

CSIR in Media



75 Years of

CSIR Touching Lives

News Bulletin

21st to 30th April 2018



Government defers move to transfer JNTBGRI to CSIR

CSIR

30th April, 2018

State does not want to lose control over a carefully nurtured institution

The government has deferred the move to hand over the Jawaharlal Nehru Tropical Botanic Garden and Research Institute (JNTBGRI) to the Council for Scientific and Industrial Research (CSIR), signalling a shift from the previous UDF regime's policy of offloading scientific research institutions strapped for funds to meet development expenses. "The file on the proposed transfer of the JNTBGRI to the Council for Scientific and Industrial Research has been kept pending on directions from the Chief Minister," M.C. Dathan, scientific adviser to the government, told *The Hindu*. "With the budgetary outlay at its disposal, the institute was finding it difficult to maintain its facilities and take up new research and development projects.

"Yet, the prospect of losing control over an institution that has been carefully nurtured by the State over the decades clinched the decision to put on hold the proposal," he said. The government is learnt to be considering an alternative proposal to hike the budgetary outlay for the JNTBGRI by 25% and mobilise more resources from the Union Department of Science and Technology and the Department of Biotechnology. Official sources, however, point out that the State's financial position would not allow it to release additional funds immediately. It was in 2014 that the UDF government headed by Oommen Chandy initiated efforts to hand over the JNTBGRI to the DBT.

Following a memorandum submitted by the State, an expert panel headed by the then Planning Commission Deputy Chairman Montek Singh Ahluwalia visited the institute and recommended its takeover by the Centre.

DBT-funded projects

Prior to the takeover, the institute was asked to take up a slew of DBT-funded projects to demonstrate its competence. Two years later, it was decided to transfer the JNTBGRI to the CSIR instead of the DBT.

A high-level team led by Director General, CSIR, Girish Sahni visited the JNTBGRI campus at Palode and discussed the formalities of the takeover. Official sources said the government's decision to shelve the transfer of the JNTBGRI was also influenced by the experience of handing over another premier institute, the Centre for Earth Science Studies (CESS), to the Centre.

Losing relevance

“Following the takeover, CESS lost its relevance for the State. Scientists who were regularly called upon to address issues affecting the State like coastal erosion, soil piping and tremors became aloof,” a highly placed official said.

Published in:

[The Hindu](#)

Sabarimala prasadam to get 'makeover' with CFTRI touch

CSIR-CFTRI

29th April, 2018

The 'appam' and 'aravana', the sweet ball and jaggery dessert, which are sold as prasadam (offering) at the famed Lord Ayyappa temple in the State, are set to get a makeover from the next pilgrim season. The Central Food Technological Research Institute (CFTRI), which provides guidance for making delicious 'laddu' and 'panchamrutham,' offered at the famed Tirumala Tirupati temple and Lord Muruga's shrine in Palani respectively, are now gearing up to give a new touch to the prasadam of Sabarimala temple.

The Travancore Devaswom Board (TDB), which manages the hillock Ayyappa Temple, has roped in the CFTRI to enhance the quality, taste and shelf-life of the 'appam' and 'aravana,'" which has large number of takers. Located atop holy hills of Sabarimala in Pathanamthitta district, the Lord Ayyappa shrine draws lakhs of pilgrims from and outside the country including foreigners during the annual pilgrim season from November to January.

TDB President, A Padmakumar said the temple would open for the monthly pooja on May 15 and an MoU between the Board and the CFTRI is expected to be signed on the next day. A team of TDB officials recently visited the government-run CFTRI's Mysore campus to evaluate its production mechanism.

"As CFTRI is a Government agency, we have to decide and finalise the terms and conditions. We hope to sign the MoU with them on May 16," Padmakumar told PTI.

"The CFTRI experts would also impart training to the temple staff who prepare the prasadams during their visit, he said.

If everything goes as planned, the ‘appam’ and ‘aravana,’ with the ‘CFTRI touch’, would be made available to devotees from the next pilgrim season, he said. The TDB, however, has no plans to increase the price of the packed prasadam. “The ‘Sabarimala Appam’ is a hard but sweet ball made of rice, kadalippazham (a variety of banana), ghee and so on, while ‘Aravana’ is a thick sweet dessert made of jaggery. Detailing the changes to be made to the prasadam, Padmakumar said there may not be much changes in the ingredients, but the overall taste would be enhanced. “At present, appam has a hard texture. It will become softer and sweeter. The thickness of aravana will be reduced. And the amount of jaggery, its main ingredient, will be reduced to 30-40 per cent,” he said.”

The method of preparation and packing would be changed under the guidance of CFTRI experts, who follow vacuum technology. The TDB is also mulling entrusting CFTRI with the making of prasadam at all temples under its management, to ensure the quality and taste. A final decision in this regard would be taken after signing the MoU in connection with Sabarimala, the TDB president added.

“ The CFTRI is one of the 40 national research laboratories in India, set up under the aegis of the Council of Scientific and Industrial Research (CSIR).

सीएसआईआर ने प्रस्ताव दिया, कहा-निजी क्षेत्र के साथ सारस के उत्पादन को एसपीवी बनाकर पहल की जाए

निजी क्षेत्र की मदद से 'सारस' विमान बनेंगे

प्रस्ताव

नई दिल्ली | मदन जैड़ा

वैज्ञानिक एवं औद्योगिक अनुसंधान परिषद (सीएसआईआर) ने सरकार को प्रस्ताव दिया है कि सारस विमानों के उत्पादन के लिए निजी क्षेत्र के साथ भागीदारी में कार्य किया जाए।

सीएसआईआर की नेशनल एयरोस्पेस लेबोरेटरी (एनएएल) में सारस के परीक्षण चल रहे हैं, जो अगले कुछ महीनों में पूरे हो जाएंगे। इसलिए सीएसआईआर चाहता है कि इसके

उत्पादन की रणनीति तैयार कर ली जाए। सीएसआईआर के सूत्रों के अनुसार, सारस का नया प्रोटोटाइप पूरी तरह से सही कार्य कर रहा है। इसमें कई सुधार किए गए हैं। वजन कम किया गया है। इसके ऊपर उठने की क्षमता में पहले थोड़ी कमी थी, लेकिन अब वह ठीक कर दी गई है।

सीएसआईआर के एक अधिकारी ने कहा कि इसके बाद जो नए प्रोटोटाइप तैयार किया जाएगा, उसे 19 सीटर बनाया जाएगा जबकि अभी 14 सीटों का है। हालांकि विमान का आकार पूर्ववत रहेगा। सीटों की संख्या अंदरूनी डिजाइन में बदलाव करके की जाएगी।

उद्योग जगत उत्साहित नहीं :



70 सीटर सारस

सीएसआईआर के सूत्रों के अनुसार यदि सरकार इस दिशा में आगे कदम बढ़ाती है तो फिर वैज्ञानिकों को सारस का 70 सीटर संस्करण तैयार करने के कार्य में लगाया जाएगा। सीएसआईआर का कहना है कि सरकार की उड़ान योजना के तहत छोटे विमानों की मांग आने वाले समय में तेजी से बढ़ेगी। विश्व में कम ईंधन खपत वाले छोटे विमान उपलब्ध नहीं हैं। जबकि सारस इसका बेहतर विकल्प साबित हो सकता है।

सीएसआईआर ने सरकार को प्रस्ताव दिया है कि विमान के उत्पादन की रणनीति को अंतिम रूप दिया जाए। सीएसआईआर ने उद्योग जगत से बात की है लेकिन निजी क्षेत्र तकनीक लेने का

इच्छुक नहीं है। इसलिए सीएसआईआर चाहता है कि पीपीपी मॉडल में विमान का निर्माण किया जाए। इसके लिए एक विशेष कंपनी (एसपीवी) बनाने की सिफारिश की है। सीएसआईआर चाहता

है कि विमान के निर्माण के लिए सिर्फ निजी क्षेत्र के भरोसे नहीं रहा जा सकता। सरकार और निजी क्षेत्र मिलकर इस कार्य को करेंगे तभी देश में नागरिक विमान निर्माण उद्योग प्रगति करेगा।

Published in:

Punjab Kesari, Page no. 1

CSIR awarded national Intellectual Property Award 2018

CSIR

26th April, 2018

The Council of Scientific and Industrial Research (CSIR) is awarded the National Intellectual Property (IP) Award 2018 in the category “Top R&D Institution / Organization for Patents and Commercialization”. Dr. Girish Sahni, DG, CSIR and Secretary, DSIR received the award today at the hands of Mr. Suresh Prabhu, Hon’ble Minister, Commerce and Industry, Government of India, at a function organized by the Indian Intellectual Property Office and Confederation of Indian Chambers of Commerce (CII) in New Delhi, to celebrate the World IP Day. The Council of Scientific & Industrial Research (CSIR) is a contemporary R&D organization. It has been ranked 9th in the world amongst the 1207 government institutions, with an overall global ranking of 75 in the world, covering 5250 institutions. Pioneer of India’s intellectual property movement, CSIR today is strengthening its patent portfolio to carve out global niches in select technology domains. CSIR Laboratories have been developing and providing Technology focused at the unmet need and the cutting edge knowledgebase and human resource on the other, for socio-economic development in the Country. The CSIR S&T domains range from environment to health and drinking water, from food, housing, energy to specialty chemicals & petrochemicals, glass & ceramics to mining, metals & minerals, medicinal plants, leather to machinery, instrumentation and strategic sectors including aerospace. It is contributing for the Missions such as Swachh Bharat, Swasth Bharat, Samarth Bharat, Make in India, Innovate for India, Startup India and Skill India. The Indian Intellectual Property Office confers National Intellectual Property (IP) Award on outstanding innovators, organizations and companies in the fields of patents, designs, trademarks and geographical indications on the occasion of World IP Day every year.

Published in:

[Press Information Bureau](#)

Pact signed for synchronising tele network with Indian Standard Time

CSIR-NPL

25th April, 2018

The country's Premier Scientific Body Today entered into a memorandum of understanding with DoT for synchronising the Telecom Network with Indian Standard Time to efficiently handle cyber-related events in the country. The MoU was signed between the Council Of Scientific and Industrial Research - National Physical Laboratory (CSIR-NPL) and the Department Of Telecommunication (DoT) on knowledge sharing for establishing a nationwide time stamping and Time Synchronisation Network "The primary purpose of synchronising the Telecom Network with the IST time stamp is to enable the security agencies to overcome the difficulty in analysing and correlating the cyber events in this era of greatly increasing network speed with advancement of Telecom Technology (2G to 3G to 4G to 5G etc.)," said a government statement.

The implementation of the project will also improve the Telecom Network efficiency by reducing packet loss due to reduced slips in better synchronised digital network," the statement said. Girish Sahni, DG, CSIR and Secretary, DSIR, on the occasion said the time set on Indian Telecom Network should be in the IST zone to uniquely identify the user (subscriber) of network on tracing of the IP address and other parameters. Presently, the telecom service provider and the Internet Service provider are taking the reference time from different sources such as Global Positioning System (GPS), he pointed out.

Published in:
[Business Standard](#)

Workshop on waste from tomorrow

TIMES NEWS NETWORK

Ahmedabad: On Tuesday, just as the Gujarat high court expressed its concerns about the deteriorating environmental conditions in a part of Gujarat's chemical belt, two premier institutes of the Council of Scientific and Industrial Research—the Central Salt and Marine Chemicals Research Institute (CSMCRI), Bhavnagar and NEERI, Nagpur—informed TOI that they are holding a two-day national conference in Bhavnagar, from Thursday to create awareness on "Waste to

Wealth Initiatives".

Experts from these two institutes and other participating scientific organisations will present cost-effective and cutting-edge solutions to the burgeoning problem of waste generated from industry. Dr Ankkur Goel of CSMCRI said, "Our research will show how industrial waste is an unexploited mine of precious resources." He added, "This high quantum of waste, with scientific intervention, can help not just the industry but also lead to a much greener and cleaner environment."

Published in:

The Times of India, Page no. 04

CSIO develops water pollution testing system

CHANDIGARH, APRIL 24

With heavy presence of pollutants in water due to increasing industrialisation and anthropogenic activities becoming a cause of concern, the Central Scientific Instruments Organisation (CSIO) here has developed a portable “integrated optical system” for field detection of major water pollutants such as arsenic, nitrates and fluoride.

The system can be deployed in varied urban, rural and industrial settings for detection and monitoring of these chemical pollutants in ground water, waste water, river water and industrial effluents. These pollutants are known to cause fluorosis (dental, skeletal and non-skeletal), arsenosis, cancer and blue-baby syndrome on consumption beyond permissible limit.

Prof RK Sinha, CSIO director, said the availability of such a system would reduce dependence on laboratory-based expensive equipment used by state and private testing labs for monitoring of these pollutants before consumption and identifying its source of origin so as to facilitate government bodies for strict regulation and remedial actions. — TNS

Published in:

The Indian Express, Page no. 04

एचवीएलएएस निर्माण के लिए सीएसआईओ-एलकम में करार

मुंबई। मेक इन इंडिया के तहत सीएसआईओ-सीएसआईओ ने एलकम इंटीग्रेटेड सिस्टम प्राइवेट लि. के साथ समझौता ज्ञापन पर हस्ताक्षर किए हैं। समझौते के तहत कंपनी हेलीकॉप्टर विजुअल लैंडिंग-सिस्टम (एचवीएलएएस) का निर्माण कराएगी, जो पूरी तरह से स्वदेशी होगा। यह उपकरण समुद्री जहाज पर हेलीकॉप्टर को सुरक्षित लैंडिंग कराने में सक्षम होगा। एचवीएलएएस नाम से ही पता चलता है कि यह सिस्टम हेलीकॉप्टर की लैंडिंग से संबंधित है। सीएसआईओ-सीएसआईओ ऑप्टिक्स आधारित प्रौद्योगिकी का निर्माण कराएगा। वहीं एलकम एचवीएलएएस के डिजाइन को आगे बढ़ाएगा। सीएसआईओ-सीएसआईओ जहाज पर जगह का पता लगाने के लिए एलईडी आधारित नाइट विजन इक्विपमेंट (एनवीजी) विकसित करेगा। इस इक्विपमेंट की मदद से हेलीकॉप्टर के पायलट को 10 किलोमीटर पहले से



हाथ मिलाते सीएसआईओ-सीएसआईओ और एलकम के अधिकारी।

रोशनी दिखाई देगी, जिससे हेलीकॉप्टर की सुरक्षित लैंडिंग संभव हो सकेगी। सीएसआईओ-सीएसआईओ और एलकम अपने संयुक्त प्रयास से देश को पहला स्वदेशी एचवीएलएएस प्रदान

करेगा, जो हमारे युद्धपोतों की क्षमता को और विकसित करने का काम करेगा। वर्तमान समय में भारतीय नौसेना में एमडीएल द्वारा निर्मित उपकरण काम में लाए जाते हैं।

Published in:

Punjab Kesari, Page no. 04

राष्ट्रीय धातुकर्म प्रयोगशाला जमशेदपुर में दो दिनी कार्यशाला का समापन इंडस्ट्री, शैक्षणिक संस्था व आरएंडडी मिलकर काम करे तो बेहतर रिजल्ट- ए दासगुप्ता

सिटी रिपोर्टर • जमशेदपुर

एनएमएल जमशेदपुर में परीक्षण क्षमता पर चल रही दो दिनी प्रशिक्षण कार्यशाला का समापन बुधवार को हो गया। संस्थान के निदेशक डॉ. इन्द्रनील चट्टोराज ने प्रतिभागियों को प्रमाण पत्र देकर सम्मानित किया। उन्होंने उम्मीद जतायी कि यह प्रशिक्षण विभिन्न उद्योगों की परीक्षण क्षमता को बेहतर बनाने में सहायक साबित होगा।

कार्यशाला का मकसद प्रतिभागियों को ऐसा मंच देना था, जहां वे राष्ट्रीय और अंतर्राष्ट्रीय मानकों को जान सकें। अपनी क्षमता का प्रोत्साहन कर सकें। एनएमएल के चीफ साइंटिस्ट डॉ. अमिताभ मित्रा ने कहा- कार्यशाला के जरिए प्रतिभागियों ने एक-दूसरे के साथ अपने विचार बांटे। राष्ट्रीय परीक्षण और अंश शोधन प्रयोगशाला प्रत्यायन बोर्ड बेंगलुरु से आए फैकल्टी ए दासगुप्ता ने कहा- आज इंडस्ट्री, एकेडमिया और



छात्रा को प्रशस्ति पत्र देते एनएमएल के निदेशक डॉ. इन्द्रनील चट्टोराज व अन्य।

आरएंडडी (रिसर्च एंड डेवलपमेंट) को एक साथ मिलकर काम करने की जरूरत है। उन्होंने आईएसओ मानक के बारे में बताया। सीनियर प्रिंसिपल साइंटिस्ट एके दत्ता ने कहा- इस कार्यशाला में बीसीसीएल, सेंट्रल कोल फिल्ड, जैमीपॉल, टाटा स्टील के 25 प्रतिभागी

भाग लिए। जैमीपॉल के डॉ.एमएम महतो ने इस कार्यशाला को काफी उपयोगी बताया। कार्यशाला के आयोजन में डॉ.संचिता चक्रवर्ती, डॉ.एस तरफदार, डॉ.जे कोनार, डॉ.एम.सिंह, डॉ.एके उपाध्याय और रूपा दास बिश्वास का सहयोग रहा।

Published in:

Dainik Bhaskar, Page no. 01

CSIR-IIP MARKS 59th FOUNDATION DAY

CSIR-IIP

25th April, 2018

There has been no original research in India since the discovery of the Raman Effect in 1928, opined the director general of Uttarakhand State Council for Science and Technology (UCOST) Rajendra Dobhal. He was speaking as the chief guest at a programme held to mark the 59th foundation day of CSIR- Indian Institute of Petroleum here on Tuesday. Dobhal said that there has only been incremental progress so far. Focusing on the 120 students from the various Kendriya Vidyalayas of Dehradun, he said that in order to achieve the status of a genius, it is imperative to think differently, not to remain satisfied with the solution or opinions of the experts and to think in opposites. He called upon all to teach the children to be different. "Try to be the best, learn from the best. We have before us a big question - whether we are creating an ecosystem for the children in which they can make new discoveries," he said.

Speaking as the guest of honour, National Institute of Technology, Srinagar, director Shyam Lal Soni, hoped that to the many initiatives taken up the CSIR-IIP, there will be added many more MoU's and said that both his institute and the CSIR-IIP will work jointly in the fields of waste plastics management in the Himalayas, alternative energy and other subjects. Earlier, the IIP director Anjan Ray welcomed the gathering on the occasion. He said that as per the requirements of time, science, humanities and commerce have coalesced at one place on the occasion. DC Pandey of IIP informed that in 1960 the institute was established to encourage the petroleum industry in the country. He spoke about the institute's history of the last 58 years, its achievements and the benefit to the country through many of the institute's technologies, processes and products.

Published in:
[The Pioneer](#)

दो लाख योग्य वैज्ञानिक होंगे तभी जीत पाएंगे नोबेल

साक्षात्कार

वैज्ञानिक एवं औद्योगिक अनुसंधान परिषद (सीएसआईआर) के महानिदेशक डॉ. गिरीश साहनी का कहना है कि विज्ञान की पढ़ाई उत्सुकता दूर करने के लिए नहीं होगी, तो काबिल वैज्ञानिक तैयार नहीं हो पाएंगे। विज्ञान में बड़ी उपलब्धि के लिए बुनियादी बदलाव करना होगा। इन्हीं मुद्दों पर पेश है उनसे मदन जैड़ा की बातचीत

देश कब नोबेल जीतेगा ?

एक नोबेल जीतने के लिए दो हजार उत्कृष्ट वैज्ञानिक चाहिए। वे तभी तैयार होंगे जब दो लाख काबिल वैज्ञानिकों हों। यू समझिए कि जब हर गांव से धावक निकलेंगे तभी एक मिल्खा तैयार होगा।

योग्य वैज्ञानिक क्यों नहीं बन रहे ?

स्कूल में छात्र उत्सुकता या कौतुहल दूर करने के लिए विज्ञान नहीं पढ़ते। होड़ नंबरों की रहती है। फिर आईआईटी, मेडिकल में दाखिले की दौड़ शुरू हो जाती है। उसके बाद मोटे पैकेज की खोज। शोध कौन करेगा ? जो काबिल वैज्ञानिक बन सकते थे,

वे बड़ी कंपनियों खप गए। जो शोध के लिए आ रहे हैं वे 'योग्य' नहीं हैं।

बदलाव कैसे होगा ?

छात्र में स्कूल से उत्सुकता जगानी होगी। शिक्षक छात्रों की उत्सुकता को देखें और उसे दूर करने के लिए छात्र को अवसर प्रदान करें। नंबरों की होड़ खत्म करें।

सीएसआईआर में बड़े शोध क्या हुए हैं ?

हम मिल्क टेस्टर से लेकर हवाई जहाज तक बना रहे हैं। हमारा ध्यान लोगों का जीवन बेहतर बनाने वाले शोधों पर है। किसानों पर है। हमारे बनाए उपकरण मिसाइलों, उपग्रहों

एवं तेजस में भी फिट हैं। देश में 14 दवाएं खोजी गई हैं जिनमें से 11 सीएसआईआर ने खोजीं।

लेकिन सीएसआईआर की उपलब्धियां दिखती नहीं ?

हमारे कार्य का सही आकलन नहीं होता। हमने क्लौट बस्टर दवा बनाई। तब बाजार में ऐसी दवा 20 हजार की थी लेकिन हमने डेढ़ हजार में बना दी। लोगों का कितना फायदा हुआ ? हाल में मधुमेह रोधी दवा बीजीआर-34 निकाली। खूब बिकी। हमें कुछ ही करोड़ रण्यल्टी मिली, लेकिन मरीजों का बड़ा फायदा हुआ। सालों पहले नॉन स्टेराइड गर्भनिरोधक

सहेली बनाया। आज भी परिवार कल्याण कार्यक्रम में पूरे देश को लाभ मिल रहा है। लेकिन लोगों को ये सब पता भी नहीं होता।

सीएसआईआर का राजस्व कितना है ?

तकनीकों की रॉयल्टी और कंसल्टेंसी के कार्य से सालाना हजार करोड़ रुपये। इनमें से 400 करोड़ रुपये का इनोवेशन फंड बनाया है। जल्दी 300 और तकनीकों को बाजार में लाने जा रहे हैं।





पालमपुर : सगंध फसलों की जानकारी प्राप्त करते किसान।

(शुभ)

सगंध फसलों की खेती किसानों की आय बढ़ाने के लिए उपयुक्त विकल्प

पालमपुर, 21 अप्रैल (भृग): सी.एस.आई.आर. हिमालय जैव सम्पदा प्रौद्योगिकी संस्थान पालमपुर द्वारा सगंध फसलों की खेती से किसानों की आय बढ़ाने के विषय पर एक प्रशिक्षण शिविर का आयोजन किया गया। चिन्मया संस्थान कॉर्ड धर्मशाला के सहयोग से आयोजित इस कार्यक्रम में धर्मशाला, नगरोटा, रैत तथा कांगड़ा ब्लॉक व जोगिंद्रनगर क्षेत्र से 50 किसानों ने भाग लिया। संस्थान के निदेशक

डा. संजय कुमार का मानना है कि हिमाचल प्रदेश में बंजर व खाली पड़ी जमीनों के उपयोग हेतु सगंध फसलें उपयुक्त विकल्प हैं, जिनके द्वारा किसानों की आय दोगुनी की जा सकती है। सी.एस.आई.आर. हिमालय जैव संपदा प्रौद्योगिकी संस्थान से परियोजना के नोडल अधिकारी डा. आर.के. सूद ने किसानों को अरोमा मिशन परियोजना के अंतर्गत किए जा रहे प्रयासों बारे अवगत करवाया।

Published in:

Punjab Kesari, Page no. 1

Bacteria help remove sulphur from fossil fuels

CSIR-IMTECH

21st April, 2018



Sulphur is a major pollutant emitted by fossil fuels

Using novel bacterial strains, scientists have successfully removed sulphur from fossil fuels such as petroleum and coal. Sulphur is one of the major pollutants emitted during the combustion of fossil fuels. Scientists from CSIR-Institute of Minerals and Materials Technology (CSIR-IMMT) in Bhubaneswar used four bacterial strains that use dibenzothiophene (an organic sulphur compound which is a major contaminant of fossil fuel) as an energy source thereby getting rid of the sulphur.

Bacterial strains

To find novel bacterial strains that can selectively eliminate this organic sulphur, the researchers searched the microbial type culture collection (MTCC) of CSIR-IMTECH (Institute of Microbial Technology) and selected 10 bacterial strains with dsz genes. “The dsz genes are central to sustainable bio-desulfurization. The presence of dsz genes and the metabolites which take part in desulfurization were first screened. We have also used bio-informatic tools for phylogenetic studies. More studies can reveal new bacterial species for desulfurization of coal,” says Madhabi M. Bhanjadeo, PhD scholar at the institute in an e-mail to *The Hindu*. Ms. Bhanjadeo is the first author of a paper published in the journal *PLOS ONE*. The selected bacteria were grown in a medium supplemented with dibenzothiophene and other nutrients required for growth. They found that four bacteria were able to use almost 99% of the

sulphur compound in just 10 days. The four strains are *Rhodococcus rhodochrous*, *Arthrobacter sulfureou*, *Gordonia rubropertinita* and *Rhodococcus erythropolis*. “Since the sulphur-specific cleavage is vital for organic sulphur removal, we explored potential bacterial strains that desulphurise through a specific pathway (4-S pathway). Usual end products of this pathway are 2-hydroxy biphenyl and sulphate ions but in our study two of the bacterial strains are devoid of these end products, suggesting a variation in the pathway. The novel bacteria hold hidden pathways that we are yet to be explored,” says Dr. Umakanta Subudhi, from CSIR-IMMT and corresponding author of the paper.

Ecofriendly

The new process is also eco-friendly and economical, and these new bacterial strains can be potentially explored for the removal of sulphur from fossil fuels on a commercial scale.

Published in:

[The Hindu](#)

Agri-app to answer farmers' queries through live scientist

CSIR-CIMAP

21st April, 2018

Using a new mobile application, soon to hit the market, farmers can now have their crop-related queries answered through a 'chatbot' and this does not work, by a live scientist. 'Aham' was built by a six-student team from Mumbai's Vivekanand Education Society's Institute of Technology in a software hackathon held over March 30-31. The competition, organised by the All India Council for Technical Education (AICTE) at 28 nodal centres, required students to build apps around topics allocated to them within 36 hours. "Our app is basically a portal to give information of aromatic and medicinal plants. People have knowledge about the cash crops like cotton, pulses, etc. but there is not much information regarding these crops. So, we built this app keeping this in consideration," Deepa Narayanan, a member of the team, which built the app to win the hackathon for Pune centre, told IANS. The app stores information related to what kind of soil, weather, climate, and time of the year, would be suitable for a certain crop. "The app has a geo-coded system which informs the farmers at which place which plant can be optimally raised. Since the farmers do not know about medicinal crops much, we have an 'advisory board' in the app, having two sections. It has got a chat app which is more like a robotic answering sessions. So, if a farmer speaks his query into the mic of the phone, the chatbot will answer. "It may so happen that chatbot may not be able to answer a certain query, in such cases, the question will be diverted to a scientist. The scientist will answer the query in a real-time chatting session," said the third year computer science student. The app also has a tab for 'market-trend' which will let farmers know past and future demand for crops through pictorial graphs. For the prototype, the team was asked to prepare an app for mint, a herb with medicinal qualities, by the Council of Scientific & Industrial Research (CSIR). Similar proposals for several other topics were made by 27 central and 17 state ministries.

One of the important thing about the competition is that the apps may be adopted by theses ministries or other governmental bodies, for use in their field of work. Narayanan said the team is in talks with CSIR to adopt the app for its Central Institute of Medicinal and Aromatic Plants (CIMAP), but the things are yet to take shape. "We are taking exams now and haven't spoken to the government in 15 days. We will take it up further after the exams," she said.

Even after last year's hackathon, organised by the AICTE, about 30 innovations were adopted by several ministries and departments. "About 60 innovations were long-listed, out of which 30 had been finally adopted by the ministries. A total of 250 apps or portals were invented by the participants in that competition," an AICTE official told IANS.

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