

# CSIR in Media



News Bulletin  
6<sup>th</sup> To 10<sup>th</sup> March 2020





## 63rd Foundation Day Celebration at CSIR-CMERI

CSIR-CMERI, NBRI

10<sup>th</sup> March, 2020



CSIR-CMERI, Durgapur, celebrated the 63rd CMERI Foundation Day 2020 on 9th March 2020. The celebration was inaugurated by Prof.(Dr.) Harish Hirani, Director, CSIR-CMERI, Durgapur, and the Chief Guest Prof.(Dr.) S.K. Barik, Director, CSIR-NBRI, Lucknow.

Prof.(Dr.) Hirani, in his Foundation Day Address outlined the contributions of CSIR-CMERI in the field of Agro-Economy. The tremendous contributions of Swaraj, Sonalika and the newly launched Krishishakti Tractors were elaborated. Dr. Hirani stated that incremental innovation

influenced by the current market scenario is the need of the hour. E-Tractors, IoT based Precision Agriculture, Solar Powered Precision Agriculture System, Advanced Bio-Diesel based Farm Mechanization Units and alternative sources of Bio-Diesel were cited as testimonies to 'Incremental Innovation'. Based on the socio-economic demands of the specific region, a particular product can also be deployed for multiple utilization. Dr. Hirani also charted out the steady progress of the Institute in terms of cash inflow, Patents, Design Registrations and Copyrights in the recent years.

Dr. Hirani stated that his vision of developing a 'Smart Village', Infrastructure will be based upon the theme of 'Simplified Technology Oriented Development'. The prospective technologies which may be deployed are Smart Grid, Smart Lighting, Roads from Recyclable Materials, E-Rickshaws, E-Tractors, E-Kiosks, IoT based Farm Mechanization and support services



oriented Skill Development. The major thrust areas for the Institute in the future would be based upon “Carbon Negative Campus”, “Renewable Energy based mini-grid”, “Zero Water Wastage Campus”, “Tractor Fuel from Grass/Stubble” and “Optimum Rain Water Harvesting”. Dr. Hirani concluded the address by encouraging the Scientists to undertake Projects which have the most challenges and complexity, so that the most pressing social issues of the day may be addressed.

Chief Guest Prof.(Dr.) S.K. Barik, Director, CSIR-NBRI, Lucknow, congratulated all the CSIR-CMERI family members on the occasion of the 63rd Foundation Day. Dr. Barik urged all to follow the guidance and exemplary vision of Dr. Hirani as his efforts are in perfect attunement to the National Objectives and R&D requirements of the Nation. There is no space of Complacency in today's globally competitive R&D scenario. Trans-Disciplinary approach towards R&D and Innovation is the future and therefore urged all to explore new dimensions and possibilities. In his lecture titled, “Mechanization of Agriculture”, Dr. Barik outlined why it is so important to explore possibilities of Inter-Lab Collaborations, which help in rich R&D outcomes. Sustainable Technologies and Innovative Mechanization are the road to the future in terms of Agrarian Development and CSIR-CMERI is treading on the exact same path for a flourishing Agrarian Economy.

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## CSIR-IICT unveils safe process of making APIs

CSIR-IICT

10<sup>th</sup> March, 2020



### It will help in checking industrial explosions

Explosions in chemical units and boiler plants have been regular occurrences in the suburbs of the capital city due to accidents or mishandling of the materials causing serious injuries or even deaths in many a case over the years.

Scientists at the Council of Industrial & Scientific Research (CSIR)-Indian Institute of Chemical Technology (IICT) have announced that it is now possible to synthesise complex chemical processes

towards manufacture of drugs, pesticides and the likes in a much safer yet more productive manner.

Generally, most chemical processes for making of Active Pharmaceutical Ingredients (APIs) take days and require copious amounts of raw material which are then mixed in huge containers manually to get the end product. The process has to be repeated if the requirement is more and mishaps usually happen during the mixing of chemicals.

“We have been working on making APIs simple, safer and eco-friendly. We have succeeded in drastically reducing time in making six chemical compounds in our modern lab. It removes chance of any adverse reactions like explosions because there is no manual process involved and portions are smaller. This would be a boon to the industrial units as there is zero waste and costs are reduced,” avers



IICT director S. Chandrasekhar.

Products of such 'Integrated Continuous Flow Chemistry' are: Alpha Lipoic Acid, an antioxidant taking just 15 minutes for synthesis; Daclatasvir, used for treating Hepatitis C virus takes about 41 minutes; Sildenafil is a phosphodiesterase inhibitor used for erectile dysfunction taking 13.5 minutes; same goes for Homosildenafil, another phosphodiesterase and Lodenafil, also a phosphodiesterase inhibitor used for erectile dysfunction.

Celecoxib is a non-steroidal anti-inflammatory drug and the API takes about 14.2 minutes for synthesis. "All these compounds take anywhere from three to 10 days for the synthesis to happen in the normal course of traditional methods and to get one kilo of product, you have to use 10 kilos of solvents. Here there is no waste at all," say scientists - P. Srihari and Ajay Singh.

Scientists explain that 'miniaturising' of the syntheses helps in getting the required final product minus spillage and impurities as the entire integrated flow is automated or can be controlled via remote through a mobile. "We have developed a few indigenous devices to fine tune. Any amount of end product can be obtained in a short time," they explain. IICT is ready to help units to develop their compounds in its lab and pass on the knowledge too, affirms Dr. Chandrasekhar.

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CSIR-CFTRI

10<sup>th</sup> March 2020

ಸಿಎಸ್‌ಐಆರ್‌ನಿಂದ ಔಷಧಿ?	ವಿಧಾನಸಭೆಯಲ್ಲೂ ಪ್ರತಿದ್ವನಿ
<p>ಮೈಸೂರು: ವೈಜ್ಞಾನಿಕ ಮತ್ತು ಔದ್ಯಮಿಕ ಸಂಶೋಧನಾ ಪರಿಷತ್ತಿನ ಪ್ರಯೋಗಾಲಯಗಳಲ್ಲಿ ಒಂದಾದ ಹೈದರಾಬಾದ್ ಮೂಲದ ಭಾರತೀಯ ರಾಸಾಯನಿಕ ತಂತ್ರಜ್ಞಾನ ಸಂಸ್ಥೆ (ಐಐಸಿಟಿ) ಜಗತ್ತಿನಾದ್ಯಂತ ತಲ್ಲಣ ಮೂಡಿಸಿರುವ ಮಾರಣಾಂತಿಕ ಕೋವಿಡ್-19ಕ್ಕೆ ಔಷಧಿ ತಯಾರಿಕೆ ಪ್ರಕ್ರಿಯೆ ಆರಂಭಿಸಿದ್ದು, ರಾಸಾಯನಿಕ ಸೂತ್ರೀಕರಣ ವಿಶ್ಲೇಷಣೆ ನಡೆಸುತ್ತಿದೆ ಎಂದು ವೈಜ್ಞಾನಿಕ ಮತ್ತು ಔದ್ಯೋಗಿಕ ಸಂಶೋಧನಾ ಇಲಾಖೆ ಕಾರ್ಯದರ್ಶಿ ಡಾ.ಶೇಖರ್ ಸಿ.ಮಾಂಡೆ ತಿಳಿಸಿದರು. ಸೋಮವಾರ ಸುದ್ದಿಗಾರರೊಂದಿಗೆ ಮಾತನಾಡಿದ ಸಿಎಸ್‌ಐಆರ್ ಮಹಾ ನಿರ್ದೇಶಕರೂ ಆದ ಮಾಂಡೆ ಅವರು, ವೈರಾಣುಗಳ ವಿರುದ್ಧದ ಔಷಧಿಗೆ ಪೂರಕವಾಗಿ ಅಣುಗಳ (ಮಾಲಿಕ್ಯುಲ್ಸ್) ಅಭಿವೃದ್ಧಿ ಪಡಿಸುವಲ್ಲಿ ವಿಜ್ಞಾನಿಗಳು ತೊಡಗಿದ್ದಾರೆ ಎಂದರು. ವಿಶ್ವದಲ್ಲಿ ಎಲ್ಲಾ ಸಂಶೋಧಕರು ಮಾರಣಾಂತಿಕ ಕೋವಿಡ್-19 ವೈರಾಣುಗೆ ಔಷಧಿ ಯನ್ನು ಅಭಿವೃದ್ಧಿಪಡಿಸುವ ಕಾರ್ಯದತ್ತ ತಮ್ಮ ಗಮನವನ್ನು ಕೇಂದ್ರೀಕರಿಸಿದ್ದಾರೆ. ದೇಶದಲ್ಲಿರುವ ರಾಷ್ಟ್ರೀಯ ಪ್ರಯೋಗಾಲಯಗಳು ಔಷಧದ ಅಗತ್ಯ ಮನಗಂಡು ಕಾರ್ಯನಿರ್ವಹಿಸುತ್ತಿವೆ ಎಂದು ಹೇಳಿದರು.</p>	<p>ರಾಜ್ಯ ವಿಧಾನಸಭೆಯಲ್ಲೂ ಕೊರೊನಾ ರೋಗಾಣು ಸದ್ವಿಮಾಡಿದ್ದು, ಕೋವಿಡ್-19 ಕುರಿತು ಸರ್ಕಾರ ಕೈಗೊಂಡಿರುವ ಕ್ರಮಗಳ ಬಗ್ಗೆ ಸದನಕ್ಕೆ ಮಾಹಿತಿ ನೀಡದಿರುವುದಕ್ಕೆ ವಿರೋಧ ಪಕ್ಷದ ಸದಸ್ಯರು ಸರ್ಕಾರವನ್ನು ತರಾಟೆಗೆ ತೆಗೆದುಕೊಂಡರು. ನಂತರ ವೈದ್ಯಕೀಯ ಶಿಕ್ಷಣ ಸಚಿವ ಡಾ.ಕೆ.ಸುಧಾಕರ್ ಸದನಕ್ಕೆ ಮಾಹಿತಿ ನೀಡಿದರು. ಸೋಮವಾರ ವಿಧಾನಸಭೆಯಲ್ಲಿ ಶೂನ್ಯವೇಳೆಯಲ್ಲಿ ಈ ವಿಚಾರವನ್ನು ಪ್ರಸ್ತಾಪಿಸಿದ ಸದಸ್ಯರು ಸರ್ಕಾರದ ಉತ್ತರಕ್ಕೆ ಆಗ್ರಹಿಸಿ, ತಕ್ಷಣವೇ ಹೇಳಿಕೆಯನ್ನು ನೀಡುವಂತೆ ಸೂಚಿಸಿ ಎಂದು ವಿಧಾನಸಭಾಧ್ಯಕ್ಷ ವಿಶ್ವೇಶ್ವರ ಹೆಗಡೆ ಕಾಗೇರಿ ಅವರಲ್ಲಿ ಮನವಿ ಮಾಡಿದರು.</p>

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## చౌకగా పరీక్షలు చేయడమే లక్ష్యం

- డయాగ్నోస్టిక్ కిట్ల తయారీపై సీఎస్ఐఆర్ దృష్టి
- ఐఐసీటీ, ఐజీఐబీ సంయుక్త పరిశోధనలు

ఈనాడు, హైదరాబాద్: దేశంలో ఇప్పటివరకు ఉన్న పరిస్థితికి తగ్గట్టుగా కరోనా పరీక్షల కిట్లు ఉన్నా.. ఒకేసారి లక్షల మందిని పరీక్షించాల్సి వస్తే కొరత తప్పదు. ఆ పరిస్థితి రాకుండా చౌకగా డయాగ్నోస్టిక్ కిట్ల రూపకల్పనకు కొన్ని ఆఫ్ సైంటిఫిక్ అండ్ ఇండస్ట్రియల్ రీసెర్చ్(సీఎస్ఐఆర్) సమాయత్తమైంది. సీఎస్ఐఆర్ ప్రయోగశాలలైన హైదరాబాద్లోని ఇండియన్ ఇన్స్టిట్యూట్ ఆఫ్ కెమికల్ టెక్నాలజీ(ఐఐసీటీ), దిల్లీలోని ఇన్స్టిట్యూట్ ఆఫ్ జీనోమిక్స్ అండ్ ఇంటిగ్రేటివ్ బయాలజీ(ఐజీఐబీ)తో సోమవారం సమావేశం నిర్వహించింది. “కరోనా పరీక్షలకు డయాగ్నోస్టిక్ కిట్ల కొరత వస్తే ఏం చేయాలనేదానిపై సీఎస్ఐఆర్ సమావేశం నిర్వహించింది. కిట్ల తయారీపై ఐఐసీటీ, ఐజీఐబీతో కలిసి ప్రయత్నం చేస్తోంది.



ఐఐసీటీ డైరెక్టర్ ఎస్.చంద్రశేఖర్

ప్రస్తుతం పుజేలోని ఎన్ఐఐలో మాత్రమే ఒరిజినల్ వైరస్ స్టాక్ కొంచెం ఉంది. మా ప్రయోగాల ద్వారా బయో టెక్నాలజీతో డయాగ్నోస్టిక్ కిట్లు చౌకగా తయారుచేసి అందించగలం” అని ఐఐసీటీ డైరెక్టర్ ఎస్.చంద్రశేఖర్ ‘ఈనాడు’తో తెలిపారు. మరిన్ని వివరాలు ఆయన మాటల్లోనే..

**పేటెంట్లు ఉన్నా..**

పలు ఔషధాలకు పేటెంట్లు ఉన్నా మన దేశం 95 వరకు వాటిని గుర్తించేది కాదు. వాటి టెక్నాలజీ మార్చి ప్రాసెస్ ప్యాటర్న్లో ఔషధాలను తయారుచేసుకునేవాళ్లం. అయితే, 2005లో డబ్ల్యూటీవో గాట్ ఒప్పందంలో భారత్ సంతకం చేసింది. పేటెంట్లను గౌరవిస్తామని ఆ ఒప్పందం సారాంశం. ఫలితంగా 2006 తర్వాత మన దేశంలో ప్యాటర్న్ ప్రాసెస్లో ఒక్క కొత్త డ్రగ్ కూడా రాలేదు. అప్పటి నుంచి మనం కొత్త ఔష

ధాలు సొంతంగా తయారుచేసుకోవడంపై దృష్టి పెట్టాం. ఐఐసీటీ ఇటీవలే ఒక ఔషధం కనుక్కుంది. మధుమేహ నియంత్రణతో పాటు ఊపిరితిత్తుల సమస్యలు, చర్మవ్యాధుల సమస్యలను ప్రభావవంతంగా తగ్గించే ఈ ఔషధ తయారీపై సన్ఫార్మాతో ఒప్పందం చేసుకున్నాం.

**ప్రాణాపాయ స్థితిలో..**

గాట్ ఒప్పందంలోనే ఒక నిబంధన ఉంది. దేశంలో ప్రాణాపాయ స్థితిలో ఔషధాల అవసరం ఉన్నప్పుడు పేటెంట్కు కట్టుబడి ఉండాల్సిన అవసరం లేదు. ఈ ప్రకారం మనం ప్రాసెస్ ప్యాటర్న్ చేసుకునే వీలుంది. కరోనాకు సంబంధించి అమెరికాకు చెందిన గిలినాయిడ్ అనే ఔషధ సంస్థ 30 నుంచి 40 వరకు మాలిక్యుల్స్ను తయారుచేసింది. అమెరికా సంస్థ తయారు చేసిన రెమ్డెసివిర్, మలేరియా డ్రగ్ క్లోరోక్విన్ కాంబినేషన్ కరోనాకు పనిచేస్తున్నట్లు నేచర్, సెల్ సైన్స్ మ్యాగజైన్లలో రాశారు. మన వద్ద క్లోరోక్విన్ ఉంది. రెమ్డెసివిర్ను తయారుచేసుకుని సిద్ధంగా ఉంచుకుంటే అవసరమైతే వాడుకోవచ్చని పరిశోధనలు మొదలెట్టాం. వందరోజుల్లో లక్ష్యాన్ని చేరుకోవాలని నిర్దేశించుకున్నా.. అంతకంటే ముందే కరోనాకు ప్రాసెస్ ప్యాటర్న్లో ఔషధాన్ని తయారుచేయగలమని మా శాస్త్రవేత్తల బృందం అంటోంది.



CSIR-CFTRI, IIIM, NBRI, ICT, NCL

10<sup>th</sup> March 2020

# We are working on drugs to treat coronavirus: CSIR DG

## 'Efforts Under Way To Produce Drugs At ICT In Hyderabad'

TIMES NEWS NETWORK

**Mysuru:** Director general, Council of Scientific and Industrial Research (CSIR) and secretary, Department of Scientific and Industrial Research, Shekhar C Mande said that CSIR has started developing drugs for coronavirus at ICT in Hyderabad.

Speaking to reporters after delivering a lecture on 'In Science We Trust' organised by Central Food Technological Research Institute at ICT auditorium on Monday, Mande said that the whole country is concerned about the virus and the problem is dealt at the highest level.

"PM Narendra Modi himself is taking reviews every day on the virus. All the organisations in the country are working towards preventing its spread. We (CSIR) have also started work to develop chemicals for the coronavirus. It is imperative that drugs are produced and ensure that there is no shortage of drugs," he said.

Mande said that The Indian Institute of Chemical Technology (ICT) in Hyderabad with National Chemical Laboratory (NCL) in Pune, are developing the drugs in Hyderabad laboratory. "ICT and NCL will ensure that there is drugs to contain COVID 19 and ensure that there is no shortage of



**IN SCIENCE WE TRUST:** CSIR director general Shekhar C Mande with director Raghava Rao and others in Mysuru on Monday

drugs," he said.

### Pest-resistant cotton

Speaking on the new technologies introduced to support farmers in the country, Mande said that CSIR has generated new varieties of rice which are pest resistant.

"The programme is fully funded by the department of biotechnology. CSIR scientists in Hyderabad have developed the rice which is being under cultivation in 18 lakh hectares in different parts of the states in the country. The aroma machines, floriculture machine, agrichemicals and rice varieties are all farmer-centric," he said.

Mande said that recently the CSIR has developed pest-resistant cotton which is under trial. "The National Botanical Research Institute

(NBRI) in Lucknow has come up with new varieties of cotton which is pest resistant. It is being under trial at Central Institute for Cotton Research," he said.

### Cannabis to treat pain

Mande said that CSIR has got permission from the government to work on cannabis to produce drugs to treat pain. "Cannabis or marijuana cannot be cultivated anywhere without permission. We got permission to cultivate it in contained facility. It has lot of medicinal properties. Many pain killers come from cannabis and so we want to explore and develop pain killers. Recently, permission has been granted and we have started working at Indian Institute of Integrated Medicine (IIIM)

in Jammu for the past one month," he said.

Mande said they have also developed a new aroma machine a month ago and promoting cultivation of aroma plants across the country. "As it gives better monetary returns to farmers, a recent study shows that there have been reverse migration from cities to villages. We have installed many distillation machines where farmers go and produce aroma oils at the units. We are promoting floriculture," he said.

Earlier, during the discussion on the topic, 'In Science We Trust' Mande said science and technology should benefit the humanity, ensure good life and conserve planet.

"There is a need for research of ancient inventions by the present researchers. There were lots of scientific ideas generated before 1800 AD in India. There is a need to learn from those ideas today. There is a misconception that foreigners who came to India brought scientific ideas. Researchers should first observe, later the hypothesis, predictions and the experiment," he said.

Five women researchers, Bhavya, Sapna, Sandhya, Deepika and Nandhini were given the award for the best research paper during the event.

CFTRI director Raghava Rao was present.

**Published in:**  
Andolana



CSIR-CFTRI

10<sup>th</sup> March 2020

## ಮಾರಕ ಕರೊನಾ ವೈರಸ್ ನಿಯಂತ್ರಣಕ್ಕೆ ರಾಸಾಯನಿಕ ಅಭಿವೃದ್ಧಿ

■ ವಿಜಯವಾಣಿ ಸುದ್ದಿಜಾಲ ಮೈಸೂರು  
ಇಡೀ ಜಗತ್ತಿಗೆ ಭೀತಿ ಹುಟ್ಟಿಸಿರುವ ಕರೊನಾ  
ವೈರಸ್ ನಿಯಂತ್ರಿಸಲು ಔಷಧಕ್ಕೆ ಅಗತ್ಯವಿರುವ  
ರಾಸಾಯನಿಕವನ್ನು ಸಿಎಸ್‌ಐಆರ್ ಸಂಸ್ಥೆ ಅಭಿವೃದ್ಧಿ  
ಪಡಿಸುತ್ತಿದೆ ಎಂದು ಸಿಎಸ್‌  
ಆರ್‌ಐ ನಿರ್ದೇಶಕ  
ಶೇಖರ್ ಸಿ. ಮಾಂಡೆ ತಿಳಿಸಿ  
ದರು.

ಸಿಎಫ್‌ಟಿಆರ್‌ಐ ವತಿ  
ಯಿಂದ ಸಂಸ್ಥೆ ಆವರಣ  
ದಲ್ಲಿ ಸೋಮವಾರ ಆಯೋ  
ಜಿಸಿದ್ದ 'ವಿಜ್ಞಾನದ  
ಬಗ್ಗೆ ವಿಶ್ವಾಸವಿರಲಿ'  
ಕುರಿತು ಉಪನ್ಯಾಸ  
ಕಾರ್ಯಕ್ರಮದಲ್ಲಿ ಮಾತ  
ನಾಡಿದರು.

ಮಹಾಮಾರಿ ಕರೊನಾ  
ವೈರಸ್ ತಡೆಗಟ್ಟಲು ಮತ್ತು  
ಸೋಂಕಿತರನ್ನು ಗುಣಮುಖರನ್ನಾಗಿಸಲು ಜಗತ್ತಿನ  
ಹಲವು ದೇಶಗಳು ಈಗಾಗಲೇ ಔಷಧ ಕಂಡು  
ಹಿಡಿಯುವ ಪ್ರಯತ್ನದಲ್ಲಿವೆ. ಅದರಂತೆ ಸಿಎಸ್‌  
ಐಆರ್ ಕೂಡ ಪ್ರಯತ್ನ ನಡೆಸುತ್ತಿದೆ. ಹೈದರಾ  
ಬಾದ್‌ನಲ್ಲಿರುವ ನ್ಯಾಷನಲ್ ಇನ್‌ಸ್ಟಿಟ್ಯೂಟ್  
ಆಫ್ ಕೆಮಿಕಲ್ ಟೆಕ್ನಾಲಜಿ ಸಂಸ್ಥೆಯ ಪ್ರಯೋ  
ಗಾಲಯದಲ್ಲಿ ಕರೊನಾ ವೈರಸ್ ಸೋಂಕಿತ  
ರನ್ನು ಗುಣಪಡಿಸುವ ಔಷಧಕ್ಕೆ ಬೇಕಾಗುವ  
ರಾಸಾಯನಿಕಗಳನ್ನು ಅಭಿವೃದ್ಧಿಪಡಿಸಲಾಗುತ್ತಿದೆ  
ಎಂದು ಹೇಳಿದರು.

ಸಂಸ್ಥೆಯು ಈಗಾಗಲೇ ಕೀಟನಾಶಕ ಬಳಕೆ  
ಮಾಡದಂತಹ ಹತ್ತಿಯನ್ನು ಆವಿಷ್ಕರಿಸಿದ್ದು, ಇದು  
ಲಕ್ಷೋದಲ್ಲಿನ ಪ್ರಯೋಗಾಲಯದಲ್ಲಿ ಯಶಸ್ವಿ  
ಯಾಗಿದೆ. ಹಾಗೆಯೇ ನಾಗಪುರದಲ್ಲಿ ಪ್ರಾಯೋಗಿಕ  
ವಾಗಿ ಕೀಟನಾಶಕ ಸಿಂಪಡಣೆ ರಹಿತ ಹತ್ತಿಯನ್ನು  
ಬೆಳೆಯಲಾಗಿದೆ ಎಂದು ತಿಳಿಸಿದರು.

ಸಿಎಸ್‌ಐಆರ್-ಸಿಎಫ್‌ಟಿಆರ್‌ಐ ನಿರ್ದೇಶಕ  
ಡಾ.ಕೆ.ಎಸ್.ಎಂ.ಎಸ್. ರಾಘವರಾವ್ ಇದ್ದರು.



» ಸಿಎಸ್‌ಐಆರ್‌ಐ  
ನಿರ್ದೇಶಕ  
ಶೇಖರ್  
ಸಿ.ಮಾಂಡೆ  
ಮಾಹಿತಿ

**Published in:**

Vijay Vani



CSIR-

10<sup>th</sup> March 2020

# Field trials of 'pest-proof' cotton variety soon: CSIR

The variety has been developed by a Lucknow-based research laboratory

**SPECIAL CORRESPONDENT**  
MYSURU

In continuation of CSIR's 'farmer-centric' approaches, a new pest-resistant cotton variety developed by a Lucknow-based research laboratory is ready for field trials which are expected to be done soon at Nagpur in Maharashtra.

Speaking to reporters on Monday, CSIR Director-General Shekhar C. Mande, who was in Mysuru, said the cotton crop usually faces the problem of pest at-

tacks and scientists carried out a research for developing the "pest-proof" cotton variety.

The same variety will undergo further tests and trials before it is certified for commercial cultivation. The research has been carried out in collaboration with the ICAR-Central Institute for Cotton Research.

Dr. Mande recalled the Samba rice variety (Samba Mashuri), which was developed jointly by the Hyderabad-based Centre for Cellu-

lar and Molecular Biology, a CSIR lab, and the ICAR-Indian Institute of Rice Research. Today, this "pest-resistant" rice variety was grown in about 18 lakh hectares in many States, helping farmers fetch higher yields and higher returns.

Dr. Mande also spoke about the aroma and honey missions. The Khadi Village Industries Corporation (KVIC) has joined hands with CSIR for the "Honey Mission". Honey is a good alternative to sugar since it

contains medicinal properties. A MoU had been signed with KVIC, he said. The idea is to help farmers take up modern methods of beekeeping to improve honey yield and also get additional income.

He said a new programme would be launched by the DST from April 1 to promote basic sciences by setting aside a grant of ₹50 crore. It would help students come up with scientific ideas in an attempt to encourage them to pursue

basic science.

On the Aroma Mission and the CSIR Floriculture programme, he said the Aroma and Phyto-Pharmaceutical Mission was intended to boost the cultivation of aromatic plants that have medicinal properties. This mission, taken by the Central Institute of Medicinal and Aromatic Plants and medicinal plants such as lavender and others, will be promoted with the help of farmers in several States, including Karnataka.

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CSIR-CDRI,NBRI,CIMAP

9<sup>th</sup> March 2020

साइंस, टेक्नोलॉजी, इंजीनियरिंग और मेथ की इस टीम में नौवीं से 11वीं में पढ़ने वाली 2,500 छात्राएं शामिल, आईआईटी और देश के चुनिंदा संस्थानों में इनकी ट्रेनिंग शुरू

# देश में ढाई हजार महिला वैज्ञानिकों की सुपर टीम तैयार हो रही

नई दिल्ली | मदन जैड़ा

साइंस, टेक्नोलॉजी, इंजीनियरिंग और मेथ (एसटीईएम) में महिला वैज्ञानिकों की सुपर टीम तैयार हो रही है। अभी इस सुपर टीम में नौवीं से 11वीं में पढ़ने वाली 2,500 छात्राओं को शामिल किया गया है।

आईआईटी और देश के चुनिंदा संस्थानों में इनकी ट्रेनिंग शुरू हो गई है। केंद्र का कहना है कि इन छात्राओं को पीएचडी तक पहुंचाया जाएगा। विज्ञान एवं प्रौद्योगिकी मंत्रालय ने हाल में शुरू की विज्ञान ज्योति

योजना के तहत देश के 50 जिलों में 2,500 प्रतिभाशाली छात्राओं का चयन किया है। प्रत्येक जिले से 50 छात्राएं चुनी गई हैं। ये छात्राएं नवोदय विद्यालय, केंद्रीय विद्यालय, आर्मी पब्लिक स्कूल और अन्य सरकारी स्कूलों की हैं। योजना के लिए उस जिले के नवोदय विद्यालय को नोडल एजेंसी बनाया गया है तथा उस क्षेत्र में स्थित नामी वैज्ञानिक संस्थानों को नॉलेज पार्टनर नियुक्त किया गया है।

**महिला वैज्ञानिक करेगी मेंटरिंग :** इन छात्राओं की मेंटरिंग इन चुनिंदा संस्थानों की महिला वैज्ञानिकों द्वारा

विज्ञान, प्रौद्योगिकी, इंजीनियरिंग में महिलाओं की हिस्सेदारी कम

स्तर	संख्या	प्रतिशत
स्नातक	10,46,917	24%
पीजी	2,43,415	22%
एमफिल	7,561	28%
पीएचडी	7,605	35%

(स्रोत : मानव संसाधन विकास मंत्रालय उच्च शिक्षा सर्वे 2017-18)

की जाएगी। उन्हें प्रेरित किया जाएगा। प्रोजेक्ट आधारित प्रशिक्षण दिया जाएगा। करियर काउंसलिंग होगी। 12वीं से ही उन्हें एंट्रेंस एग्जाम की तैयारी कराई जाएगी। नॉलेज पार्टनर

ये हैं नॉलेज पार्टनर

**उत्तर प्रदेश** विज्ञान एवं प्रौद्योगिकी मंत्रालय के संयुक्त सचिव डॉ. संजय मिश्रा के अनुसार जैसे लखनऊ, प्रयागराज, सहारनपुर और कानपुर जिलों में यह योजना शुरू की गई है। लखनऊ के लिए सीएसआईआर की तीन प्रयोगशालाओं सीडीआरआई, एनबीआरआई तथा सीमैप को नॉलेज पार्टनर बनाया है। प्रयागराज के लिए मोतीलाल नेहरू एनआईटी और ट्रिपल आईटी, को नॉलेज पार्टनर बनाया है।

संस्थाओं की प्रयोगशालाओं का दौरा कराया जाएगा। प्रयोगशालाओं में लेक्चर और प्रशिक्षण दिया जाएगा। मकसद यह है कि विज्ञान के उपरोक्त चार क्षेत्रों में वह अपना

करियर बनाएं।

**हजार रुपये प्रतिमाह छात्रवृत्ति** : इन सभी 2,500 छात्राओं को अभी एक हजार रुपये प्रतिमाह छात्रवृत्ति दी जा रही है। प्रत्येक जिले के लिए

विज्ञान एवं प्रौद्योगिकी विभाग ने अभी 20 लाख रुपये का प्रावधान किया है। डीएसटी (विज्ञान एवं प्रौद्योगिकी विभाग) का कहना है कि अभी यह पायलट प्रोजेक्ट के रूप में

है। आगे इस राशि में बदलाव भी हो सकता है। लक्ष्य यह है कि इस साल के अंत तक कम से कम 200 जिलों में यह योजना शुरू कर दी जाए।

**उत्तराखंड**

इसी प्रकार उत्तराखंड के हरिद्वार, देहरादून और अल्मोड़ा जिले योजना में शामिल हैं। आईआईटी, रुड़की, हरिद्वार, जीबी पंत हिमालय इंस्टीट्यूट, अल्मोड़ा तथा एम्स, ऋषिकेश और उत्तराखंड टेक्निकल यूनिवर्सिटी, देहरादून जिले की छात्राओं को प्रशिक्षित करेंगे।

**दिल्ली**

**गुरुग्राम** इसी प्रकार देश की राजधानी दिल्ली की छात्राओं को दिल्ली टेक्निकल यूनिवर्सिटी (डीटीयू) और गुरुग्राम की छात्राओं को आईआईटी दिल्ली प्रशिक्षण देगी।

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Hindustan

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## IICT working on molecule for coronavirus drug

CSIR-IICT

6<sup>th</sup> March, 2020

Hyderabad, March 6 (IANS) The Indian Institute of Chemical Technology (IICT) has started working on a molecule for a drug for the treatment of coronavirus, which has so far killed over 3,000 people in China and other parts of the world.

A team of 15 scientists at the city-based IICT, a part of the Council of Scientific and Industrial Research (CSIR), is working to develop the molecule for the Active Pharmaceutical Ingredient (API) to help the companies to finally come out with a drug.

IICT Director Dr S. Chandrasekhar told IANS on Friday that the work began three days ago and he expects the molecule process to be ready in 3-4 months. "Per say we don't need more than 3-4 months to make the process ready and keep the compound ready. In the meantime, if coronavirus disappears, it may not be required," he said.

He observed that since Gilead Sciences has started clinical trials of its drug in China, they thought they should also be ready. "If clinical trial passes and the disease still continues, I am sure Gilead will launch the product globally. We are doing as a back-up. In case it gets through clinical trial and that company does not give (technology) to India, then we can," he said.

"They registered 1,000 patients in China now but looks like the number of cases in China are coming down slowly. The mortality rate has also come down. Initially they said it is 3 per cent but looks like it is not so virulent that people are dying. I think symptoms are mild and people are recovering fast. We wish and pray that our service is not required," he said.



The scientist said the idea of developing a molecule emerged when they were talking to some industries working on anti-virus drugs and one of them called for working together. "We told them that we will start working on the process with our resources and in case, the clinical trial passes, we would like to help them."

He observed that companies generally will not be very aggressive unless someone pushes them. He pointed out how the companies had built huge stocks of Tamiflu but the disease disappeared quickly.

"That company basically does not even know that the molecule will pass clinical trial. We are throwing a stone, only then something happens. It is better to start now and be ready instead of suddenly starting work after a few months," he said.

Chandrasekhar said if the IICT develops a technology, they will not share with just one company. "If we develop a technology it is essential that we don't give to one company because there will be monopoly in pricing. If really required we will give to at least 7-8 companies so that the price will be under control."

He pointed out that India is very good in reverse engineering and it transformed the entire generic industry. IICT, IDPL and other had played very important role in this.

He recalled that IICT had made the first HIV drug in 1987. He said Cipla still sells its product globally with their technology.



## Arvi gets country's 1st unique sewerage system

CSIR-NEERI

6<sup>th</sup> March, 2020

Nagpur: Death toll of sewer cleaners in the country has been on the higher side. Taking serious note of it, the National Environmental Engineering Research Institute (Neeri) has designed the country's first 'decentralized shallow sewerage system' for Arvi, a city in Wardha district.

The system, designed under the expertise of Neeri director Rakesh Kumar, is based on a decentralized approach and natural gravity flow. "The topography of Arvi is such that the sewerage system runs on 100% gravity flow, which eliminates the cost of pumping station, laying of pumping mains and huge amount of recurring maintenance," said Ritesh Vijay, principal scientist and head of Mumbai zonal centre.

At over 57% coverage area, the depth of the network is around 1.5 meters. "The depth in conventional sewerage systems is much more. Toxic gases like methane are formed which pose a serious health threat to cleaners. With low depth, this shallow system can be cleaned easily, thus doing away with the need for cleaners to go deep down," added Vijay.

Last month, a 17-year-old boy died of asphyxiation inside a manhole in Bengaluru after he went inside to clean it.

Apart from being cost-effective, the system is also environment-friendly. "Minimal disturbance to soil profile of Arvi was accounted as there is hardly any excavation. The system also reduced further pollution load of extensive digging and filling activities during sewerage network, which led to environment friendly construction," said Vijay, adding that the project can be a blueprint for implementing decentralized approach model



for sewage conveyance of towns having population less than 1 lakh.

The system is under implementation in Arvi where the sewage would go directly in open drains. The decentralized system is divided into two parts. The first sewage treatment plant (STP) is based on phytorid technology which uses plants to absorb nutrients directly from waste water. The second STP is a moving bed biofilm reactor which is made of an activated sludge aeration system.

According to scientists, decentralized sewerage system is more effective compared to centralized one. Citing Nagpur's example, Vjay said, "At present, only 50% of the city's sewage is getting treated. Remaining 50% is going to rivers like Nag, Pora and Pili."

Recently, Neeri set up Telangana's first phytorid-based sewage treatment plant at the campus of International Advanced Research Centre for Powder Metallurgy and New Materials (ARCI) in Hyderabad.

## IN A NUTSHELL

Neeri develops country's first decentralized shallow sewerage system' at Arvi, Wardha

System runs on 100% gravity flow

Depth of the network is low, eliminating need for cleaners to go deep down

System has 2 STPs based on phytorid and moving bed biofilm reactor technology

Cost-effective and environment friendly

**Published in:**

[Timesofindia](https://timesofindia.com)



## Workshop on workplace harassment of women organised in Hyderabad

CSIR-IICT

6<sup>th</sup> March, 2020

Dr S Chandrashekar, Director, IICT, gave his opening remarks followed by Saleema Additional DCP, SHE Teams, who sensitised participants on breaking the silence when they come across sexual harassment.

**Hyderabad:** The Rachakonda Police, jointly with the Rachakonda Security Council (RKSC), organised a workshop on 'Sexual Harassment of Women at Workplace' at the IICT auditorium here on Friday.

Dr S Chandrashekar, Director, IICT, gave his opening remarks followed by Saleema Additional DCP, SHE Teams, who sensitised participants on breaking the silence when they come across sexual harassment.

Swathi Lakra, IG, Women's Safety Wing, who was the chief guest, explained the functioning of various support centres and helplines that were available across the city for distressed women.

A series of lectures were given starting from Rachakonda Police Commissioner Mahesh M Bhagwat, who spoke on how to differentiate between myths and truth pertaining to the complaints, awareness about women's rights and procedures to follow in lodging the complaints when there is sexual harassment at workplace.

**Published in:**

[Telanganatoday](http://Telanganatoday)



CSIR-CRRI

# CRRI begins study on Nadukani Ghat Road

## Team Has Collected Samples, Trying To Find Cause Of Repeated Landslips, Plan On Redesigning Road

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**Malappuram:** An expert team from Central Road Research Institute (CRRI), Delhi, has started a study on redesigning the Nadukani Ghat Road which was damaged due to multiple landslips triggered by heavy rain in the region last year.

The team led by Vasant G Havanagi, senior principal scientist of CRRI has conducted inspections in various parts of the road, including damaged areas and the inspection will continue for some more days. Chief engineer and other officials of PWD are also accompanying the scientists.

The inter-state highway connecting Nilambur region with Gudalur area in Tamil Nadu was completely washed away in several spots after the heavy rain and



It is expected that the team will wind up the inspection on Friday and submit a detailed report to PWD authorities soon

landslides in the region during August. After huge rocks were deposited on the road at Thenpara and Thakarappadi the traffic the authorities were forced to completely

ban the traffic through the region for many months. As the road spans an 11km area which comes under jurisdiction of Kerala, was seriously damaged in the rain, the

PWD authorities have already observed that reconstruction of the road in a conventional method would not be a permanent solution.

G Geetha, executive engineer of PWD (Roads) said that the team is mainly examining the possibility of redesigning and strengthening the road in the areas where the landslips occur frequently.

The team has collected soil samples from different areas of Ghat Road and they have also assessed the depth of rocks. "The team is trying to find the real cause of frequent landslips and landslides in the region. We are expecting that they will suggest proper remedial measures to avoid soil slips in the region, including restructuring and redesigning of road", she said.

It is expected that the team will wind up the inspection on Friday and submit a detailed report to

PWD authorities soon.

PWD Minister G Sudhakaran who recently visited the spot last year had announced that government will consider the demand for redesigning the road with bridges and alternate routes.

Meanwhile the PWD is also considering an alternate route for the Ghat Road, through Munderi, Appankappu and Panthalur. The department has already submitted a proposal for a new inter-state highway through Appankappu, as the better alternative for Nadukani Road. According to the proposal, the inter-state highway can be materialized by developing an existing forest road in 10.2km area from Appankappu tribal colony area near Munderi to Pandalur near Gudalur in Tamil Nadu. The total distance from Appankappu to Pandalur in Tamil Nadu is 10.2km.



CSIR-CBRI

## CBRI Gave Yeoman Service To The Nation: Dr Ramachandra

The 74th CBRI Foundation Day Celebrations at CSIR-Central Building Research Institute, Roorkee inaugurated with the Message from Dr. Shekhar C. Mande, DGCSIR wherein he applauded the contributions of CSIR-CBRI, Roorkee in building construction sector and urged to develop global technologies by understanding the deep science behind building research, through brainstorming and discussions.

Chief Guest of the occasion, Dr. V. Ramachandra, Joint President & Head (Tech Services), UltraTech Cement Ltd., Mumbai appreciated CBRI's commitment towards building science and the development of new-age technologies. He showed his satisfaction with CBRI's work in taking these technologies from lab to land.

Presenting the Prof. Dinesh Mohan Memorial Lecture on "Fly Ash as a

Binder Material". Guest of Honour Prof. Kolluru V.L. Subramaniam, Professor, Civil Engineering Department, IIT Hyderabad discussed the effective use of fly ash in cement systems and alternate pathways.

In his Presidential Address, Dr. N. Gopalakrishnan, Director, CSIR-CBRI, Roorkee congratulated and thanked everyone for their contribution to its success directly or indirectly.

The latest edition of quarterly bilingual CBRI Newsletter-Bhavnikā was also released on the occasion.

Dr. Suvir Singh, Chief Scientist presented a formal introduction of Chief Guest. Dr. P.K.S. Chauhan, Principal Scientist conducted the function and presented a formal introduction of Guest of Honour. Shri S.K. Negi, Chief Scientist welcomed the gathering and proposed a vote of thanks.

Shri R.S. Chimote, Dr. Atul Kumar Agarwal, Shri S.K. Singh, Dr. Leena Chaurasia and Shri C. Kujur along with the superannuated staff of CSIR-CBRI, Roorkee also graced the occasion.

### Honors & Awards

The Diamond Jubilee Research Paper Award was given to Dr. Banti A. Gedam for "Time Dependant Behaviour Prediction of the Prestressed HPC I-Grider"; Shri G. Santha Kumar, Shri P.K. Saini, Dr. S. R. Karade, and Dr. A.K. Minocha for "Chemico-Thermal Treatment of Recycled Concrete Fine Aggregates"; and Dr. Ajay Chaurasia, Shri Shubham Singhal and Shri Jalaj Parashar for "Experimental Investigations of Seismic Strengthening Techniques for Confined Masonry Buildings".

The Diamond Jubilee Technology Award having Maximum Societal Impact was awarded to Dr. Rajni Lakhani, Shri Iqbal

Ahmed, Shri Francis Charles and Shri Shah Nawaz Khan for "Thermal Insulated Vermiculite Tiles"; Dr. L.P. Singh, Shri Srinivas Rao, Shri Dilshad, Shri Inderjeet Tyagi and Smt. Usha Sharma for "Process Know-How for the Preparation of Silica Nanoparticles"; Shri Manojit Samanta and Shri Ajay Dwivedi for "Helical Anchors – Innovation & Applications to Infrastructure Projects"; Dr. R.S. Chidambaram and Dr. S.R. Karade for "Hybrid Rebar Couplers"; and Dr. Ajay Chaurasia, Dr. S.K. Panigrahi, Shri Jalaj Parashar and Shri Shubham Singhal for "Heavy Bars as Mechanical Anchorage System for RC Beam-Column Joints".

Technology on "Fire Retardant and Water Repellent Canvas" by Dr. Harpal Singh; "Process Know-How for the Preparation of Nano-Lime" by Dr. L.P. Singh, Dr. Achal Mittal and Ms. Shubhangi Shukla; "A Hybrid Climbing Robotic Device for Remote Structure Monitoring" by Shri R.S. Bisht, Prof. P.M. Pathak and Dr. S.K. Panigrahi; and "Fire Retardant Water Based Clear Transparent Coating for Wood and Wood Based Interiors" by Shri A.A. Ansari and Shri Rakesh Kumar.

Shri Ravinder Bishi felicitated with the "Best Young Scientist Award".

Shri Narendra

Kumar, Shri Jalaj Parashar, Shri Manoj Tyagi, Shri Rajeev Bansal, Shri Rajesh Kumar, Smt. Archana, Shri Shiv Kumar, Shri Khushendra Arora, Shri Virendra Singh, Shri Vipin Sharma, Shri Vishwas Tyagi, Shri B.K. Kalra, Shri Arun Kumar & Shri Malkhan Singh were felicitated with Best Employees Award.

Winners of Essay Competition on the topic "Impact of Social Media", Shri Saksham Bharadwaj, Shri Arpan Maheshwari, Shri Sushil Kumar and Shri Nitish Raj were felicitated.

Security Officer Shri V.P.S. Rawat was awarded as one of the winner of the 5KM Race in the category of Age 50 +.



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# सीबीआरआई के योगदान की प्रशंसा



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रुड़की। केन्द्रीय भवन अनुसंधान संस्थान के 74वें स्थापना दिवस समारोह का शुभारम्भ अतिथियों द्वारा संयुक्त रूप से दीप प्रज्ज्वलित कर किया गया। इस अवसर पर सीएसआईआर महानिदेशक डा. शेखर माण्डे ने भवन निर्माण के क्षेत्र में सीबीआरआई के योगदान की प्रशंसा की। समारोह के मुख्य अतिथि डा. वी रामाचन्द्रा, संयुक्त

अध्यक्ष एवं प्रमुख तकनीकी सेवाएं, अल्ट्राटेक सीमेंट लिमिटेड, मुंबई ने सीबीआरआई द्वारा भवन निर्माण एवं विज्ञान के क्षेत्र में विकसित तकनीकियों की प्रशंसा की और इनके औद्योगिक हस्तांतरण के लिए प्रोत्साहित किया।

इस अवसर पर विशिष्ट अतिथि प्रो. कोलोरु वी एल सुब्रमण्यम, प्रोफेसर, सिविल अभियांत्रिकी विभाग, भारतीय प्रौद्योगिकी संस्थान, हैदराबाद समारोह ने बंधक सामग्री के रूप में फ्लाइंग ऐश विषय पर प्रो.

## केन्द्रीय भवन अनुसंधान संस्थान का स्थापना दिवस मनाया

दिनेश मोहन मेमोरियल व्याख्यान प्रस्तुत करते हुए सीमेंट सिस्टम और वैकल्पिक मार्ग में फ्लाइंग ऐश के प्रभावी उपयोगों पर चर्चा की। अपने अध्यक्षीय संबोधन में संस्थान के निदेशक डॉ. एन. गोपालकृष्णन ने कहा कि संस्थान ने अपनी इस लम्बी यात्रा में सभी उतार-चढ़ाव का डट कर सामना किया है और भविष्य में भी संस्थान अपने परिश्रम द्वारा देश सेवा में अपना योगदान देता रहेगा। इस अवसर पर संस्थान के प्रधान वैज्ञानिक डॉ. प्रदीप चौहान, मुख्य वैज्ञानिक एस.के. नेगी, आर.एस. चिमोटे, डा.अशोक कुमार, डॉ. आर. धर्मराजु, डा. अतुल अग्रवाल, एस.के. सिंह, सी. कुजूर तथा संस्थान के सेवानिवृत्त कर्मचारी भी मौजूद रहे।

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