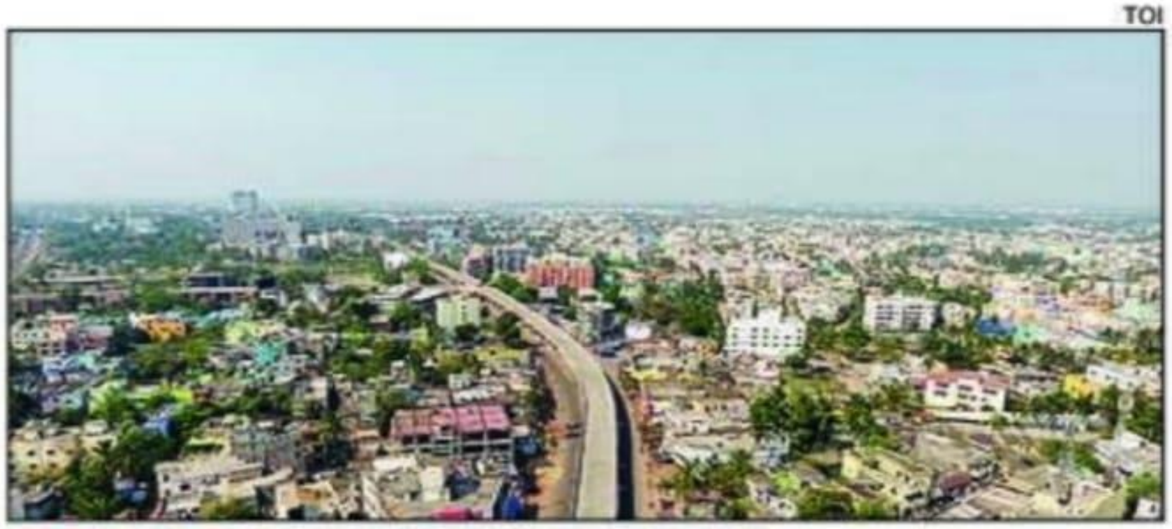
According to the analysis, the air pollution level was extremely low on March 22, the day of the 'janata curfew', but there was a significant increase in different pollutants soon after the lockdown was declared on March 24. "During the 'janata curfew' on March 22, we observed a 50% drop in PM10, PM2.5 and PM1 concentration. A sharp reduction was also observed in CO, NOx, surface ozone and black carbon concentration in the two days that followed," said principal scientist at CSIR-IMMT, Trupti Das.

She said all these pollutants were derived from anthropogenic activities. "NOx, CO and black carbon are primary pollutants as they are directly emitted by the partial combustion processes, whereas surface ozone is a secondary pollutant that is formed due to photochemical reactions," she explained. Das said since March 26, there has been a rise in particulate matter concentration in the ambient air. "This could be due to various anthropogenic activities, including vehicular movement for essential services and other auxiliary services to meet the day-to-day requirements of the public," she said.

According to their data, the PM2.5, which is the fine particulate matter, was at 75.23 microgram per cubic metre in the air on March 2 but decreased to a low of 8.19 on March 22. During the lockdown from March 24, the PM2.5 level fluctuated between 30 and 37 till March 31. In April, it remained at an average of 25 microgram per cubic meter compared to 35 to 40 last year.

However, during the lockdown, there was a gradual rise in the concentration of particulate matter that could be due to emissions through sanitation activities and use of biomass for cooking in slum areas. CSIR-IMMT director Suddhasatwa Basu said their scientists have found the monthly average fine particulate matter and black carbon concentration for March to be the lowest in decades in 2020.

TOI



CLEANSING: An aerial view of the capital city

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हम ठहरे...पृथ्वी की सांसें दौड़ने लगीं

लॉकडाउन ने दिया मौका, इसे खोने न दें

लॉकडाउन जहां तमाम परेशानियां लेकर आया, वहीं प्रकृति के लिए वरदान भी साबित हुआ है। नीला आसमान, स्वच्छ हवा, चहकते पक्षी और नदियों का साफ पानी। अब सबसे बड़ा सवाल है कि क्या हम इसे संभाल पाएंगे या फिर पहले ही तरह ही जहरीली हवा में सांस लेने को मजबूर होंगे? सरकार के सामने तो तमाम चुनौतिया हैं ही, सबसे कठिन परीक्षा आम आदमी की है, जो प्राकृतिक संतुलन बिगाड़ने में सबसे बड़े भागीदार हैं। एक बात अच्छी तरह सबको समझनी होगी कि अपने आसपास के पर्यावरण को सुधारने का इससे अच्छा मौका नहीं मिलने वाला। इसलिए शासन-प्रशासन से लेकर हरेक नागरिक इसके लिए जिम्मेदार बनें कि अब हम ऐसा कुछ नहीं होने देंगे, जिससे हमारी धरती और इसकी जैव विविधता को नुकसान पहुंचे। इसलिए जिस तरह से लॉकडाउन में हम सबने पर्यावरण को सुरक्षित रखने में योगदान दिया है उसे आगे भी जारी रखना होगा। एक बात का ध्यान रहे कि इसके लिए कोई पहाड़ नहीं तोड़ना है। बस सभी लोगों को एक अनुशासित और जिम्मेदार नागरिक का कर्तव्य निभाना है और खुद से यह कसम खानी है कि आसपास कोई ऐसा काम नहीं करेंगे, जिससे हमारी धरती को किसी तरह का नुकसान हो।

– **डॉ.आलोक धवन**, वरिष्ठ वैज्ञानिक आइआइटीआर

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