

# CSIR in Media



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**CSIR Touching Lives**

**News Bulletin**

**6<sup>th</sup> to 10<sup>th</sup> October 2019**



## Green woes: Sivakasi fireworks units may take a Rs 800-crore hit

CSIR –NEERI



The fireworks industry in Sivakasi, Tamil Nadu, is expected to take a hit of about Rs 800 crore in the run-up to Diwali this year, primarily as it tries to comply with the Supreme Court's directive on environment-friendly crackers. Last year, the unorganised industry that employs about 800,000 people, had earned about Rs 2,000 crore in the Diwali season. Sources said it expects to be fully compliant with the SC's norms next year, thereby reducing losses. Crackers from Sivakasi, a town about 550 km southwest of Chennai, have already been shipped to various centres for Diwali, which falls on October 27 this year. However, it has not shipped huge quantities to the National

10<sup>th</sup> October, 2019

Capital Region as the SC is yet to finalise rules for it. The NCR usually reels from air pollution around this time of the year because of burning of crackers as well as crop residue in neighbouring states such as Punjab and Haryana. However, the air quality in the NCR has been better this year. "In March, the SC provided clarity on what are green crackers. This helped the industry to work on such fireworks," said P Ganesan, president of Tamil Nadu Fireworks and Amorges Manufacturers' Association. He added, "We lost the first four months of production by then. This will lead to losses of about Rs 800 crore." Ganesan, also director of Vinayaga Sonny Fireworks Group, one of the largest fireworks manufacturers in the country, said they expected a favourable order from the SC, as most units had complied with its order. "Things are likely to become better next year," he added. On Saturday, Union Minister for Science and Technology Harsh Vardhan launched green firecrackers in New Delhi. He said 530 emission-testing certificates have

been issued to manufacturers for new formulations meeting the guidelines for green crackers. Emissions-testing facilities for new firecrackers have been set up at the Council of Scientific and Industrial Research-National Environmental Engineering Research Institute (CSIR-NEERI). A facility to analyse composition of raw material has also been set up in Sivakasi to help manufacturers test their chemicals. A hundred and sixty-five manufacturers have joined this, and 65 more are expected to come in, said Vardhan. A green logo and a quick response (QR) coding system have been developed to differentiate green crackers from conventional ones. Eight laboratories have together developed improvements in conventional formulations based on barium nitrate to meet the stipulated norms, implementation of which is subject to approval of the SC. It has also developed new formulations to reduced emission of light and sound, with 30 per cent reduction in particulate matter (PM).

“Factory-level trials were conducted. Once we were sure on 30 per cent reduction in emission, guaranteed shelf-life of the product, and safety of the process, the industry started to follow that as a norm. All crackers manufactured now are following NEERI standards,” said B Abiruben, managing director of Ayyan Fireworks Factory, adding that the new norms were yet to be ratified by the SC. Ganesan said the ministry has submitted a favourable view on the improved formulation with the court. The time restrictions on bursting firecrackers, imposed by the court last year, continue to be a challenge. The prices of firecrackers are also unlikely to go up despite compliance with green norms. The industry has started receiving enquiries from the US, the UK, Europe, West Asia, and even Sri Lanka for green firecrackers. But, not everyone in the industry is enthusiastic about the developments.

Industry sources who did not want to be named said “green crackers” was nothing more than “a drama” staged by the government, CSIR-NEERI, and some manufacturers.

The Petroleum and Explosives Safety Organisation (PESO), the licensing authority for firecrackers, has rejected all of the 300 NEERI formulations except a single sound cracker. However, the minister has launched sound-emitting crackers, flowerpots, pencils, and sparklers as environment-friendly fireworks.

Another manufacturer said the industry had been affected almost 50 per cent this year because of the order on green firecrackers. “CSIR-NEERI are not the authorities on fireworks. It is the PESO which is the authority for this industry,” said the manufacturer. “The PESO should have been consulted before passing such orders. Everybody and the court thought NEERI will provide a solution in the form of green crackers — but nothing of the sort happened.”

“Why was the PESO not invited to the launch? Because it would say nothing has been approved,” said another manufacturer on the condition of anonymity. The formulations should be presented to the PESO and approval obtained to before being labeled a green cracker, he added.

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## Union minister Harsh Vardhan inaugurates DME fuel plant at NCL, Pune

CSIR-NCL

8<sup>th</sup> October, 2019

Pune Harsh Vardhan, Union Minister for Health and Family Welfare, Science and Technology, and Earth Sciences, inaugurated a dimethyl ether (DME) pilot plant under the mission project 'Catalysis for Sustainable Development', at the Council of Scientific and Industrial Research-National Chemical Laboratory (CSIR-NCL) on Monday. DME will be a non-fossil additive to the liquified petroleum gas (LPG) used for cooking. The DME project is aimed at helping in the Prime Minister Ujjwala Yojana, that provides cooking gas to the marginalised, by reducing import. DME can be blended with LPG upto maximum of 20%, according to NCL officials.

The DME pilot plant mission project catalysis for sustainable development was a result of the decisions made through the 2015 Dehradun declaration, according to Ashwini Kumar Nangia, Director of CSIR-NCL. "In the Dehradun Declaration that was made in May-June 2015, we had decided specifics of concrete developments so that our research and technology does not remain inside laboratories. We vowed to take these inventions to the industry and through the industry to the people," said Vardhan.

"It was also decided that CSIR labs will devise ways to develop industry driven technologies, including game changing technologies. Each laboratory would also develop at least one technology in strategic sector for India. The two days of 'Chintan Shivir' held on June 12 and 13, 2015 concluded with all CSIR labs agreeing to make efforts to be self financing in next 2 years," read a 2015 statement by the Ministry of Science and Technology. The decision to leave the CSIR labs to fend for themselves for two years after the Dehradun declaration had drawn flak for Vardhan.

When asked about the funding available for research projects, the minister said, “If you compare the past four years and the four-five years before that, you will see some 90% change in DST (drug susceptibility testing), biotechnology has seen 65%, CSIR has also seen a 45% rise in funding. Plus, they also have self-creation of funds.”

He further added, “In government, there is never a problem of money. There has be a programme ambitious enough for the money. If there is a project, there’s always money.” CSIR-NCL has applied for three patents related to the project which will help them make money out of the project.

The DME project has five industrial partner organisations attached to it. The five organisations include three government companies including Rashtriya Chemicals and Fertilizers Limited (PSU - Mini-Ratna), Engineers India Limited (PSU) - Navratna company) and Automotive Research Association of India (ARAI), Pune. The two private players include SignAssure -Deepak Group which is a privately owned methanol producer and Kirloskar Oil Engines Limited, Pune.

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[Hindustan Times](#)

## मधुमक्खी पालन से आय दोगुनी कर सकते हैं किसान

अमर उजाला ब्यूरो

पालमपुर (कांगड़ा)। कृषि और बागवानी के बाद अब किसानों की आय मधुमक्खी (एपीकल्चर) से भी दोगुनी हो सकती है। किसानों की मधुमक्खी पालन में आय दोगुनी करने के लिए सीएसआईआर पालमपुर में आधुनिक वैज्ञानिक तरीकों से जागरूक किया जा रहा है। स्वास्थ्य से लेकर सौंदर्य प्रसाधनों तक शहद का प्रयोग किया जाता है। इससे लेकर इसकी वैश्विक बाजार में मांग और बढ़ी है।

हालांकि, भारत विश्व स्तर पर शुद्ध प्राकृतिक शहद का 8वां सबसे बड़ा उत्पादक देश है। इसका उत्पादन 105 लाख मीट्रिक टन है। भारत इस समय अमेरिका, सऊदी अरब, संयुक्त अरब अमीरात, बांग्लादेश और कनाडा आदि को 0.63 लाख मीट्रिक टन शहद निर्यात करता है। इसकी कीमत 732.16 करोड़ है। बावजूद इसके हिमाचल समेत अन्य कई राज्यों में अभी तक किसान मधुमक्खी पालन को लेकर जागरूक नहीं हैं। मधुमक्खी का शहद कई चीजों में काम आता है। यह सौंदर्य प्रसाधन क्रीम, कंडीशनर, फेस पैक्स स्क्रब, शैंपू समेत फार्मास्यूटिकल्स, डेंटल फिलिंग और मलहम आदि कई



सौंदर्य प्रसाधनों की लगी होड़ से वैश्विक स्तर पर शहद की बढ़ने लगी मांग

चीजों में काम आता है। रॉयल जेली शहद प्रोटीन से भरपूर और उम्र के प्रभाव से लड़ने में फायदेमंद होता है। मधुमक्खी का जहर गठिया के विकारों जैसे मल्टीपल स्केलेरोसिस, रुमेटीइड आर्थराइटिस, एपेथेरेपी के उपचार के लिए उपयोग किया जाता है। उधर, सीएसआईआर-आईएचबीटी के निदेशक डॉ. संजय कुमार ने कहा कि मधुमक्खी पालन से किसानों की आय दोगुनी होती है। आज शहद की मांग बढ़ी है। इससे इसके दाम भी अच्छे हैं। सीएसआईआर में किसानों को जागरूक किया जा रहा है।

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Amar Ujala

## City to host meet on fauna conservation

CSIR-CCMB

7<sup>th</sup> October, 2019

Hyderabad: The city is set to host an international conference on advancements in veterinary sciences for wildlife conservation. The event aims to shed light on the new research developments in conservation and management of endangered wildlife while also promoting conservation genetics and reproductive technologies.

The event will be organised by the Laboratory for Conservation of Endangered Species (LaCONES), Centre for Cellular and Molecular Biology (CCMB), Hyderabad from November 13 to November 15. “We aim to focus on wildlife health, conservation breeding and management while deliberating on recent scientific developments in these areas,” said CSIR-CCMB director Rakesh K Mishra. “With a looming threat to wildlife, we hope that the zoo and wildlife veterinarians, wildlife conservationists and biologists working in different parts of the world come together and substantiate on what is being done and what else can be done,” he added.

The 13<sup>th</sup> annual meeting of the association of Indian zoo and wildlife veterinarians (AIZWV) will also be organised in the city on November 13.

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## CSIR launches eco-friendly crackers

CSIR –NEERI



The 'green' crackers reduce particulate emissions by 30 per cent and are available at the same cost as the traditional ones, some of them even cheaper. Minister for Science and Technology and Earth Sciences Harsh Vardhan on Saturday launched a set of new crackers that promises to help reduce particulate emissions by 30 per cent while producing the same level of light and sound effects of traditional fireworks. The new firework, which covers popularly used sound-emitting crackers, flowerpots, pencils, chakkar and sparklers, are based on formulations developed by a consortium of eight laboratories under the Council of Scientific and Industrial Research (CSIR) led by Nagpur-based National Environmental Engineering Research Institute.

6<sup>th</sup> October, 2019

Launching the 'green' crackers at a press conference, Harsh Vardhan said the crackers would be available at the same cost as the traditional ones. "Some of them may even be cheaper," he said. He noted that about 230 firework manufacturers had signed the memorandum of understanding for using the formulations developed by CSIR scientists. Of them, 165 have gone further and have also entered into a non-disclosure agreement. CSIR had taken up the project to develop eco-friendly crackers in the wake of directions of the Supreme Court restricting the use of fireworks to address the growing problem of pollution in different parts of the country. The project adopted a two-pronged approach. While one stream of activity was focussed on improving the traditional crackers through reduction in the level of Barium Nitrate, which is the main villain, the second pathway aimed at replacing Barium Nitrate with a more benign Potassium Nitrate. As part of the exercise, the scientists also set up a new facility that could be used by manufacturers to characterise the raw material and analyse

the compositions of the chemicals used in fireworks. The Minister said that the new and improved crackers had been demonstrated to manufacturers and their associations such as Tamil Nadu Fireworks and Amorges Manufacturers Association and Indian Fireworks Manufacturers Association, besides the Central Pollution Control Board and Petroleum And Explosives Safety Organisation, which is responsible for controlling transport, storage and usage of all explosive materials,

Besides National Environmental Engineering Research Institute, the consortium consisted of Central Electrochemical Engineering Research Institute, Indian Institute of Toxicology Research, Indian Institute of Chemical Technology, National Chemical Laboratory, Central Electronics Engineering Research Institute, National Botanical Research Institute and Central Mechanical Engineering Research Institute.

Harsh Vardhan said the new set of crackers would have a prominent green logo to differentiate them from the conventional ones. Further, it would carry QR code for monitoring. Scanning of the code would provide all information about the product, including the chemicals and the process used.

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**Also Published in:**  
The Economic Times  
NDTV  
Hindustan Times  
Telegraph India  
The Indian Express  
Deccan Herald  
The Hindu  
The Times of India

## CSIR to fund sensor study at GITAM

CSIR-IICT

6<sup>th</sup> October, 2019

Hyderabad: In an attempt to implement increased efficiency of environmental stability in the development of chemical and biological sensor applications, Council of Scientific & Industrial Research (CSIR) has sanctioned a funded three-year research project to the School of Science at Gandhi Institute of Technology and Management (GITAM), Hyderabad.

“The bio and chemical sensor applications that we aim to research and develop through the project will help in healthcare monitoring, screening for disease and environmental pollution control,” said K.Vijayanandhini, assistant professor, Department of Physics, GITAM who will be the principal investigator (PI) on the project. “Biosensors can provide cost-effective, easy-to-use, sensitive and highly accurate detection devices in a variety of research and commercial applications,” said T Shekaram, scientist, CSIR-IICT.

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## Scientist from Andhra Pradesh wins CSIR Young Scientist Award 2019

CSIR –NIIST

6<sup>th</sup> October, 2019



**On September 26, Sasidhar B.S. accepted the CSIR Young Scientist Award in Chemical Sciences 2019 from Union Minister of Science and Technology Harsh Vardhan**

Sasidhar B.S. recalls how, years ago, the people of the Andhra Pradesh village he hailed from would trudge large distances just to consult a doctor. Or to buy medicines.

“Even for small things you had to travel nine or 10 kilometres to another village. For the shops, you travelled 30-40 kilometres,” Dr. Sasidhar, relaxing in his office at CSIR-National Institute for Interdisciplinary Science and Technology (CSIR-NIIST), Pappanamcode, said on Saturday. The painful childhood memory contributed to his choice

of a career; that of a scientist whose research areas are organic chemistry and discovery of life-saving drugs. Dr. Sasidhar is now a senior scientist with CSIR-NIIST’s Chemical Sciences and Technology Division.

On September 26, the 35-year-old accepted the CSIR Young Scientist Award in Chemical Sciences 2019 from Union Minister of Science and Technology Harsh Vardhan. The award recognised his “contributions in organic chemistry, particularly in the area of pharmaceuticals and agro-chemicals.” Dr. Sasidhar said he owed the achievement to Dr A. Ajayaghosh, director, CSIR-NIIST, and his colleagues. His group is engaged in the development of drugs for therapeutic applications — notably anticancer, antiobesity and antimicrobial agents — through target-based chemical synthesis as well as natural product-based approaches. “The latter approach is significant as Kerala and the Western Ghats are rich in medicinal herbs,” Dr. Sasidhar, who has a PhD in medicinal chemistry, said.

## Mango ginger

Mango ginger (*Curcuma amada*, or, in Malayalam, manga inji) is an example. Dr. Sasidhar's group has discovered a potent antiobesity agent from this plant. Likewise, they have also pinpointed biologically significant molecules from plant sources that could treat cancer and microbial infections.

A recipient of the Kerala State Young Scientist Award in 2017, Dr. Sasidhar is from an agricultural family from Hospet that later moved to Mallikarjunapalli village in Andhra Pradesh to grow rice and jowar. Later, Sasidhar went to Guntakal for his education. While pursuing his masters in organic chemistry at Gulbarga University, he received a 'push' towards his career. "It was our annual day and Dr. A.P.J. Abdul Kalam was visiting. He advised me to work on drug discovery to serve the society," he said.

Dr. Sasidhar is married to Vanisri K., a homemaker. The couple has a daughter, Saanvi S.

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