

CSIR in Media



75 Years of

CSIR Touching Lives

News Bulletin

21st to 30th November 2018



CSIR-NPL AND M/S GLOBAL PT PROVIDER (P) LTD. ENTER INTO AGREEMENT FOR PRODUCTION OF BHARATIYA NIRDESHAK DRAVYA

CSIR-NPL

30rd November, 2018

CSIR National Physical Laboratory (NPL) and M/s Global PT Provider (P) Ltd., New Delhi has entered into an agreement for production of Bhartiya Nirdehak Dravyas (BND□) on November 27th, 2018. CSIR-NPL, the National Metrology institute of country, and a member of International Bureau of Weights and Measures (BIPM), is serving the Indian Industries, academia and strategic sector's to excel in their endeavors by providing them APEX level calibration facilities. NPL provide metrological traceability to reference material producers in the country, so that their certified reference materials can be sold under the brand name of BND□ which can even be exported.

Global PT is the NABL accredited PT Provider and also producers of reference materials including hardness blocks (Vickers, Rockwell and Brinell). Under this agreement CSIR-NPL will provide traceability to global PT for their reference materials. The availability of SI traceable BND will bring a boost to "Make in India" program and harmonies quality infrastructure of country. GLOBAL PT Provider is the India's first NABL accredited PT Provider as per ISO 17043:2010 in the field of Metal testing. GLOBAL PT Provider with its beginning in 2012 have conducted proficiency testing programmes benefitting Commercial Laboratories, Research Laboratories, Manufacturers, Government Agencies etc in conforming to their performance by conducting Inter Laboratory Comparison.

Published in:

[EIN News](#)

CSIR lab, Merck set up life-sciences skilling centre

CSIR-IMTECH

29th November, 2018

The centre will impart advanced competences and analytical skills required for life-sciences research to Indian students and researchers.

Chandigarh-based Institute of Microbial Technology (IMTECH), a national laboratory under the Council of Scientific and Industrial Research (CSIR), has joined hands with German science and technology firm Merck to establish a high-end skill development centre for life-science technologies such as gene editing and single-molecular biomarker detection.

The centre, being set up in Chandigarh, will impart advanced competences and analytical skills required for life-sciences research to Indian students and researchers to make them industry-ready, said an official release on Tuesday.

A memorandum of understanding was signed by representatives of CSIR-IMTECH and Merck at the CSIR headquarters here.

This will be a first-of-its-kind, academia-industry-led skill development centre to be established to augment the government initiative for skilling India in the area of life-science, it said. The centre will set up a next-generation lab for real-time analysis and organise workshop for advanced technologies.

Published in:

[Business Line](#)

CSIR-IICT

28th November, 2018

Experts sensitise kids on science and wellness

CITY BUREAU

Hyderabad

City-based Indian Institute of Chemical Technology (IICT) and Institute of Genetics and Hospital for Genetic Diseases, Begumpet, collaborated to conduct a 'Science, Health and Wellness' outreach programme at ZPH School, Ramsagar village, Siddipet, on Tuesday.

Scientists from CSIR-IICT under the guidance of its Director Dr S Chandrasekhar participated in the programme and delivered lectures on various science and technology based topics useful to the students in their day-to-day life.

Senior Principal Scientist Dr M Chandrasekharam gave lecture on 'Science on Health Care', Principal Scientist Dr J Vatsala Rani



Scientists from IICT and Institute of Genetics along with ZPH School students in Ramsagar village, Siddipet, on Tuesday.

spoke on 'Science on Materials and Energy' and Dr MSL Karuna delivered a lecture on 'Science on Food and Nutrition'.

Specialist doctors from Institute of Genetics and Hospital for Genetic Diseases, including its Director Dr A Venkateswari, con-

ducted health check-up programme for students and their family members, and gave them prescriptions. About 200 students benefited from the outreach programme, which was sponsored by IICT Research Foundation, Hyderabad, according to a press release.

Published in:

Tel Today

CSIR-IHBT

28th November, 2018

Scientists successfully grow 'Monk fruit' on Indian soil

ARCHANA JYOTI ■ NEW DELHI

Indian scientists have successfully grown the Chinese 'Monk fruit' in Himachal Pradesh's Palampur district. Monk fruit, which hails from China, has high nutritious value, low calories and sweetness that comes from a natural compound that does not increase blood sugar, making it safe for consumers with diabetes.

Probably in first-of-its kind efforts, scientists from the Indian Institute of Himalayan Bio-resource Technology (IHBT), a Council of Scientific and Industrial Research (CSIR) lab, are now busy working towards development of good agricultural practices and vari-



etal improvement of the Monk fruit. They hope to make it available for sale in Indian market soon for the diabetic patients and manufacturers seeking a low-calorie ingredient.

"Since India is home to 62.4 million people with diabetes Type 2, this is wondrous fruit for them. We have been successful in our experiments at our farms. "Now, we are focus-

ing for process technology and product development (extract) from Monk fruit. We hope intense sweeteners made from the juice of this fruit will soon be available in the market," said Dr Sanjay Kumar, Director CSIR-IHBT, Palampur.

Dr Probir Kumar Pal, Senior Scientist, IHBT explained that "Keeping in mind importance and essen-

tiality of non-nutritive natural sweetener, and diverse agro-climatic conditions here, we introduced its seeds from China through NBPGR-ICAR early this year.

After intense research, the quality fruits have also been harvested at Institutional Experimental Farm.

"Now, a team of scientists including agronomist, chemist, plant breeder and molecular biologist from the IHBT are intensively working towards development of good agricultural practices and varietal improvement," Dr Pal said.

Though Monk fruit is the native of China, this plant is not commercially cultivated even in the neighbouring country due to lack of proper agro-tech-

nique, suitable cultivar and scientific knowledge. Here we have successfully grown it by ensuring adequate climatic conditions and agro-techniques."

In spite of high demand for non-caloric sweeteners from natural sources, Monk fruit accounts for a small share of the alternative sweetener market, remaining at about 2.2 per cent in natural sweetener markets. Thus, the market share of monk fruit is small because of the limited supply.

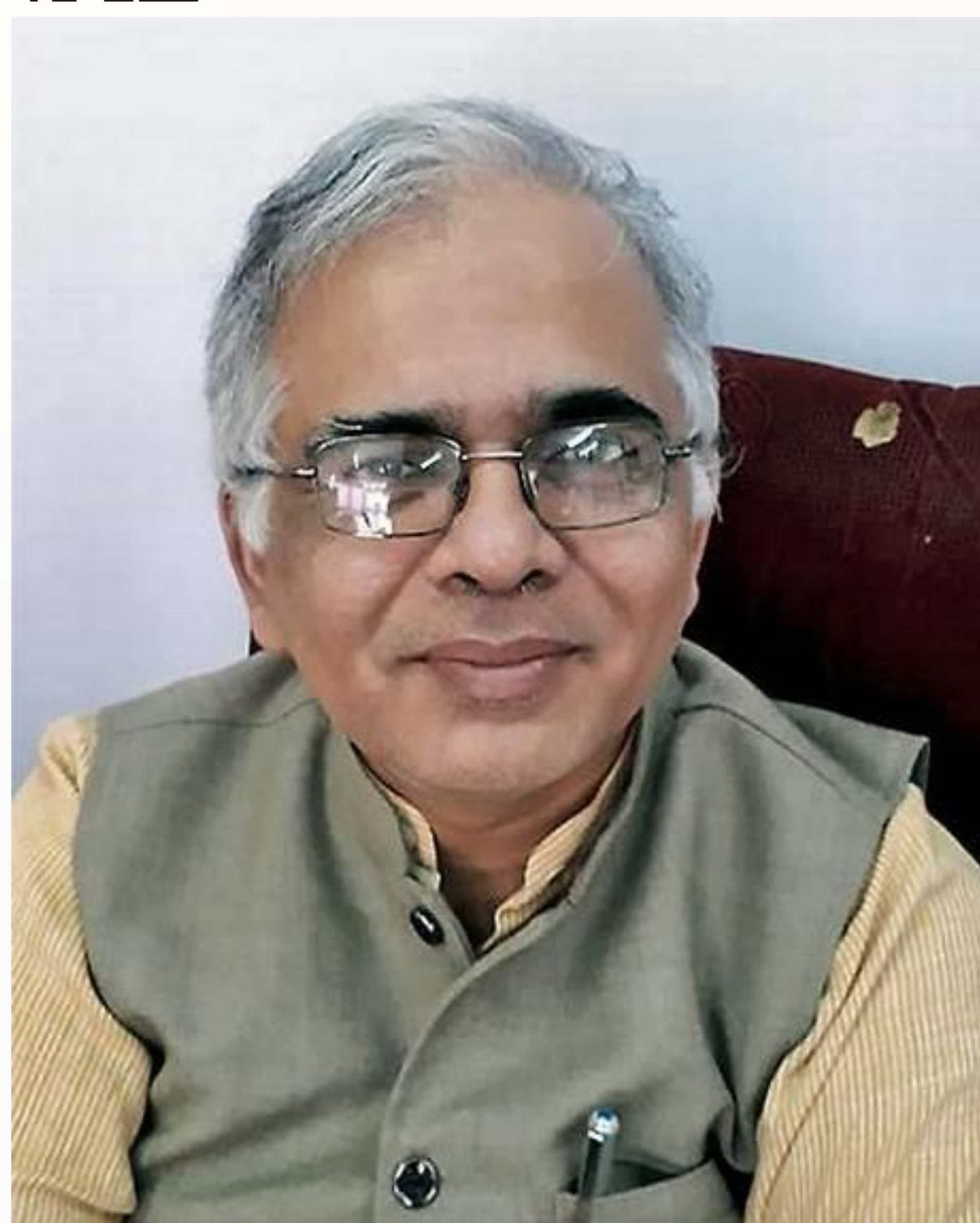
However, global demand is gradually on increase in view of rising number of diabetes and obese. According to an estimate, the global market for Monk fruit is expected to generate ₹379.4 million revenue by the end of 2026, said Dr Pal.

Published in:

The Pioneer

‘CSIR searching for commercial partner to run flights on biofuel’

CSIR-IIP, NAL



Move will help India reduce oil import bill to almost zero, says CSIR D-G The Council of Scientific and Industrial Research (CSIR), the largest research and scientific body in the country, is scouting for a commercial partner to run commercial and defence aircraft on biofuel, its Director-General Shekhar Mande has said. The autonomous body which was credited with the success in powering the first flight with the indigenously produced aviation biofuel on patented technology of CSIR-Indian Institute of Petroleum, Dehradun from the capital of Uttarakhand to New Delhi in a SpiceJet aircraft last month. “The new eco-friendly technology will be a game-changer as it is greenhouse and carbon neutral,”

27th November, 2018

Mr. Shekhar Mande told *The Hindu* on the sideline of his maiden visit to the city to inspect the facilities of National Institute of Oceanography (NIO) on Sunday. The CSIR, he said, was committed to fuel security which could help the country save on foreign exchange by reducing the import bill to almost zero in a few years, adding that the Union Ministry of Agriculture was collaborating for the biofuel project. “Biofuel can be produced not only from Jatoba. The success of first biofuel-propelled flight in the country has brought laurels to the CSIR-National Aerospace Laboratories. The test flight was built by Hindustan Aeronautics Limited with the NAL as the technology partner,” Mr. Shekhar Mande said. Drishti sensors Mr. Shekhar Mande further said that they had successfully installed the ‘Drishti’ transmissometer with high-resolution sensors at the airports in Delhi and others to ensure safe landing and take-off of flights during low-visibility conditions owing to fog, pollution and other factors. “The facility is now available at 25 airports in the country

and plans are afoot to extend it to 50 more airports,” he said. With the active involvement of NAL, the CSIR is also working on improving rural connectivity by introducing India’s first multi-purpose civilian aircraft in the light transport aircraft category designed by NAL two years ago.

Giving details about the recruitment reforms, Mr. Shekhar Mande said, “The CSIR has decided to recruit 1,000 young scientists and technocrats aged below 35 without the hassles of any hierarchical structure. At present, the CSIR labs have a pool of 4,500 scientific personnel.”

Published in:

[The Hindu](#)

‘Low micro-nutrient levels in ocean water hit productivity’

CSIR-NIO



Organic matter production in 40% of global oceans affected, says scientist

Expressing concern over the low availability of micro-nutrients in seabeds, CSIR-National Institute of Oceanography (NIO) Director Sunil Kumar Singh has said that the situation is affecting the productivity of oceans globally. Elaborating on the subject, he said the low micro-nutrient levels in ocean water result in low photosynthesis, affecting the growth of phytoplankton, the primary producer that sustain the aquatic foodweb. “Productivity in 40% of the global oceans including Indian Ocean and a part of Western Arabian Sea is very low, despite the availability of nutrients such as nitrate,

27th November, 2018 phosphates and silicate. However, the situation is comparatively better in the Bay of Bengal,” Mr. Singh told *The Hindu*. The CSIR-NIO headquartered in Dona Paula of Goa, in its studies, has found that due to the low availability of micro-nutrients such as dissolved iron and other trace metals such as iron, zinc, cobalt and copper affects the ocean productivity. “The major source of iron is continental dust and it is deficient in the Antarctic Ocean, resulting in its low productivity,” Mr. Singh told *The Hindu*. He further said that there was limited information about the sources and sinks and cycling of these metals, particularly in the Indian Ocean. “Issues associated with sampling of seawater and measurement of trace metals at low concentration complicate it further. Efforts are on to study the distribution of micro-nutrients in the Indian Ocean. Results suggest that many additional sources of iron are present in hydrothermal vents, subduction zones, continental margins and oxygen deficient regions. Isotopes of these metals are being analysed to contain

their sources,” he said. Research activity of the NIO has helped explore about 150,000 sq km area in the Central Indian Ocean to find about 100 million metric tonne of poly metallic nodules of iron, manganese and nickel.

Mining metals

India has obtained a licence from International Seabed Authority, an inter-governmental body which regulates all minerals (non-living resources), to mine these metals in 18,000 sq km area. “Now, we focus on the development of the required technology to mine these minerals from the seabed below 5000 metres of depth,” Mr. Singh said.

The NIO is also conducting a series of studies to study the changing behaviour of tidal waves, sea erosion and changing weather pattern, he added.

Published in:

[The Hindu](#)

CSIR-NML

27th November, 2018

Platinum

NML celebrates its 69th foundation day, highlights achievements

Jamshedpur, Nov. 26: CSIR - National Metallurgical Laboratory, Jamshedpur celebrated its 69th foundation day on Monday. The programme was began with Laboratory song followed by slide show, which highlighted the 69 years achievement of the laboratory. Dr. Indranil Chatteraj, Director, CSIR - National Metallurgical Laboratory delivered the welcome address to audience.

"We are glad to say that the CSIR-NML has completed 69th year and serving nation as one of the five oldest laboratories in the chain of 38 CSIR laboratories. We have many more

advantage to be the oldest laboratory and we are continuously proving as a premier laboratory with our consistent efforts and scientific endeavor provided from our team to meet the current demand for the country," he said.

He also highlighted the glorious past of CSIR-NML through developing and transferring numbers of technology to Indian market as well as overseas in the area of minerals & metals industries. Further, hoped that the new entrants are being capable and they will help to attain R&D expectation to meet the need of nation and our laboratory will reach to an



optimum height in near future and flying high and high.

On this occasion, a new NML website was formally launched and dedicated to the laboratory. Web site embodied the research activities like R&D divi-

sion and their research activities and other service facilities available at laboratory. The website will be fully operational very soon after the research council meeting.

Further, Director, NML release the Diamond

Jubilee volume of NML in-house journal i.e. The Journal of Metallurgy and Materials Science, Vol.60. This journal was first published in February 1959 as NML Technical Journal. It is one of the most prestigious Indian journal covering the areas of Minerals, Metals, Metallurgy and Materials Science. On-line version of this journal is also available.

To motivate scientific fraternity, administrative staff and employee's wards, several awards were given by Director and Dr. Rakesh Kumar, Adviser Management to winner of the awardee's.

Awards were given in different categories like, Altekaw award for the best technology transfer, B. R. Nijhawan award for best scientific paper, S. Banerjee award for best in-house research project and P. Ramachandra Rao award for the best technical and non-technical staff members were also given for the year 2017-18.

The programme were concluded with the vote of thanks given by Shri Kaushik Bhattacharya, Administrative Officer, CSIR-NML. He extended his sincere thanks to all those who have supported and provide guidance to make this event success.

Published in:

The Avenue mail

एनएमएल जमशेदपुर का 69 वां स्थापना दिवस समारोह मनाया गया



देश को रक्षा के साथ परमाणु के क्षेत्र में अग्रणी बनाने के लिए एनएमएल नई तकनीक पर कर रहा काम

सिटी रिपोर्टर • जमशेदपुर

राष्ट्रीय धातुकर्म प्रयोगशाला (एनएमएल) जमशेदपुर का 69 वां स्थापना दिवस समारोह सोमवार को संस्थान ऑडिटोरियम में आयोजित किया गया। संस्थान के निदेशक डॉ. इन्दुनील चट्टोपायन ने प्रयोगशाला के 68 साल के गौरवशाली सफर के बारे में बताया। उन्होंने जानकारी दी कि इस दौरान एनएमएल ने विभिन्न तकनीक को विकसित कर देश के विकास में अहम भूमिका निभाई। डॉ. चट्टोपायन ने बताया कि भारत सरकार की कई महत्वाकांक्षी योजनाओं के तहत एनएमएल जमशेदपुर विभिन्न तकनीक पर काम कर रहा है। हाल ही में एनएमएल ने रक्षा अनुसंधान एवं विकास संगठन (डीआरडीओ) के लिए सफलतापूर्वक तकनीक विकसित की है।

भारत सरकार की ओर से डीआरडीओ के लिए टंगस्टन प्रोजेक्ट पर काम किया और तकनीक को विकसित किया। इसके लिए नीलडोह में टंगस्टन प्लॉट लगाया गया, जहां पर इसके बड़े स्तर पर उत्पादन के लिए सकल परीक्षण किया गया। उन्होंने बताया कि एनएमएल रक्षा के साथ ही परमाणु ऊर्जा के क्षेत्र में भी काम कर रहा है। मौके पर विज्ञान के क्षेत्र में उल्लेखनीय योगदान के लिए वैज्ञानिकों को सम्मानित किया गया। तकनीक वर्ग में बेस्ट इम्प्लॉई के लिए प्रोफेसर

इस साल बेस्ट टेक्नोलॉजी के लिए अवार्ड प्रयोगशाला के वैज्ञानिक डॉ. संजय और रोहित को मिला



किसे कौन अवार्ड मिला

- बेस्ट टेक्नोलॉजी के लिए आस्टेकर अवार्ड- डॉ. संजय कुमार और रोहित मेहरम
- बेस्ट टैक्नियल प्रेजर के लिए मिडायन अवार्ड- सुपेकर महतो, टी.राहु, एसके सी, पी.राहु, टी.स्वगुपी, जे वेंकैय्यकंद
- इन हाउस प्रोजेक्ट के लिए सीलब्रड बार्डर्स अवार्ड- डॉ.
- डी.पासवान, डॉ.एन. माल्नी, डॉ.डी. बंधोपाध्याय, मंजीता सिंह और जयसी महतो
- बेस्ट स्पीकर के लिए एसपी मेहरोत्रा अवार्ड- डॉ. कल्याण पासवान
- स्पेशल एग्जिटेशन अवार्ड- जे.एसए अन्वर और वीर महापुट ठरन

इनको मिला अवार्ड

- दसवीं कक्षा में 85 फीसदी से ज्यादा अंक हासिल करने के लिए-रस तुष, आदित्य उपप्याय, सचक गंडन, श्रीकर वर्मा, दिव्यरंजन मिश्र, इयान जैकब चॅन्स • बारहवीं में 85 फीसदी से ज्यादा अंक लाने के लिए-रिथिक सगर, उरुवर्ष लाल और अमरुत राहु • किसी विषय में 100 फीसदी अंक लाने के लिए-इयान जैकब चॅन्स (कम्प्यूटर साइंस), रिथिक सगर (कम्प्यूटर साइंस)।

संस्थान की वेबसाइट लांच

मौके पर एनएमएल की वेबसाइट को लांच किया गया। यह वेबसाइट पूरी तरह से एनएमएल जमशेदपुर के लिए समर्पित होगी। एनएमएल जमशेदपुर की नई तकनीक के साथ अन्य जलकारियां भी इस वेबसाइट पर होगी।

जर्नल का लोकार्पण

संस्थान के डिप्टी डायरेक्टर ने मौके पर एनएमएल के डायरेक्ट जुधिनी जर्नल का लोकार्पण किया। उन्होंने बताया कि सबसे पहले फरवरी 1959 में जर्नल का लोकार्पण किया गया था। यह जर्नल ऑनलाइन उपलब्ध रहेंगा।

पी रामचन्द्र राव अवार्ड डॉ. नवनीत सिंह रंधावा और मनोज कुमार (तकनीक) को और गैर तकनीक वर्ग में प्रभा श्रीनिवासन और कुमार राहुल को अवार्ड मिला। संस्थान के एडवाइजर मैनेजमेंट डॉ. राकेरा कुमार ने भी विजेताओं को अवार्ड दिया। प्रशासनिक प्रमुख कौशिक भट्टाचार्य ने धन्यवाद ज्ञापन दिया।

69 वां स्थापना दिवस समारोह में मौजूद लोग

Published in:
Dainik Bhaskar

Essential Oil Distillation Plant and Vermicomposting Unit unveiled at Imphal

CSIR-NEIST



An Essential Oil Distillation Plant and Vermicomposting Unit was formally inaugurated at the Council of Scientific & Industrial Research (CSIR)-North East Institute of Science & Technology (NEIST) Branch Laboratory, Lamphelpat in Imphal on Saturday. Manipur Consumers Affairs Food & Public Distribution, Revenue Minister Karam Shyam was the chief guest of the inaugural function-cum-signing of technology transfer of liquid deodorant to MIDC Enterprises, Takyelpat Imphal held at CSIR-NEIST Branch Lab complex here. Chief scientist Dr Pinaki Sengupta CSIR-NEIST, Jorhat, Assam, Principal scientist Dr Huidrom Birkumar Singh of CSIR-NEIST, Branch Lab,

25th November, 2018 Lamphelpat; senior scientist Dr SP Saikia, scientist Dr Mohan Lal, Dr (Mrs) Alokanda Sengupta, former Senior Principal scientist, CSIR-NEIST, Jorhat, Assam also attended the function. Speaking on the occasion, Minister Shyam said the time has come for the interest individuals in the State to take up the right initiatives as the Government is ready to provide land resources as well as necessary funding under start-up programmes if they've proper proposals and roadmaps for their respective projects. At the same time, scientists are here to transfer the technologies for them. So proper and judicious use of land resources for carrying out economic activities in public interest is the need of the hour, he felt. Lauding CSIR-NEIST for rendering maximum contribution for the masses in the region, he also appealed the youths of Manipur to engage in entrepreneurial ventures like start-ups not only for their own survival but also for the overall economic growth of Manipur. He also announced that inauguration of similar projects at Jiribam,

Chandram Sandrock, Kangpokpi, Heirok, Wangjing are in the pipeline. In his power-point presentation on the topic 'Doubling of Farmers' Income', Chief scientist Dr P Sengupta highlighted the advantages of citronella and lemon grass cultivation in Manipur for commercial industrial purposes.

On the other hand, Principal scientist Dr Birkumar said that the youths of Manipur can transform the State into a prospective business market in the country by properly and effectively utilising its gifted natural resources. Around Rs 10 lakh were invested for the installation of Essential Oil Distillation Plant.

Published in:
[North East News](#)

Made-in-India drugs based on weed soon

Cancer Pain Management, Epilepsy Medicines In 1 Yr

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New Delhi: New hemp-based medicines for cancer pain management and epilepsy treatment that will be manufactured in India are set to be available in next one year with the Council for Scientific and Industrial Research (CSIR) in advanced stage of clinical trials to launch two breakthrough drugs.

The move to produce medicine formulations that incorporate hemp lend a fresh reputation to the otherwise controversial cannabis, which can also be used as a drug of abuse and has potentially harmful psyche-altering qualities.

The two new drugs are expected to be superior than the existing line of treatment. For instance, morphine is currently used for pain management in cancer patients and while it can be habit-forming, cannabis-based drugs will not be. They can also help address nausea and enhance appetite in patients undergoing chemotherapy.

For trials related to cancer pain management, CSIR's Indian institute of Integrative Medicine (IIIM)



has tied up with Tata Memorial Hospital, whereas tests for the epilepsy drug will be conducted in New Delhi's AIIMS. Ratan Tata-backed cannabis research start-up, Bombay Hemp Company (Boheco), is CSIR's funding partner for the two research projects and is expected to market the drugs in India.

The two medicines are based on cannabidiol (CBD)—one of the two primary compounds occurring naturally in the cannabis sativa plant. CBD is non-psychoactive, meaning it will not deliver a high to the user. The other compound is tetrahydrocannabinol (THC). Such drugs are being used in the US and Europe but their distribution in India will bring down the cost of the formulations currently needing specific clearances.

The two medicines to be available in India are based on cannabidiol or CBD, which is non-psychoactive, meaning it won't deliver a high to the user

"Cannabis is a very useful crop. Unfortunately, there is a lot of misconception surrounding it because of its misuse which also excluded this plant from research for a very long time," CSIR-IIIM director Ram Vishwakarma told TOI. He was speaking on the sidelines of a conference organised by CSIR and Boheco to discuss aspects of the crop.

Cannabis-based drugs for cancer pain management and epilepsy have been approved in the US and Europe. However, Indian patients can only import them based on special permission from doctors. Since these medicines are exorbitantly priced, very few patients can afford them. Once the drugs are manufactured in India, the prices are expected to decline significantly.

Full report on www.toi.in

Published in:

Times of India, Page no. 9

CSIR on a mission to make common man's life comfortable

CSIR

24th November, 2018



CSIR's different research institutions displayed their researches in Agrovision at Reshimbagh Ground.

A Special Pavilion of The Council of Scientific and Industrial Research (CSIR) which is displaying scientific and research activities of different research institutions and laboratories at 10th edition of Agrovision at Reshimbagh ground is very interesting for scientists, researchers, common people and even the industries. This year four institutes working under the umbrella of CSIR have effectively displayed their research works..

These institutions include, Central Institute of Medicinal and Aromatic Plants (CIMAP), Lucknow. Indian Institute of Integrative Medicine (IIIM) Jammu. The National Botanical Research Institute (NBRI) Lucknow and National Environmental Engineering Research Institute (NEERI). Though the missions of these institutions are different, their research subjects are different, their activities are different but they are pursuing a common goal to make life of a common man comfortable.

Herbal Remedies developed by IIIM are used widely: Dr Sumit Gandhi Indian Institute of Integrative Medicine (IIIM), a premier institute located in Jammu under CSIR is dedicated to the research of drug discovery. This institution has developed number of drugs from different herbs. Products like Boswel Capsules, Bergenia ciliata Extract, Tapewormin Powder, Dhataki Capsules, Thrombup Capsules etc are displayed in the section of IIIM.

All these products displayed here are not of commercial use. Scientists at IIM had developed these products for different ailments. These patented products are open for commercial marketing and use as IIM is not a commercial organisation,” said Dr Sumit Gandhi, Senior Scientist of Plant Biotechnology Division of IIM, Lucknow. “The researchers have completed the research work. The flow charts for processing these products are available with IIM. The industries should approach to IIM for technical know-how so that they could start manufacturing the medicines based on these products,” he added.

Anil Kumar Katore, Senior Scientist of IIM Jammu explained, “A wonderful and effective herbal product is derived from the leaves of papaya. This product is effective in treating Dengue as it helps to improve the falling platelet count in dengue fever and due to chemotherapy. Has been proven to promote the bone marrow health and thereby enhance platelet production.”

NBRI offers green technologies: Dr Arvind Jain

A lot of awareness about using herbal products has been in society. There are many social organisations promoting use of Herbal Gulal during Holi festival, herbal lip balm, herbal sindoor, herbal fermented drink, herbal lipstick, anti-cough herbal formulation etc. Scientists working in the National Botanical Research Institute (NBRI), a research institute of CSIR in Lucknow are instrumental in bringing these herbal products for the society.

Dr Arvind Jain, Principal Scientist of Agriculture Research in NBRI said, “ This institution is engaged in the field of taxonomy and modern biology. The institution is working on basic and applied research on various aspects of plant science, including conservation, systematic documentation, prospecting and genetic improvement with an emphasis on under-exploited, non traditional and wild plant genetic resources of the country for sustainable development and human welfare.”

Giving details about the floriculture, Dr Jain stated, agro technology for production of pot plants and cut flowers is the speciality. Chrysanthemum, Gerbera, Gladiolus are some of the examples of cut flowers and pot plants popular in India. NBRI provided know-how and technology for the cultivation of these plants to increase income of farmers in the country, he added. Dr Devendra Singh, Senior Scientist stated, “ White Fly Resistant Cotton Variety has been developed by the institute. White Fly is another threat to cotton product. NBRI has developed a natural protein from fern to protect cotton. In addition development of a low grain arsenic rice is another achievement.”

CIMAP adding fragrance to the life of farmers: Dr Darokar

Central Institute of Medicinal and Aromatic Plants (CSIR-CIMAP) with its four research centers situated in Bangalore, Hyderabad, Pantnagar and Purara (near Bageshwar, Uttarakhand) is constantly working to empower farmers from rural areas through Cultivation, Processing, Value Addition and Marketing of Aromatic Plants, said Dr Mahendra Darokar, Senior Principal Scientist of CIMAP Lucknow.

Under its aroma mission, CSIR has started bringing a transformative change in aroma sector through desired interventions in the areas of agriculture, processing and product development for fueling the growth of aroma industry and rural employment, he added. The section of CIMAP in Agrovision has displayed different aromatic products like perfumes, scent, aromatic extracts etc. It has selected 17 crops which could give a good yield. These crops are Menthol Mint, Scented Rose, Khus, Lavender, Palmarosa, Lemongrass, Citronella, Tulsi, Lemon Balm, Rosemerri etc. Under the aroma mission, CIMAP is providing technical guidance for the cultivation of aromatic crops for essential oils that are in great demand by aroma industry. It is expected to enable Indian farmers and aroma industry to become global leaders in the production and export of some other essential oils on the pattern of menthol mint, he added.

Regions like Vidarbha, Bundelkhand, Gujarat, Marathwada, Rajasthan, Andhra Pradesh, Odisha and other states where farmers are exposed to frequent episodes of weather extremes and account for maximum suicides are getting benefits of the mission.

NEERI to develop Green Corridors on High Ways: Dr Sarangi

The National Environmental Engineering Research Institute (NEERI) is executing the project of Ministry of Road Transport and High Ways, Government of India to develop green corridors on the highways. A strategic plantation design of the same for 10 kms on National High Way No 10 from Jam to Hinganghat has been completed, said Bijaya Ketan Sarangi, Senior Principal Scientist, Environmental Biotechnology and Genomic Division of NEERI. A section of NEERI displayed in CSIR pavilion has demonstrated how the green corridors will be developed. The progress of plantation alongside the high way has also been displayed.

“There will be six sectors or zones from Jam to Hinganghat. These sectors are named as Yellow Sector (from 64.2 to 65.65 kms), Bamboo Sector (from 66 to 66.70 kms), Pink Sector (from 67.5 to 68.2 kms), Red Sector (from 68.4 to 68.95 kms), White sector (from 68.97 to 70 kms) and Green Sector from (70 to 71.20 kms). Different plants have been chosen to get planted on both sides of the road,” Sarangi said

Published in:

[The Hitvada](#)

CIMAP designated as centre for medicinal plants

CSIR-CIMAP

24th November, 2018

The Central Institute of Medicinal and Aromatic Plants (CSIR-CIMAP), Lucknow, has been designated as the coordination centre for medicinal plants by the Indian Ocean Rim Association-Regional Centre for Science and Technology Transfer (IORA-RCSTT), an official spokesman said on Saturday.

"The centre is funded by the Ministry of External Affairs to carry out activities over the next five years," said Anil K Tripathi, Director, CSIR-CIMAP.

The centre would be "coordinating activities related to cultivation, processing, value-addition, quality control, training, research and development, trade, commerce and exchange of experts on medicinal plants and their products in the 21-member states and 7 dialog partners of the association".

A six-day training program, he added, would begin on Monday in which presentations would be made on current quality standards of medicinal plants and products.

The spokesperson said 12 external experts have been identified to impart training on plant identification, databases and documentation, gene bank, industrial linkages and herbal product manufacturing by 28 members from Kenya, Mauritius, Iran, Mozambique, Sri Lanka, Malaysia, Thailand, South Africa, Tanzania, Seychelles and Bangladesh.

Published in:

[Business Standard](#)

4-day meet on biotech frontiers begins at IICT

CSIR-IICT

24th November, 2018



Tarnaka: Over 600 experts and delegates from various countries are expected to attend a four-day Council of Scientific and Industrial Research (CSIR)-Indian Institute of Chemical Technology (IICT) Platinum Jubilee International Conference on "Biotechnological Research and Innovation for Sustainable Development (BioSD-2018)" inaugurated by Dr Shekhar C Mande, the CSIR Director-General, at IICT here on Thursday. The delegates got together to brainstorm on frontier areas of environmental biotechnology, medical biotechnology, industrial biotechnology, food and agricultural biotechnology and

bio-energy to share current stock of knowledge. BioSD-2018 is being organised by CSIR-IICT in association with Biotech Research Society, India (BRSI) and International Bio-processing Association, an International Forum on Industrial Bioprocesses (IBA-IFIBiop). Dr Mande while releasing the souvenir and inaugurating the event acknowledged the accomplishments of CSIR in the areas of IT, space healthcare and agriculture for national benefits. He mentioned that biotech industries in the country were nurtured under the leadership of CSIR, and the contribution of IICT and CCMB in particular, for developing biotech eco-system. He noted how biotechnology changed lives of people over time in a sustainable manner. While appreciating BRSI for its constant efforts in developing biotech research, he advised budding scientists and young researchers to be prepared for upcoming revolutions by developing cutting-edge technologies, employing artificial intelligence and machine learning tools.

President of BRSI Prof T P Singh and BioSD 2018 Chair Dr. Ashok Pandey also spoke. Dr N V Satyanarayana presented a report. The BRSI awards were presented to outstanding achievers in biotechnology and sustainable development. Dr. S Venkat Mohan, convener, proposed a vote of thanks. Dr S Chandrasekhar, IICT Director, in his welcome address, deliberated on the outstanding research endeavours. He mentioned the institute's contribution to energy sector, pesticide industry, green revolution and healthcare sector have widely been acknowledged by the industry. He noted that several findings in generic drug discovery, including Zidovudine for HIV and many more, were initiated in the institute. He explained the institute's role in automation chemistry for drug discovery, while assuring IICT's commitment towards meeting the nation's demands.

Published in:

[Daily Hunt](#)

Why India wants to study human microbiome

CSIR

23rd November, 2018

The human body carries diverse communities of microorganisms, which are mainly bacterial. These are referred to as “human microbiome”. From November 19 to 22, Pune hosted an international conference on microbiome research — a field of study that is still in its infancy in India. That could be set to change, with a proposed project that would study and map the human microbiome across the country. Dr Shekhar Mande, director-general of the Council of Scientific and Industrial Research (CSIR), is optimistic that the Rs 150-crore project will get approval soon. What is this emerging field of research, and why is it important?

What it means

The human body carries diverse communities of microorganisms, which are mainly bacterial. These are referred to as “human microbiome”. These organisms play a key role in many aspects of host physiology, ranging from metabolism of otherwise complex indigestible carbohydrates and fats to producing essential vitamins, maintaining immune systems and acting as a first line of defense against pathogens.

Research on the human microbiome has thrown light on various aspects — how different parts of the human body are occupied by characteristic microbial communities, and how various factors contribute in shaping the composition of the microbiome, including the genetics, dietary habits, age, geographic location and ethnicity. These studies laid a strong foundation to decipher the microbiome’s implications on health and a wide range of diseases, said Dr Yogesh Shouche, senior scientist at the National Centre for Cell Science (NCCS) in Pune. Shouche was the lead organiser of the international conference and is the lead coordinator of the proposed project.

The project

Various research groups in the country are working on the human microbiome, including Shouche and colleagues. What India lacks is a national microbiome initiative similar to those in other countries. Now, a high-level committee at the Department of Biotechnology has shown a keen interest in the proposed project, Mande of CSIR told The Indian Express.

The project will include collection of saliva, stool and skin swabs of 20,000 Indians across various ethnic groups from different geographical regions. India provides for a wide range of research with more than 4,500 ethnic groups and presence of two global biodiversity hotspots (Himalayan range and Western Ghats).

India potential

Scientists at NCSS have conducted a meta-analysis on gut microbiota of healthy Indian individuals and compared it with that of individuals from other parts of the world. It shows that the Indian population harbours a distinct gut microbial community, which, scientists say, calls for an in-depth investigation of the Indian microbiome.

India has a large number of tribal populations largely unaffected by “modern” diet and lifestyle. The prevalence of lifestyle-related disorders such as obesity and diabetes has been known to be significantly lower compared to the non-tribal (urbanised) populations across the globe. Hence, scientists say, a study on the tribal population would help improve knowledge of evolution of the mutualism between gut microbiota and the host.

Published in:
[Indian Express](#)

CSIR-URDIP

23rd November, 2018

19th CSIR URDIP Foundation Day held on 2nd November 2018

The 19th Foundation Day of CSIR URDIP was celebrated on 2nd November 2018. Dr Shekhar C. Mande, Director General, CSIR & Secretary, DSIR, Government of India was the Chief Guest of the event. Prof. Ashwini Kumar Nangia, Director, CSIR-



NCL also graced the occasion. Dr Mande delivered the foundation day lecture. The topic of his lecture was "S&T Indian perspective: Past, present and Future". He traced the history of Indian Science and Technology through the prehistoric cave paintings of Bhimbetka near Bhopal which shows how paints from natural extracts were in use during the Indus Valley Civilization. He further briefed about Lothal in Ahmedabad which is earlier known sea ports of India where the trade of valuable ornaments thrived and how it covered West Asia and Africa. This was the proof of how metallurgy techniques such as blending and casting were pioneered by ancient Indians. Dr Mande lauded the visionaries of India who have had established strong networks of scientific and industrial laboratories right after Independence. CSIR having a largest network of laboratories is a socially relevant organization in furthering scientific and industrial research for the benefit of the society. Dr Mande also briefed about the future of science and technology, the role of Small & Medium Enterprises (SMEs), start-ups, precision agriculture, Artificial Intelligence and Machine Learning. Dr Mande drew

the parallel between the initial vision statement given by Sir Shanti Swarup Bhatnagar, the then Director General of CSIR and how it is being reiterated now in the CSIR@80 Vision & Strategy for 2022. He shared the Roadmap for CSIR - setting the stage for Innovation revolution with the audience, how CSIR can play a vital role in the start-up ecosystem by being a Government/Public/Society, by being a Strategic Department of the Government and by being an Academia.

Published in:

Business line, Page no. 2

Items of everyday use could push up indoor pollution, say studies

CSIR-CRRI

21st November, 2018



Items of everyday use – room fresheners, deodorants, mosquito coil, incense sticks, wall-to-wall carpets and office printers and photocopy machines – could be pushing up indoor pollution levels at homes and offices, which could be as bad as the polluted air outside or even worse, at least two recent studies in Delhi have shown.

Both studies found the concentration of volatile organic compounds and PM_{2.5} — ultrafine particles that reach up to the lungs — are higher than the permissible limits even inside closed rooms in residences, corporate and government offices and multiplexes.

The concentration of bio-aerosols, which comprise disease-causing agents such as bacteria and virus among others, have been found to be at least 20 times higher in corporate offices and four times higher in multiplexes. While one study was conducted by a team of researchers from the CSIR-Central Road Research Institute (CSIR-CRRI) in their own offices, another study was done by the Indian Pollution Control Association (IPCA), a Delhi-based research organisation in 13 buildings across Delhi, including corporate offices, a multiplex, government buildings and residences. The CRRI study was published in Current Science journal on November 10 with data of 2014 summer. The IPCA study was conducted between January and September 2018. “The concentrations of PM₁, PM_{2.5} and volatile organic compounds (VOCs) were found to be higher inside than outside. While concentrations of PM₁ and PM_{2.5} were nearly double in indoor air than outdoor, the concentration of VOCs was even higher.

VOCs accumulate more when air conditioners are used because the ventilation is less,” said Manisha Gaur, one of the authors of the study and a research scholar at CRRI. Experts said that while any form of combustion such as smoking, or burning an incense stick or mosquito coil, could push up levels of finer particulate matters, the concentration of VOCs shoot up because of use of room fresheners, deodorants, paints, polishing and cleaning agents. “The concentration of VOCs was particularly found to be nearly two times higher than the safe limits prescribed by the World Health Organisation inside corporate offices and hospitals. It was also very high in the indoor air inside multiplexes.

In residences, the level of PM_{2.5} was found to be 137µg/m³, which is more than two times above the safe limits of 60µg/m³,” said Radhan Goyal, deputy director of IPCA. The IPCA study found that another pollutant, known as bio-aerosols, was much higher than the permissible limits. It was at least 20 times higher in corporate offices and four times higher in multiplexes. Bio-aerosols comprise airborne bacteria, fungi, viruses and their by-products, endotoxins and mycotoxins.

“Indoor air pollution is particularly higher because of improper ventilation. In more than 90% of the air-conditioned buildings, it is the stale indoor air which is circulated instead of allowing fresh outside air to come in, as it requires consumption of more energy. Outside pollution also gushes in through leakages in door and windows because of difference in air pressure. The pollution tends to be higher towards the corners of the room. Secondly wall-to-wall carpets are known to be sinks of bio-aerosols,” said Mukesh Khare, Mukesh Khare, a professor of environmental engineering at IIT-Delhi

Experts said that these studies are in tune with several other studies carried out across the world and also by the Central Pollution Control Board.

“Indoor pollution often tends to be higher because of poor ventilation, cooler temperature and indoor activities, which include smoking and burning of coils and incense sticks. VOCs, many of which are carcinogenic, tend to move towards cooler temperatures. The wind inside a room is also stagnant compared to outdoor. Hence pollution tends to shoot up,” said T K Joshi, environmental health advisor to the union environment and forest ministry.

He said a previous study done by the CPCB a few years ago had also found that indoor pollution in flats (residences) was higher than outdoor pollution.

“It is a myth that indoor air is less polluted than outdoor air and that you are safe when you enter home or office. In fact indoor air in poorly ventilated rooms gets more polluted, as the air gets trapped inside and continues to circulate,” said Khare

Published in:
[Hindustan Times](#)



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