

CSIR in Media



75 Years of
CSIR Touching Lives

A Daily News Bulletin
20th – 25th July 2017



'State govt should act on need to map estuarine mangroves'

CSIR-NIO

25th July 2017

Goa's rich mangrove forest cover along its estuaries need to be mapped to ensure their protection, executive secretary of the mangrove society of India (MSI), A G Untawale said, adding that the government must take up this initiative.

Mangrove cover has been mapped along the coast but not along the estuaries, he pointed out, and that MSI has proposed that the government take up the initiative.

"Mangroves have several advantages for our society. If not protected, mangroves will badly impact our ecology. They protect our land from erosion. A lot of land would be lost if it weren't for mangroves," professor Sunil Kumar Singh said. He has recently been appointed as

director CSIR-National institute of Oceanography (NIO), Dona Paula. He also announced a two-day national conference on mangrove ecosystems at NIO-Goa from July 26, which marks the silver jubilee anniversary of MSI. The day is celebrated as World Mangrove Day.

During the conference, MSI will sign an MoU with CSIR-NIO to work jointly on mangrove research.

Various traditions connected with mangrove ecosystems, including that of the 'Mannge Thapnee', where villagers in Ponda attempt to pacify the sea by worshipping crocodiles, will be part of a biodiversity exhibition.

The MSI will present awards to six experts from across the country, who have contributed to conservation and management of mangrove through their life, and will also felicitate few unsung heroes.

"The mangrove ecosystem has huge potential for adventure, education, research, recreation and social activities," Untawale said, adding that the first phase; of creating awareness about mangroves of the proposed mangrove park at Patto has been complete. A booklet on Mangal Yatra, the destinations for mangrove tourism will be released at the conference.

Published in:

[TOI](#)

20kg at 1: Family genes to blame

CSIR-IGIB

24th July 2017

The genetic tests report of Chahat, a one-year-old baby girl from Amritsar weighing 20 kg, has found the cause of her early onset of obesity to a rare mutation in the leptin gene. This gene is involved in the regulation of body weight. This implies that this has been passed on to her from the family. Also, the treatment is genetic therapy which is not easily available in the country. Chahat turned one-year-old on Monday.

"The other family members need to be tested for the mutation," said a doctor in PGI, where the baby is undergoing treatment. Although the baby's parents are lean, her 14-year-old uncle is obese. "We suspect that he also has this gene mutation and the same has been inherited by her. As the obesity is due to genetic mutation, there is hardly any

treatment," said a senior doctor at the institute.

The blood sample of the baby was sent last month at Medgenome Laboratory at Bengaluru and CSIR Institute of Genomics and Integrative Biology (IGIB), New Delhi. The Bengaluru report has found leptin gene mutation.

Presently, Chahat is on a diet as recommended by PGI doctors. We have been called to the hospital next week. The sample of my brother will also be taken. Chahat is not gaining weight since the past two months now," said Suraj, her father. Chahat's father is a cable operator and does not earn more than Rs 6,000 per month. The baby was born with normal weight, however, she started gaining weight after she turned four months old.

The Punjab and Haryana high court had taken suo motu notice of this case after news reports stated that PGI was allegedly not cooperating as far as her treatment was concerned. Recently, the court had sought a reply from the Union ministry of health and family welfare in connection with her treatment, observing it is the prime responsibility of the government to provide medical treatment to citizens so that no one like Chahat remains untreated.

Published in:

[TOI](#)

CUJ, IIM collaborate for academics & research

CSIR-IIIM

24th July 2017

Central University of Jammu (CUJ) has signed a MoU with Indian Institute of Integrative Medicine (IIIM), a premier CSIR institute in Jammu, to cooperate in the diverse areas of biological and chemical science.

The MoU was signed by the Director of IIIM, Dr. Ram Vishwakarma and CUJ Registrar Dr Ravi Kumar in the presence of CUJ Vice-chancellor Prof Ashok Aima, Dean Life Sciences, Prof N K Tripathi, Prof S K Khosa, Prof Lokash Verma, Dr Audesh Bhat, Dr Pawan Kumar and other dignitaries from both the institutes.

The two institutions shall seek to promote academic and scientific collaboration for mutual benefit, interaction between the scientists and

research fellow, research scholars, faculty members and students of both the organizations. This would be conducted through exchange of personnel, organization of joint conferences and seminars, practical training of CUJ students at CSIR-IIIM, joint Ph D program, sharing of research facilities by making provisions to share their respective R&D facilities/Lab facilities.

It is being done in order to promote academic and research interaction in the areas of cooperation, exchange of software and other materials, technology and components developed in-house in the areas of cooperation, provide access to the library facilities to scientists, members of faculty and students as per the prevailing rules and norms in the respective institutes.

On this occasion, Vice-chancellor Prof Ashok Aima and IIIM Director, Dr Ram Vishwakarma said that this MoU will contribute in promoting research activities between the two premier institutes.

Published in:

[Bio Spectrum India](#) [Greater Kashmir](#)

CSIR

23rd July 2017

संसद में विज्ञान प्रदर्शनी 28^a जुलाई से

■ एजेंसियां : संसद भवन परिसर में सीएसआईआर द्वारा आगामी 28 जुलाई से विज्ञान प्रदर्शनी का आयोजन किया जा रहा है। इस प्रदर्शनी में देश में विज्ञान के क्षेत्र में की गई महत्वपूर्ण खोजों को प्रदर्शित किया जाएगा। आयोजन का जिम्मा वैज्ञानिक व औद्योगिक अनुसंधान परिषद (सीएसआईआर) को सौंपा गया है। इसमें इसरो, परमाणु ऊर्जा विभाग, जैव प्रौद्योगिकी विभाग आदि भी हिस्सा ले रहे हैं। सीएसआईआर के अनुसार, प्रदर्शनी में वैज्ञानिक महकमे अपने उन अनुसंधानों और आविष्कार को प्रदर्शित करेंगे जिनका आम लोगों की जीवन पर व्यापक प्रभाव पड़ा है। सीएसआईआर द्वारा विकसित मधुमेह की दवा बीजीआर थर्टी फोर इस प्रदर्शनी का मुख्य आकर्षण रहेगी, जिसे आयुर्वेद के फार्मूले से आधुनिक दवा के रूप में विकसित किया है। पिछले सत्र में कई सांसदों ने इससे जुड़े कई सवाल पूछे थे। सीएसआईआर की क्लॉट बस्टर दवा, गर्भनिरोधक दवा सहेली, दूध की जांच के लिए विकसित उपकरण क्षीर स्कैनर आदि को भी शामिल किया गया है। प्रदर्शनी 11 अगस्त तक जारी रहेगी।

Published in:

Sunday Navbharat Times, Page 9

CSIR-CDRI

23rd July 2017

सीएसआईआर-सीडीआरआई और
आईसीएमआर-एनआईटीएम के बीच अनुबंध
सस्ती एवं सुलभ औषधियों
की खोज की मुहिम

सीएसआईआर-केंद्रीय औषधि अनुसंधान संस्थान, लखनऊ एवं
आईसीएमआर-नेशनल इंस्टीट्यूट ऑफ ट्रेडीशनल मैडिसिन, बेलगावी
ने हाल ही एक सहमति पत्र पर हस्ताक्षर किए। सहमति पत्र के अनुसार
दोनों संस्थान, संयुक्त
रूप से भारतीय
पारंपरिक औषधियों एवं
हर्बल दवाओं के
वैज्ञानिक सत्यापन
एवं नैदानिक परीक्षण
(क्लीनिकल ट्रायल्स)
कर सकेंगे, जिससे
आयुष (आयुर्वेद, योग
एवं प्राकृतिक
चिकित्सा, यूनानी, सिद्ध और होम्योपैथी) चिकित्सा पद्धति के दिशा
निर्देशानुसार मरीजों के लिए नई औषधियाँ उपलब्ध करने में सहायता
मिलेगी।



...शेष पृष्ठ 15 पर

सस्ती एवं सुलभ...

सहमति पत्र पर हस्ताक्षर सीएसआईआर-
सीडीआरआई की निदेशक डॉ. मधु दीक्षित एवं
आईसीएमआर-एनआईटीएम के निदेशक डॉ. देबप्रसाद
चट्टोपाध्याय ने किए। सीएसआईआर-सीडीआरआई
निदेशक डॉ. मधु दीक्षित एवं आईसीएमआर-
एनआईटीएम के निदेशक डॉ. देबप्रसाद चट्टोपाध्याय ने
इस अनुबंध को लेकर खुशी जाहिर की और कहा कि
भारतीय पारंपरिक औषधियों एवं हर्बल दवाओं को
नैदानिक परीक्षणों की वैज्ञानिक कसौटी पर परखने के
बाद देश के लिए सस्ती एवं सुलभ औषधियाँ उपलब्ध
कराने के हरसंभव प्रयास किए जाएंगे।

Published in:

Vaigyanik Drishtikon, Page 1, 6

CSIR

23rd July 2017

सिआईआर और एस के बीच सहमति पत्र पर हस्ताक्षर

विद्यार्थी-वैज्ञानिक संपर्क जिज्ञासा की शुरुआत

विद्यार्थियों की जिज्ञासाएं शांत करेगा सीएसआईआर

नई दिल्ली में हाल ही विद्यार्थी-वैज्ञानिक संपर्क कार्यक्रम- 'जिज्ञासा' की शुरुआत हुई। वैज्ञानिक एवं औद्योगिक अनुसंधान परिषद (सीएसआईआर) केन्द्रीय विद्यालय संगठन के साथ मिलकर इस कार्यक्रम का कार्यान्वयन करेगी। इस कार्यक्रम के तहत एक लाख विद्यार्थियों और लगभग 1000 शिक्षकों के साथ सालाना संपर्क किया जाएगा और साथ ही 1151 केन्द्रीय विद्यालयों का 38 सीएसआईआर प्रयोगशालाओं के साथ संपर्क करने का लक्ष्य भी रखा गया है।

इसमें स्कूल के विद्यार्थियों और वैज्ञानिकों को आपस में जोड़ने पर ध्यान केंद्रित किया जा रहा है, ताकि विद्यार्थियों को कक्षा में सिखाई गई बातों को योजनाबद्ध तरीके से अनुसंधान प्रयोगशाला पर आधारित शिक्षण के साथ समुचित रूप से जोड़ा जा सके।

विज्ञान और प्रौद्योगिकी, पृथ्वी विज्ञान एवं पर्यावरण, वन और जलवायु परिवर्तन मंत्री डॉ. हर्षवर्धन तथा मानव संसाधन विकास मंत्री प्रकाश जावड़ेकर की उपस्थिति में इस आशय के सहमति पत्र पर हस्ताक्षर किए गए।

इस अवसर पर अपने संबोधन में डॉ. हर्षवर्धन ने कहा कि जिज्ञासा कार्यक्रम प्रधानमंत्री नरेन्द्र मोदी के नवीन भारत के विज्ञान और वैज्ञानिक समुदाय और संस्थाओं के 'वैज्ञानिक सामाजिक उत्तरदायित्व' से प्रेरित है। यह एक ऐतिहासिक दिन है जब दो मंत्रालय युवाओं के संबंध में सहयोग कर रहे हैं, जो राष्ट्र का भविष्य हैं। उन्होंने कहा कि यह समझौता डॉ. श्यामाप्रसाद मुखर्जी की जयंती पर किया गया है, जो समस्त भारतवासियों के लिए प्रेरणादायी तथा आदर्श हैं।

इस अवसर पर अपने संबोधन में केन्द्रीय मानव संसाधन विकास मंत्री प्रकाश जावड़ेकर ने कहा कि विद्यार्थियों में वैज्ञानिक अभिरुचि बढ़ाने के लिए हमें उन्हें समाज पर विज्ञान के प्रभाव के बारे में जागरूक बनाना होगा। हमारी जीवन शैली में बदलाव लाने में विज्ञान ने बहुत महत्वपूर्ण भूमिका निभाई है। डॉ. हर्षवर्धन और सीएसआईआर का आभार प्रकट करते हुए जावड़ेकर ने कहा कि इन प्रमुख संस्थाओं तक पहुंच केवल शुरुआत भर है। सीएसआईआर वैज्ञानिक विकास के उद्देश्य को आगे बढ़ाने के लिए प्रतिभाशाली विद्यार्थियों की तलाश करेगी। उन्होंने बताया कि वह समय-समय पर इसकी स्थिति का जायजा लेंगे। उन्होंने कहा कि सीएसआईआर कई दशकों में देश के सामाजिक-आर्थिक विकास में योगदान दे रही है। सीएसआईआर मानव संसाधन विकास विशेषकर विभिन्न क्षेत्रों में पीएचडी कार्यक्रमों के माध्यम से युवा शोधकर्ताओं को प्रशिक्षण देने में महत्वपूर्ण भूमिका निभा रही है।

'जिज्ञासा' जहां एक ओर स्कूल के विद्यार्थियों और उनके अध्यापकों में जिज्ञासा को संस्कृति को बढ़ावा देगा, वहीं दूसरी ओर वैज्ञानिक अभिरुचि को आगे बढ़ाने का प्रयास भी करेगा। इस कार्यक्रम के अंतर्गत 100,000 विद्यार्थियों और लगभग 1000 अध्यापकों को सालाना तौर पर लक्षित करते हुए 1151 केन्द्रीय विद्यालयों को सीएसआईआर की 38 राष्ट्रीय प्रयोगशालाओं के साथ जोड़े जाने की संभावना है। यह कार्यक्रम विद्यार्थियों और अध्यापकों को सीएसआईआर की प्रयोगशालाओं...

...रोच पृष्ठ 6 पर



Published in:

Vaigyanik Drishtikon, Page 1, 6

CFTRI launches 'Teff' as next super food

CSIR-CFTRI

23rd July 2017

Taking cognizance of high rate of malnutrition and drought situation in the state, the Central Food Technological Research Institute (CFTRI) launched its latest super food 'Teff', a crop variety that is high in protein content.

The advantage of Teff is it can be grown in both seasons of kharif (June-July) and Rabi (October-November) and is suitable for districts with dry zones of agriculture in Karnataka, CFTRI Director Mr Ram Rajasekharan said.

Being a drought resistant crop, Teff has a great potential for the nation yielding about 200-250 kg per acre. CFTRI plans to have workshops to sensitize farmers across the state and help develop recipes for Teff to blend into traditional Indian foods.

Recently Teff was launched by Sri Sri Ravi Shankar at the Bengaluru Ashram. CFTRI also has a MoU with Sri Sri Rural Development Program to extend its efforts to farmers for Super food production and farm gate food processing.

Teff, an ancient grain going back to the civilizations of Abyssinia, is a whole grain cereal crop and is the staple food crop of Ethiopia. It is gluten-free and has high resistant starch. It is a good choice for those suffering with celiac disease, for better diabetes management and weight control. Teff also has well balanced protein with all essential amino acids and is particularly rich in albumin proteins, which is equivalent to the vegetable version of egg whites.

The grain is rich in micronutrients including Calcium, Iron, Vitamin 'C' and other nutrients. Teff as an ingredient blends well into various foods like dosas, porridges, roti and gluten-free breads. It has advanced nutrition profiles that upon consistent consumption can help improve the health and wellness of our population. It has potential of helping alleviate malnutrition and help improve the health of those suffering from lifestyle related diseases including diabetes and obesity.

Mr Rajasekharan said that Teff grain comes from Ethiopia where Ragi too came from. Entire cultivation is just like Ragi. For farmers there are lot of advantages in growing teff as it does not require much water and can be cultivated in dry places especially in north Karnataka including Gulbarga and even in Bijapur.

"It is easy to adopt as the cultivation, harvesting and processing process is very simple. The endurance is very high due to which most of international marathon runners who have won medals in the Olympic (2016) during their interview have also mentioned that the secret behind their success is Teff grain. By just investing Rs 8,000 per acre, the farmers can get nearly 250 kgs of Teff grain. To promote this grain, we have also roped in NGOs," he said.

Published in:

NetIndia123

This festive season, PoP idol immersion to be eco-friendly and productive affair

CSIR-NCL CSIR-NEERI

23rd July 2017

In a bid to tackle water pollution due to Plaster of Paris (PoP) idol immersion during Ganesh Chaturthi, the National Environmental Engineering and Research Institute (Neeri) in collaboration with city police and Maharashtra Times will be implementing a 'do at home' first-of-its-kind technique this festive season.

Developed by National Chemical Laboratory (NCL), Pune, the technique uses ammonium bicarbonate solution to dissolve the PoP idols and is being introduced for the first time in Vidarbha and second time in the country. Based on a chemical reaction, the by-products formed in this procedure can be used as fertilizers and construction materials.

Krishna Khairnar, a scientist at Neeri's virology division, said, "The process involves usage of ammonium bicarbonate, which when reacts with PoP idols in the presence of water, forms ammonium sulphate and calcium carbonate as by products along with water. Both the resultants are eco-friendly, with the former being used as fertilizer and the latter as construction material."

The idea germinated when Pune Municipal Corporation (PMC) approached NCL following the Bombay High Court's ban on PoP idols in 2011. Despite the ban, people continued using PoP idols, resulting in massive pollution of water bodies. "We then decided to develop a scientific solution to the problem which can be implemented at homes too," said Shubhangi Umbarkar, scientist at NCL.

In late 2014, MK Dongare, retired senior scientist and Umbarkar started working on this project. "Since religious sentiments are attached with the festival, we knew people would refrain from using chemicals and decided to go for food grade. We first experimented with baking soda but it didn't work out. Next, we tried using different carbonate containing compounds but that too failed to achieve desired results," said Umbarkar.

Finally, ammonium bicarbonate, which is commonly used in bakery, gave the expected outcome. "Last year, the technique was implemented in Pune and more than 30,000 idols were successfully disintegrated in an eco-friendly manner. PMC even bought 100 tonnes of ammonium bicarbonate and distributed it to the citizens," added Umbarkar.

This year, Neeri approached NCL and decided to introduce the same in the city. The institute has prepared three tanks, out of which two will be dedicated for immersing PoP idols using NCL's technique.

To assess the effectiveness of the by-products, Neeri will carry out laboratory testing of the residual products, especially heavy metals. "Neeri will be kept open for general public on the visarjan day. This will be a good opportunity for citizens who wish to celebrate in an eco-friendly manner, with Neeri targeting immersion of around 450 idols," said Neeri's PRO Prakash Kumbhare.

Published in:

[TOI](#)

This festive season, PoP idol immersion to be eco-friendly and productive affair

CSIR-NCL CSIR-NEERI

23rd July 2017

In a bid to tackle water pollution due to Plaster of Paris (PoP) idol immersion during Ganesh Chaturthi, the National Environmental Engineering and Research Institute (Neeri) in collaboration with city police and Maharashtra Times will be implementing a 'do at home' first-of-its-kind technique this festive season.

Developed by National Chemical Laboratory (NCL), Pune, the technique uses ammonium bicarbonate solution to dissolve the PoP idols and is being introduced for the first time in Vidarbha and second time in the country. Based on a chemical reaction, the by-products formed in this procedure can be used as fertilizers and construction materials.

Krishna Khairnar, a scientist at Neeri's virology division, said, "The process involves usage of ammonium bicarbonate, which when reacts with PoP idols in the presence of water, forms ammonium sulphate and calcium carbonate as by products along with water. Both the resultants are eco-friendly, with the former being used as fertilizer and the latter as construction material."

The idea germinated when Pune Municipal Corporation (PMC) approached NCL following the Bombay High Court's ban on PoP idols in 2011. Despite the ban, people continued using PoP idols, resulting in massive pollution of water bodies. "We then decided to develop a scientific solution to the problem which can be implemented at homes too," said Shubhangi Umbarkar, scientist at NCL.

In late 2014, MK Dongare, retired senior scientist and Umbarkar started working on this project. "Since religious sentiments are attached with the festival, we knew people would refrain from using chemicals and decided to go for food grade. We first experimented with baking soda but it didn't work out. Next, we tried using different carbonate containing compounds but that too failed to achieve desired results," said Umbarkar.

Finally, ammonium bicarbonate, which is commonly used in bakery, gave the expected outcome. "Last year, the technique was implemented in Pune and more than 30,000 idols were successfully disintegrated in an eco-friendly manner. PMC even bought 100 tonnes of ammonium bicarbonate and distributed it to the citizens," added Umbarkar.

This year, Neeri approached NCL and decided to introduce the same in the city. The institute has prepared three tanks, out of which two will be dedicated for immersing PoP idols using NCL's technique.

To assess the effectiveness of the by-products, Neeri will carry out laboratory testing of the residual products, especially heavy metals. "Neeri will be kept open for general public on the visarjan day. This will be a good opportunity for citizens who wish to celebrate in an eco-friendly manner, with Neeri targeting immersion of around 450 idols," said Neeri's PRO Prakash Kumbhare.

Published in:

[TOI](#)

Use of Disulfiram can cause bone loss: CDRI Scientists

CSIR-CDRI

20th July 2017

PIONEER NEWS SERVICE ■ LUCKNOW

The CDRI scientists have come up with a new finding that the treatment of alcohol addiction with the drug, disulfiram, (generic name) can cause 'bone loss' amongst its users. The team which was led by Dr Naibedya Chattopadhyay has found out that the thiocarbamate disulphide drug, disulfiram, induces osteopenia and osteoporosis. The scientist and spokesperson for the Institute, Sanjeev Yadav, while talking to *The Pioneer* said that the aim behind bringing this finding in public domain was that the people should know the harmful effects of this medicine.

He further pointed out that the study became relevant in the light of the fact that the young people were also consuming alcohol these days. He said that the drug, which was widely used in the treatment of chronic alcoholism, was an aversion-based therapy. The medication caused individuals to suffer from very unpleasant side-effects when

even trace amounts of alcohol have been ingested.

"Researchers at the CSIR-Central Drug Research Institute, Lucknow, have shown in healthy adult laboratory animals that Disulfiram at a dose equivalent to that used in humans causes severe bone loss and reduced the ability to heal fractures. Disulfiram causes suppression of an enzyme called aldehyde dehydrogenase (ALDH) in the bone-forming cells, osteoblasts, leading to their death. This effect of Disulfiram is likely to be of clinical relevance in view of the increased susceptibility of osteoporosis in patients with a history of alcoholism," he said.

"Considering these pre-clinical observations' translational value in a clinical set-up a premier medical institute in New Delhi, which is also a WHO collaborating centre on substance abuse, is preparing to study the adverse skeletal consequences of Disulfiram therapy on alcohol addicts for which the investigators have received grant-in-aid from the

department of Biotechnology, Government of India. Because a large number of patients attend alcohol de-addiction therapy at the Institute it is an ideal platform for carrying out the proposed study.

The main beneficiary of the study would be a large number of people with alcohol addiction who are undergoing de-addiction treatment. Awareness about the status of bone mineral health in this group along with the effect of disulfiram treatment would be an original contribution which would have clinical applicability," he said. Referring to the prevalence of alcohol in the state, he said that 30 pc of the Indians consumed alcohol and the average age of initiation of alcohol use had decreased from 28 years during the 1980s to 17 years in 2017.

"Alcoholism is a common socio-medical problem and accounts for 4 pc of the global health problems. According to the Organisation for Economic Cooperation and Development (OECD), during

1992-2012 the per capita consumption of alcohol in India has increased by a whopping 55 pc, the third highest increase in the world after the Russian Federation and Estonia. Contrary to this, the average annual alcohol consumption among 34 member countries of OECD has fallen by 2.5 per cent over the same period. According to WHO, about 30 pc of the Indians consume alcohol out of which 4-13 pc are daily consumers and up to 50 pc of these fall under the category of hazardous drinking." Another worrying trend from India is that the average age of initiation of alcohol use has come down from 28 years during the 1980s to 17 years in 2007. Nearly 25 pc of the road accidents take place when a person is under the influence of alcohol and it is also a significant risk factor for increased domestic violence," he said. Chronic alcoholism deteriorates bone quality and is an independent risk factor (requires no co-existent disease) for fracture," he added.

Published in:

The Pioneer, Nav Bharat Times

Banana plant provides fillip for nanoscience research

CSIR-NIIST

20th July 2017

Scientists working at the cutting edge of nanoscience research are turning to the humble banana plant in their quest to develop chemical sensors for early diagnosis of cancer and trace-level detection of pesticides and food adulterants.

A research team at the CSIR National Institute for Interdisciplinary Science and Technology (NIIST), Thiruvananthapuram, has developed a novel method of using banana fibre to synthesise silver nanostructures for ultrasensitive detection of chemical molecules.

The team, led by Saju Pillai of the Materials Science and Technology division at the CSIR-NIIST, has succeeded in synthesising flower-shaped silver nanoconstructs from biodegradable nano cellulose fibres

(NCF) extracted from banana pseudostem. According to Dr. Pillai the nano cellulose fibres acted as agents to tune the formation and growth of the branched nanostructures. The findings have been published in the journal ACS Applied Materials and Interfaces.

An aqueous silver colloid (suspension) prepared from the nanostructures was used as a platform for Surface-Enhanced Raman Spectroscopy (SERS), considered to be the most powerful method for sensitive detection of chemicals. During tests, the colloid succeeded in detecting a small molecule like p-aminothiophenol.

Earlier attempts to synthesise branched nanostructures were based on the use of corrosive shape-directing agents like halides or toxic solvents. “The nanocellulose fibre derived from banana waste offers a green alternative to this method,” Dr. Pillai says.

The researchers used the Tempo-oxidation method to extract the nanocellulose fibres, followed by sequential addition of trisodium citrate to synthesize the flower-shaped nanocrystals.

Generally, silver nanostructures are unstable because of their small size and high surface energy, due to which the particles are prone to aggregation. However, the colloid prepared from silver nanocrystals proved to have overcome this handicap.

According to the report, the new findings are expected to add value to natural fibres and aid the development of diagnostic SERS probes for the early detection of cancer, Alzheimer’s disease and environmental pollutants.

Published in:

[The Hindu](#)

Indians prone to rare genetic diseases: Study

CSIR-CCMB

19th July 2017

People living in India and other South Asian countries are particularly vulnerable to rare genetic diseases, according to a genomic analysis that may help detect and prevent population-specific disorders. Several diseases specific to South Asian populations had been identified in the past, but the genetic causes of the vast majority remained largely mysterious.

The study, led by Harvard Medical School (HMS) in the US and the CSIR – Centre for Cellular and Molecular Biology (CCMB) in Hyderabad, reveals that so-called founder events -in which a small number of ancestors give rise to many descendants – significantly contributed to high rates of

population-specific, recessive diseases in the region.

“Our work highlights an opportunity to identify mutations that are responsible for population-specific disease and to test for and decrease the burden of recessive genetic diseases in South Asia,” said David Reich, professor of genetics at HMS and co-senior author of the study.

“Much of the focus of genetic research in India has been on diseases such as diabetes, thalassemia or sickle cellanaemia that are prevalent across populations,” said Kumarasamy Thangaraj, a scientist at the CCMB. “But that misses the huge burden of disease caused by rare conditions,” said Thangaraj, co-senior author of the study published in the journal Nature Genetics.

“I hope this study motivates people in India to study the genetic features that are specific to each of these groups and to try to translate this to actionable medical research,” added Thangaraj. “This is an opportunity to improve health for many in the Indian subcontinent,” he said.

The Indian subcontinent is one of the most genetically diverse places on Earth, with a population approaching 1.5 billion that includes nearly 5,000 well-defined subgroups, researchers said. They analysed genome-wide data from more than 2,800 people from over 260 South Asian subgroups and found that nearly one-third of these subgroups derived from distinctive founder events. Such founder events tend to limit genetic diversity. Geographic, linguistic or cultural barriers, such as restrictions on marriage between groups, increase the likelihood that mates share much of the same ancestry.

This can lead to the perpetuation and proliferation of certain rare, recessive diseases, researchers said. “Everybody carries a small number of mutations that could cause severe disease, but each person usually only has one copy – and two copies are needed to get sick,” said the study’s first author, Nathan Nakatsuka, a graduate student in the Reich lab. “If parents have the same common ancestry, there is a greater risk that they will both carry the same recessive mutation, so their offspring are at much greater risk of inheriting the two copies needed to manifest disease,” said Nakatsuka.

Although the prevalence of these genetic variants increases disease risk, it also makes them easier to detect. In the West, studies of similarly isolated population have resulted in the discovery of many disease-causing genetic variants. This has led to screening practices that have reduced the incidence of disease. The most well-known examples are tests that screen people of Ashkenazi Jewish descent for the genetic variants that cause Tay-Sachs disease.

Discovering disease-inducing genetic variants could lead to prenatal screenings to prevent disease, researchers said. Efforts to screen for carrier status for disease variants have reduced the rate of rare recessive disease to almost zero in Western “founder” communities that practice arranged marriage, such as ultra-Orthodox Ashkenazi Jews.

Since arranged marriage is also common among some groups in India, this intervention might be similarly effective, researchers said.

Published in:

[The Hindu](#) Deccan Herald, Page 6

CSIR-IITR

19th July 2017

युवाओं को लैब तक लाने के लिए इमर्ज 2017 शुरू

लखनऊ। इंडियन इंस्टीट्यूट ऑफ टॉक्सिकोलॉजी रिसर्च (आईआईटीआर) ने अंडर ग्रेजुएट छात्रों को वैज्ञानिक बनाने के लिए एक खास कार्यक्रम 'इमर्ज 2017' की शुरुआत की है। इस तीन दिवसीय कार्यशाला की मदद से युवाओं को विज्ञान और लैब से जोड़कर वैज्ञानिक बनने के लिए तैयार किया जाएगा। इसमें आणविक जीवविज्ञान, नैनो टेक्नोलॉजी, उन्नत माइक्रोस्कोपी और बायो इन फॉर्मैटिक्स पर जानकारी दी जाएगी। कार्यक्रम के पहले दिन मंगलवार को कोर्डिनेटर डॉ. रामकृष्णन पार्थसारथी, मुख्य वैज्ञानिक डॉ. पूनम कक्कड, मुख्य वैज्ञानिक डॉ. कार चौधरी, मुख्य वैज्ञानिक डॉ. देवेंद्र परमार ने अलग-अलग विषयों पर छात्रों को जानकारी दी।

Published in:

Amar Ujala, Jagran City Page 4, Navbharat Times Page 6

CSIR-NGRI Technical Assistant bags Young Scientist Award

CSIR-NGRI

14th July 2017



The Young Scientist Award – 2016 was awarded to Dr Uma to recognise her significant contributions towards development of an algorithm for reservoir permeability modelling by using fractal theory and Monte – Carlo technique. The algorithm has been applied to model permeability distribution of Ankleshwar hydrocarbon reservoir, Cambay basin, India.

Dr Uma Vadapalli, Technical Assistant of CSIR-National Geophysical Research Institute (NGRI), received the prestigious “Young Scientist Award for the year 2016” from the Telangana Akademy of Sciences (TAS).

The award was presented by Dr C H Mohan Rao, President TAS and Dr K Chandrasekhar, Director, CSIR-IICT, here on Thursday.

Dr Uma has been working in CSIR-NGRI on hydrocarbon reservoir modelling studies. She obtained her PhD from the Osmania University in the year 2016 for thesis entitled Fractal based permeability modelling and time-lapse seismic response evaluation using well log data for reservoir characterization and CO₂ – EOR study”

Dr V M Tiwari, Director, CSIR-NGRI has been elected as Fellow of TAS while Dr Subash Chandra, Dr M S Kalpana, Dr. D Shashidhar and Dr A Vasanthi have been elected as Associate Fellows of the TAS

Published in:

[The Hans India](#)

ఉమా వాడపల్లికి యంగ్ సైంటిస్టు అవార్డు



అవార్డును అందుకుంటున్న డాక్టర్ ఉమా వాడపల్లి

ఉప్పల్, జూలై 13 (నమస్తే తెలంగాణ): తెలంగాణ అకాడమి ఆఫ్ సైన్స్ 'యంగ్ సైంటిస్టు అవార్డు-2016'కు సీఎస్ఐఆర్-ఎన్జీఆర్ఐలో టెక్నికల్ అసిస్టెంట్ గా పనిచేస్తున్న డా.ఉమా వాడపల్లి ఎంపికయ్యారు. ఈ మేరకు అవార్డును అందుకున్నారు. అదే విధంగా ఫెల్లో ఆఫ్ టీఎస్ఐఆర్ ఎన్జీఆర్ఐ డైరెక్టర్ డా.వీ.ఎం.తివారి అసోసియేట్ ఫెల్లో ఆఫ్ టీఎస్ఐఆర్, ఎన్జీఆర్ఐ ప్రిన్సిపల్ సైంటిస్టు డా.సుభాష్ చంద్ర, సీనియర్ సైంటిస్టు డా.ఎం.ఎస్.కల్పన, సైంటిస్టులు డా.డి.శశిధర్, డా.ఎ.వాసంతిలు ఎంపికయ్యారు.

Published in:

Nt News, [The Hindu](#), Deccan Chronicle