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## NEWS BULLETIN
## 26 TO 31 OCTOBER 2024


# CSIR-CFTRI develops slew of products ready for industry use

CSIR-CFTRI

31st October , 2024

The CSIR-CFTRI (Council of Scientific and Industrial Research - Central Food Technological Research Institute) has been active in developing a range of innovative products tailored for industry applications. These developments often focus on food processing, preservation, and nutrition enhancement.

These innovations not only support industry needs but also contribute to public health and sustainability goals. Recently the Mysuru-based CFTRI unveiled its probiotic carrot nectar which is a vegetable-based beverage developed by incorporating the probiotic bacterium Lactiplantibacillus plantarum MCC5231 in carrot nectar. Delivery of the probiotics through a non-dairy-based food system is a favourable option due to the problems associated with dairy-based products, such as lactose intolerance and milk allergies. This vegetable-based carrot nectar supplemented with L. plantarum is a novel concept meeting the FSSAI's nectar specification criteria and fulfils more than 50% of daily requirement of Vitamin A. The product was developed by Aditi Goel under the guidance of Attar Singh Chauhan and Prakash M Halami and was funded by DBT, New Delhi.

For the development of gluten-free bread premix with a combination of proso millet, foxtail millet and barnyard millet, the institute targeted small- and large-scale bakeries. The premix includes all the essential ingredients for producing bread hence offers convenience for both small- and large-scale bread production. The gluten-free bread produced from the premixes offers superior nutritional profile as compared to many gluten-free products in the current market. The technology caters to the growing demand for gluten-free products as well as promotes millet utilisation.

The work was funded by Ministry of Food Processing Industries and executed by the team lead by Dr P Prabhasankar as Principal Investigator and Soumya C, Tamilselvan T, Crassina

Kasar, Sudha ML and Matche RS as team members from CSIR-CFTRI.

The food researchers also devised the know-how for multigrain waffles. These are wheat-based baked product which can be taken as a bread variant for breakfast, snack or as desserts with variety of toppings. They often have high calorie with low dietary fibre and essential minerals. In order to improve the nutritional quality, the multigrain waffle has been formulated using whole wheat, pearl millet and finger millet flours with optimal amount of sugar and fat. It is produced by baking the batter in the waffle machine. The multigrain waffle has desirable textures and taste with higher dietary fibre, minerals and lower calorie value as compared to the commonly available waffles in the market.

Waffles can be marketed as a quick snack or dessert through bakeries, departmental stores and restaurants. The popularity of bread variants such as waffles is increasing. Attempts are being made to formulate multigrain waffle from locally available ingredients. It will serve the growing consumer demand for healthy yet convenient foods. The technology can cater to the domestic sector for home baking as well as commercial sectors.

Another was the Instant Masala Tea Premix which is crafted with natural ingredients, including stabilised tea flavour and a curated mix of aromatic spices such as cardamom, ginger, cloves and cinnamon. The tea is packaged in single-serving sachets, allowing for quick and easy preparation. Catering to diverse tastes and dietary preferences, Instant Masala Tea is available with a variety of sweeteners, including regular sugar, jaggery, low-calorie sweeteners, and sugar-free options. The research and development team had Sachin R. Chaudhari, Rajeshwar S. Matche and Anisha Biswas as its members.

**Published in:**
Fnbnews

# CSIR-NIIST transfers onsite wastewater treatment technology to more agencies

CSIR-NIIST 30th October , 2024

The CSIR-National Institute for Interdisciplinary Science and Technology (NIIST) has transferred its onsite wastewater treatment technology to more agencies.

A statement said NIIST signed memorandums of understanding (MoUs) on Wednesday with E-Nadu Youth Cooperative Society, Veliyanoor, Kottayam, and FOAB Solutions Pvt Ltd for transferring its NOWA technology, in the presence of Minister for Cooperation V.N. Vasavan. NIIST Director C. Anandharamakrishnan and representatives from the two agencies exchanged the MoUs.

NOWA is an engineered biological treatment system capable of recovering reuse quality water, bioenergy and organic manure from wastewater, NIIST said. The technology developed by NIIST has several advantages such as less space requirement. It also does not require frequent sludge disposal, consumes less electricity and has a low operational and maintenance cost.

The NOWA technology is designed for Indian conditions and it will be a replacement for imported technologies, according to NIIST.

The NIIST technology is a combined anaerobic-aerobic/anoxic bioprocess unit with a unique microbial system. This will find wider application for greywater as well as high strength organic wastewater treatment. This patented technology was developed by a team of researchers led by senior principal scientist Krishnakumar B. It has been approved by the Kerala State Suchitwa Mission and field units are already working at industrial sites.

**Published in:**
The Hindu

# Hyderabad Researchers part of landmark initiative to create India's first Breast Cancer Genomic Atlas

CSIR-CCMB

30th October , 2024

Genetic researchers from Hyderabad are part of a major country-wide initiative of completing the genomic mapping of nearly 1,000 breast cancer tumours of patients drawn from the city and elsewhere and come up with a unique Indian Breast Cancer Genomic Atlas (IBCGA).

The program of genomic profiling of Indian breast cancer cases, which is already underway, is first of its kind and being taken up by multiple genetic laboratories in India under Council of Scientific and Industrial Research (CSIR), which also involves researchers from Hyderabad-based Centre for Cellular and Molecular Biology (CCMB).

The overall breast cancer genomic atlas is seeking to create India-specific cancer genomic resources and in the process find actionable molecular features of clinical significance, senior scientists from CCMB said.

The reason for focus on breast cancer is due to the fact that the disease has quickly become the number one cancer among Indian women. "A significant rise in the incidence of breast cancer-associated mortality in the Indian population has been noted. Genomic characterization of tumours will help doctors/scientists improve clinical management of cancer patients," CSIR in a note on Breast Cancer Genomic Atlas said.

As a part of the genomic cancer atlas, more than 50 physicians, 35 scientists and 12 hospitals from Hyderabad and across India are in the process of generating over 400 terrabytes of cancer data of Indian patients.

Researchers in the well-known science journal Nature (February, 2024) said that the success of the atlas will impact 20 per cent of the humanity. "The first cohort of 1,000 breast cancer

patients is expected to generate a lot of data, underscoring the importance of creating high-quality data to enable impactful research," they said.

The genomic atlas uses standard data models for clinical data harmonization and bioinformatics analyses. As it expands to other cancers, the atlas will have to handle increasing volumes of complex data. Efforts are underway to construct a robust, scalable data and compute infrastructure to support this growth, the Nature article said.

**Published in:**
Telanganatoday

# Science and technology key to raising India's profile in the world, says CSIR chief

CSIR

30th October , 2024

The current geopolitical situation has made it imperative for India's youth to work towards raising the country's profile in the world by promoting self-reliance as part of the government's 'Viksit Bharat 2047' development roadmap, said N. Kalaiselvi, Director-General, Council of Scientific and Industrial Research (CSIR) and secretary, Department of Scientific and Industrial Research (DSIR).


Ms. Kalaiselvi was speaking at the convocation of the Bharathidasan University (BDU) on Tuesday, which was presided over by Governor and Chancellor R.N. Ravi.

"'Viksit Bharat 2047' is the need of the hour to promote the development of India. It is important that we do not depend on other countries for any of our important requirements. Students must pause for a moment of self-realisation that they are the citizens of a great country. India is in itself a complete package and therefore we are in no way inferior to anyone else in the globe," said Ms. Kalaiselvi.

"This is time for us to prove that we can come up with innovative ideas that are not only relevant but also accepted for implementation in the global market. Science and technology alone can help India achieve the target of 'Viksit Bharat'. If we are able to contribute to the nation, Viksit Bharat is not just a tagline, but a commitment towards development," she said. According to an official statement, 520 Ph.D candidates received their degrees in person on

Tuesday, of whom 90 were gold medal winners. Over 70,000 undergraduate, postgraduate and M.Phil students received their degrees in absentia. BDU Vice-Chancellor M. Selvam presented the annual report.

**Published in:**
The Hindu

# 9th Ayurveda Day Celebrated at CSIR-Institute of Himalayan Bioresource Technology, Palampur

CSIR-IHBT

29th October , 2024

The CSIR-Institute of Himalayan Bioresource Technology (IHBT) in Palampur marked the 9th Ayurveda Day with a grand celebration. Since 2016, the Government of India has been observing Ayurveda Day on Dhanvantari Jayanti to promote awareness about Ayurvedic principles, herbs, and lifestyle. This year's theme, "Ayurveda Innovation for Global Health," underscores the growing global significance of Ayurveda. Dr. Vijay Chaudhary, Principal of Government Ayurvedic College, Paprola, delivered an insightful address on the importance of Ayurveda in daily life, particularly emphasizing diet and lifestyle. He highlighted Ayurveda as a robust medical system that is gaining international recognition.

In his welcome address, Dr. Sudesh Kumar Yadav, Director of IHBT, extended his greetings for Ayurveda Day. He elaborated on the institute's efforts in documenting, verifying, and authenticating herbs, aligning with the 2024 theme. Dr. Yadav also discussed the institute's initiatives in plant conservation and propagation, calling for increased focus in these areas. The event saw active participation from the institute's staff and students, members of Ayurvedic College, Paprola, and students and teachers from Kendriya Vidyalaya, Palampur. The celebration not only highlighted the advancements in Ayurvedic research and practice but also reinforced the importance of integrating Ayurvedic principles into daily life for better health and well-being.

**Published in:**
Himachalheadlines

# IIIM launches Agarbatti production unit to support local entrepreneurs

CSIR-IIIM

29th October , 2024

CSIR-Indian Institute of Integrative Medicine (IIIM), Jammu, inaugurated its new Agarbatti Production Unit, an initiative established under the Value Addition Vertical of CSIR Aroma Mission at here on Monday. The facility aims to create high-quality, value-added aromatic products and is dedicated to supporting local farmers, Self Help Groups (SHGs), women, youth, and budding startups in the region.


The Agarbatti Production Unit inaugurated by Dr. Zabeer Ahmed, Director, CSIR-IIIM, Jammu, in the presence of Heads of Departments, Senior Controller of Administration, Controller of Finance & Accounts, and other senior officials of the institute. Dr. Ahmed spoke on the occasion that CSIR-IIIM is committed to advancing economic growth and livelihood opportunities in Jammu and Kashmir through sustainable business models and innovative agro-technological initiatives.

The inauguration of this new facility under the CSIR Aroma Mission highlights the dedication of IIIM to advancing scientific research while also creating meaningful benefits for the local community. By establishing this production unit, the institute aims to empower local farmers, youth, and Self Help Groups (SHGs) to engage in and gain from the expanding aromatic industry.

The Value Added Facility under the Aroma Mission aims to utilize the rich natural resources of Jammu and Kashmir, applying advanced research to create commercial products with

strong economic potential. The Agarbatti Production Unit will produce high-quality incense sticks from locally sourced aromatic plants, offering a new source of income and supporting the local workforce. The unit will provide opportunities and provide training to the local farmers and Self Help Groups (SHGs), encouraging self-reliance and entrepreneurship among women and youth in rural areas. It will also support startup initiatives by offering resources, and assistance to promote new businesses and enhance employment in the aromatic products sector.

As part of the ongoing efforts under the CSIR Aroma Mission, the Agarbatti Production Unit supports the cultivation of aromatic plants and adds value by producing sustainable products to meet rising market demand. This initiative is expected to strengthen the economy of Jammu and Kashmir by creating a strong, value-focused supply chain in the aromatic sector.
The inauguration of this unit is a major step for CSIR-IIIM Jammu, reaffirming its commitment to advancing India's aromatic and medicinal plant sector through research, innovation, and community support.

**Published in:**
Risingkashmir

# Civil Aviation Minister Naidu stresses upon the need of indigenous civil aircraft development

CSIR-NAL

28th October , 2024

Civil Aviation Minister Kinjarapu Rammohan Naidu on Monday emphasised the importance of developing indigenous civil aircraft to showcase India's expertise and strengthen its position as a preferred destination for aerospace component manufacturing, from initial design to final production, according to an official press release.

Addressing staff at the Council of Scientific and Industrial Research-National Aerospace Laboratories (CSIR-NAL), the Ministry of Civil Aviation, the Directorate General of Civil Aviation (DGCA), flight training organisations (FTOs), and aerospace industry representatives in Bengaluru, Minister Naidu underscored Prime Minister Narendra Modi's vision for India to become a leading aviation hub by the end of the decade and achieve Viksit Bharat by 2047.

"India has a competitive advantage in the aerospace industry, supported by a qualified workforce of engineers, scientists, and IT graduates; an established base of parts and components; robust manufacturing expertise; and advanced academic institutions and R&D infrastructure. Many aerospace companies are considering India as a destination for manufacturing and MRO services. However, for India to become a significant player in the global aerospace industry, including both civil and defence sectors, we must address existing technological gaps--a critical challenge for Indian companies," Naidu stated.

"Our institutions need to keep pace with the increasing reliance on technology across the design lifecycle. Many foreign companies remain reluctant to transfer cutting-edge technology

to India without significant management control, often providing licences for older technologies instead. This has hindered Indian companies' competitiveness in the global market. Consequently, our R&D labs must produce globally competitive innovations to strengthen our aviation industry and realise our Prime Minister's vision for 'Viksit Bharat 2047'. This requires disruptive innovation," he added.

Reflecting on CSIR-NAL's significant contributions to both civil and defence aerospace sectors over the past 65 years, Naidu praised the laboratory's work on major national civil aircraft programmes. He acknowledged NAL's contributions to the development of the indigenous two-seater trainer aircraft Hansa-3 (NG), the Saras MK-2 Light Transport Aircraft currently under development, and the advancements in the Project Definition Phase (PDP) of the Regional Transport Aircraft (RTA) programme.

Naidu also expressed his appreciation for the positive responses received from FTOs for CSIR-NAL's Hansa-NG aircraft, along with the interest shown by production agencies in commercialising it to meet FTO demand. He highlighted the Ministry's plans to increase the number of FTOs from the current 37 to over 80 in the next five years, accommodating the country's growing pilot training needs, and noted that the Government has already reduced customs tax on aircraft parts to 5%, with plans to extend this to imported raw materials to support local manufacturing and promote indigenous technologies.

The RTA 90-seat turboprop aircraft aims to bolster domestic aviation manufacturing capabilities and reduce dependence on foreign manufacturers. The Ministry of Civil Aviation (MoCA) is committed to supporting this programme and has initiated the formation of an SPV to develop the manufacturing ecosystem, followed by the launch of Full Scale Engineering Development within India. Naidu applauded CSIR-NAL, along with DRDO and HAL, for leading the PDP phase and working on indigenous design and development of LRUs and systems to meet the RTA requirements.

He expressed satisfaction with the interest shown by global companies such as Airbus and

Boeing in joining the RTA programme. This collaboration is expected to accelerate development, enhance innovation, and increase the RTA's competitiveness on the global stage, marking a significant step in India's aerospace manufacturing journey.

Naidu commended CSIR-NAL for building advanced national test facilities that are not only among the best in the country but also comparable to similar facilities worldwide. He particularly appreciated CSIR-NAL's success in the flight demonstration of a 1:3 scale High Altitude Platform (HAP) powered by solar and battery for 24x7 operations, and he looks forward to the full-scale HAP demonstration, which would place India among the first three countries to achieve this for communication and surveillance applications.

He acknowledged CSIR-NAL's swift response to MoCA's initiatives on developing eVTOL aircraft and Urban Air Taxi (UAT) to address current needs. He was pleased to learn of the laboratory's conceptualisation of a National Drone Hub at Begumpet Airport in collaboration with the Civil Aviation Research Organisation (CARO-AAI), BEL, the Drone Federation of India, and private industry. He commended CSIR-NAL scientists for their ambitious roadmap for growth in the aerospace sector under Aerospace Projects of National Importance (APNI), including initiatives like Electric Hansa (e-Hansa), Urban Air Taxi, and a four-seater aircraft--all expected to contribute to the vision of "Viksit Bharat 2047."
On this occasion, Naidu also released the Aircraft Manuals for Hansa-NG, intended to benefit FTOs and aircraft manufacturers.

**Published in:**
Aninews

# AIIMS signs MoU with CSIR-CCMB to combat sickle cell

CSIR-CCMB

28th October , 2024

The All India Institute of Medical Sciences (AIIMS) Bhopal has signed a Memorandum of Understanding (MoU) with the Council of Scientific and Industrial Research and the Centre for Cellular and Molecular Biology (CSIR-CCMB), Hyderabad, to enhance diagnostic capabilities and research initiatives for sickle cell disease and related genetic disorders. This collaboration marks a significant milestone in addressing the challenges of sickle cell disease, particularly in central India.

Prof. (Dr.) Ajai Singh, Executive Director of AIIMS Bhopal, emphasized the importance of this partnership, stating, "Our collaboration with CSIR-CCMB is a significant step towards enhancing diagnostic capabilities for sickle cell disease.

The introduction of this PCR-based test will enable us to offer accurate diagnoses, especially in underserved communities, thereby significantly improving patient care." He further noted that the test is currently in the initial validation phase and will be compared with other government-approved tests.

A key aspect of this partnership is the implementation of a molecular PCR-based diagnostic test developed by CSIR-CCMB, which will be operational at AIIMS Bhopal. This advanced diagnostic tool aims to provide opportunities for rapid and accurate diagnoses for patients, leading to improved management of sickle cell disease.

Dr. Giriraj Chandak, Mission Lead of the Sickle Cell Anemia Mission at CSIR-CCMB, remarked, "This MoU is an important milestone in our mission to bring advances in science to those who need it most. Through this partnership, the PCR-based test we have developed can now benefit countless patients, advancing diagnostic and research capabilities in sickle cell disease."

Beyond the implementation of the PCR-based test, this collaboration will foster joint research projects focused on sickle cell disease and genetic health. The partnership aims to promote advancements in genetic research, enhance clinical understanding, and contribute meaningfully to public health.

**Published in:**
Dailypioneer

# CSIR Leads Mass Cleanliness Drive at New Delhi Railway Station as Part of Special Campaign 4.0

CSIR-IMMT

27th October , 2024

As part of the ongoing Special Campaign 4.0, the Council of Scientific & Industrial Research (CSIR), in coordination with the Northern Railways, carried out a cleanliness drive at the New Delhi Railway Station. Dr N Kalaiselvi, the DG, CSIR and Shri Mahesh Yadav, Station Director, New Delhi Railway Station lead the cleanliness drive. During the event, the Safai Mitras of New Delhi Railway Station were felicitated by CSIR, underscoring CSIR's appreciation for the contributions of sanitation workers in maintaining public cleanliness. During the drive, the Northern Railways demonstrated its various advanced motorized equipment and cleaning systems to maintain cleanliness at the railway station.

In a bid to promote environmental sustainability, DG, CSIR and Secretary, DSIR; Joint Secretary, CSIR, and Director, CSIR-IMMT spearheaded a plantation drive. This effort was aligned with CSIR's ongoing initiatives #Plant4Mother and #EkPedMaaKeNaam, aimed at increasing green cover and fostering ecological balance.

The CSIR team also performed a skit showcasing CSIR's contributions including its collaboration with the Indian Railways and many technologies, especially those related to waste management.

The event was presided by Dr. N Kalaiselvi, Director General, CSIR and Secretary DSIR along with the participation of Shri Mahendra Kumar Gupta, Joint Secretary (Admin.), Dr. Ramanuj Narayan, Director, CSIR-IMMT, Shri Mayank Mathur, Chief Scientist and Nodal

Officer, Special Campaign 4.0, Dr. A.S. Nirmala Devi, Principal Scientist and Deputy Nodal Officer and other dignitaries from CSIR. From Northern Railway, Shri Mahesh Yadav, Station Director and other dignitaries participated in the event and extended their support.

The partnership between CSIR and Indian Railways exemplifies a unified effort towards achieving the goals of Special Campaign 4.0 under Swachh Bharat Abhiyan.

**Published in:**

Pib

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