



NEWS BULLETIN

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Compiled by Science Communication and Dissemination Directorate (SCDD), CSIR, Anusandhan Bhawan, New Delhi



Jal Dost: A Revolutionary Made-in-India Lake Rejuvenation Machine That Bengaluru Lakes May Get A Clean Sweep With



20th November, 2024

In a significant innovation which can turn out to be a game-changer for rejuvenation of lakes in Karnataka's Bengaluru, locally based Council of Scientific and Industrial Research-National Aerospace Laboratories (CSIR-NAL) has unveiled an airboat for removing weeds from water bodies. The machine is however awaiting a nod by the Bruhat Bengaluru Mahanagara Palike (BBMP) for on ground



implementation.

Features and Functionality

The machine can remove plastic debris, invasive weeds, and other pollutants from water bodies, collecting up to 5 tons of waste in a single operation. Designed with eco-friendly propulsion, Jal Dost can operate in shallow and weed-dense areas, ensuring minimal disturbance to aquatic ecosystems. In an exclusive conversation with ETV Bharat, Karthikeyan, Principal Scientist, CSIR-NAL said that Jal Dost is a game-changer in lake

rejuvenation. "It offers an affordable, indigenous solution to urban water pollution, costing only Rs 90 lakh compared to Rs 2.5 crore for foreign alternatives," he said.

"We are actively engaging with BBMP to deploy Jal Dost in Bengaluru's lakes. It's a ready solution that combines cutting-edge technology with cost-effectiveness to address lake pollution," he added. He said that the machine has been successfully commercialized, and licensing agreements are in place. "We encourage both governments and corporates under CSR initiatives to invest in Jal Dost for a cleaner, greener future," he said. Speaking about its significance, Karthikeyan emphasized, "Jal Dost can turn polluted lakes into clean, rejuvenated





water bodies. Its deployment will be a key step in addressing Bengaluru's lake pollution crisis."

Collaboration with BBMP

CSIR-NAL is actively engaging with the Bruhat Bengaluru Mahanagara Palike (BBMP) to encourage the use of Jal Dost for cleaning and rejuvenating the city's lakes. However, Karthikeyan revealed that the BBMP is yet to formally respond to the proposal. "This machine has immense potential to make a difference, and we hope it will be adopted soon for Bengaluru's lakes," he added.

Commercialization and Market Reach

The Jal Dost has been successfully launched in the market, with the aim of widespread commercialization to ensure accessibility. CSIR-NAL is also encouraging corporate entities to explore the machine as part of their CSR initiatives, highlighting its utility in maintaining

urban water ecosystems.

A Critical Step for Bengaluru's Lakes

Bengaluru, once known as the city of lakes, has faced growing concerns over pollution and neglect of its water bodies. Machines like Jal Dost could be instrumental in restoring these critical resources. Karthikeyan reiterated that the government and organizations alike must take advantage of this indigenous innovation, which combines advanced technology with affordability, to address the city's ecological challenges.

With its advanced features and affordable pricing, Jal Dost offers hope for a cleaner, more sustainable future for urban water bodies, starting with Bengaluru's lakes. It is to be noted that the 27th Bangalore Tech Summit (BTS) 2024, the Department of Electronics, IT, Biotechnology, and Science & Technology, Government of Karnataka, showcased cuttingedge products and solutions from startups. Held at Palace Grounds, this initiative highlights the state's commitment to fostering innovation and supporting emerging businesses.

Published in:

Etvbharat





Lutyens' Delhi to bloom with over 3 lakh tulips as part of NDMC's floral makeover





Lutyens' Delhi is set to receive a floral makeover as the NDMC plans to plant over 3.25 lakh tulip bulbs as part of a broader effort to enhance the city's beauty, officials said.

The initiative, costing ₹2.19 crore, will cover iconic locations such as Shanti Path, Akbar Road, Connaught Place, Parliament House, and 52 roundabouts, with tulips in seven different colours, they added.

The New Delhi Municipal Council is procuring a total of 5.5 lakh tulip bulbs from the Netherlands, the officials said.

While 3.25 lakh bulbs will be used by the NDMC, the remaining bulbs are being allocated to the Delhi Development Authority and the Municipal Corporation of Delhi for use in their parks and public spaces. Both the DDA and MCD will bear the costs for their shares of the bulbs, they added.

The agency also expects to receive flowers from the CSIR-Institute of Himalayan Bioresource Technology in Palampur, where more than 50,000 preserved seeds from last year's plantation

Similarly, around 18,000 tulips whose seeds were also preserved are being grown locally at the NDMC's advanced propagation chamber in Lodhi Garden, the officials said.

According to officials, to accommodate the growing scale of the initiative, the NDMC is expanding its climate-controlled tulip storage and propagation facilities at Lodhi Garden, they said, adding that the upgraded facility will soon be able to hold up to 36,000 bulbs at a time, up from its current capacity of 20,000.





The plantation is set to begin in mid-December, with the tulips expected to bloom within 30-40 days, offering a spectacular display by the end of January or early February.

The officials said NDMC teams are actively surveying the city to identify new locations for the plantation, having adequate water supply and minimal traffic, ensuring the successful growth

of the flowers.

This year's effort builds on the success of last year's planting of 2 lakh tulips, which adorned prominent areas such as Shanti Path.

The project aligns with the NDMC's vision of transforming Delhi into a greener and more picturesque capital.

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Hindustantimes









Art met science at the Centre for Cellular and Molecular Biology (CCMB) in the city recently when a group of artists paid the institute a visit. At the unusual interaction, scientists, who can usually be seen looking through a microscope, found themselves seeing the world from a different prism.

The CCMB often hosts 'open days' to raise awareness about science among the public. Usually, these events attract children only. To bring all age groups into the fold, and also to widen their own perspective, the institute invited artists belonging to the Urban Sketchers group in Hyderabad.

As many as 50 'skechers' – children and adults – made their way to the lab on Nov 9. What followed at the Habsiguda lab was a profound meeting that opened a new way of looking at the world for both sides.

Caught in frame During the interaction, Dr Raghunand Tirmulai, senior principal scientist at CCMB, was seen using a magnifying glass to closely examine a sketch. The scientist was impressed by the details, much like all other researchers who could not help but awe over the works of artists. Dr Somdatta Karak, head, science communication and public relations, and Aditya Undru, senior project associate, at CCMB first came up with the idea of inviting the urban sketchers over to the CCMB campus.

"They observed and made sketches of the premises, the buildings and the labs. The best part was their interactions with the scientists. As they too have an eye for detail, they could understand the research work that is going on in various labs," said Somdatta. Recalling the experience, Aditya Undru said, "It gave an opportunity for sketchers of all age groups and





educational backgrounds to come and discover the place for themselves. Each one noticed something that caught their attention and sketched it."

Housing works of famous artists

The CCMB has housed work of famous artists, held camps for well-known painters, with M F Hussain himself spending time there. However, the recent initiative of inviting skechers was the first one of its kind.

In fact, acknowledging the work of the artists, a new auditorium is set to open at CCMB where their works will be displayed later this month. A few of the works from the recent interaction may also find a permanent place in CCMB. "When the sketchers show their works of art to others, it will serve the purpose of creating more interest in CCMB, and thereby science," Dr Somdatta Karak said.

Different perspectives Vishal Sah, project research scientist, said the artists literally opened his eyes to something he otherwise would not have paid any special attention. "Their depiction of the lab area, beyond my own workspace, made me notice everything in detail," he said.

Not just the scientists, but artists too were fascinated. "They were curious and had many questions. For the interest that they showed, I would most certainly have liked to teach them more," said Dr Raghunand Tirumalai.

At Tirumai's lab, artists were told about tuberculosis research being done at the lab. He too said that the intricacy of a sketch from his lab was are "simply astounding". The sketchers were also taken to the lab of Dr Rukmini Raju, principal technical officer where the machines fascinated them.

Sketchers click with scientists

Hyderabad: Artists of Urban Sketchers described the work of CCMB scientists as 'labour of love'.





Speaking about their different work spaces, Syed Zeeshan Ahamad, one of the regional coordinators of Urban Sketchers, said, "Artists prefer open areas. When we saw scientists in their labs and at the kind of work they engage in, we were fascinated because this is different for us."

The trip to CCMB was the 298th sketching trip organised by the Urban Sketchers, and it was the first to a scientific institution. Faraaz Farshori, co-founder of USk Hyderabad, was pivotal in getting the artists to CCMB. Farshori said that this visit would pave the way for many more interactions between scientists and artists.

Quotes

It was a unique experience being part of the world we hardly know of. To see it for one day for a few brief moments is different from working there every day. The visit really made me

appreciate scientists for the work they do –Rosy J Mallaparaju, who sketched sitting in front of CCMB canteen

CCMB carries out important research. The scientists have a purpose, to create better, healthy life on earth. I truly appreciate what they do — Uma Tirumalasetti, she drew a sketch of Buddha stone carving in front of CCMB with charcoal









Jaivam: Revolutionizing Waste Management with Speedy, Eco-friendly Composting



20th November, 2024

In a notable advancement in waste management technology, the CSIR-National Institute for Interdisciplinary Science and Technology (NIIST) has unveiled 'Jaivam,' a microbial consortium. This development is aimed at improving composting efficiency, offering a cleaner and swifter process suitable for agricultural uses.

The institute has formalized this innovation through a memorandum of understanding with Agso Agrosoldier Pvt Ltd, granting the company a non-exclusive licence to manufacture and apply 'Jaivam' commercially. This move is pivotal for implementing sustainable waste management practices widely.

"Jaivam" promises to enhance both decentralized and centralized composting systems, addressing critical issues like greenhouse gas emissions and improving compost quality. Field trials have shown promising results, drastically cutting the composting time and aiding municipal and various organic waste processing units in functioning more effectively.











एनबीआरआई लखनऊ की डाॅ. संध्या दवारा "Mission life: Life Style For Environment" विषय पर एक व्याख्यान दिया गया। उन्होंने पर्यावरण संरक्षण के साथ सतत विकास पर भी प्रकाश डाला तथा प्लास्टिक अपशिष्ट प्रबंधन एवं e- waste प्रबंधन जैसे विषयों पर छात्राओं को जानकारी दी। कार्यक्रम के अंत में छात्राओं के लिए कोलाज मेकिंग एवं स्लोगन राइटिंग प्रतियोगिता का आयोजन किया गया।

इस कार्यक्रम में महाविदयालय की 100 से अधिक छात्राओं ने प्रतिभाग किया। कार्यक्रम के दौरान प्रो. शरद कुमार वैश्य, डॉ. राघवेंद्र नारायण, डॉ. विनीता लाल, डॉ. मीनाक्षी शुक्ला, डॉ. सविता सिंह, डॉ. राजीव यादव, डॉ. उमा सिंह, डॉ. ज्योति, डॉ. राहुल पटेल, डॉ. कुणाल दीक्षित सहित समस्त प्राध्यापक उपस्थित रहे।

Published in:

Telescopetoday





Central University of Jammu Students Visits 3-Days Educational Trip to CSIR-IHBT Palampur



18th November, 2024

In a commendable initiative to provide experiential learning beyond the classroom, 53 students from the Centre for Molecular Biology at the Central University of Jammu, including M.Sc. Biotechnology students and Ph.D. research scholars, embarked on a 3 days educational trip to the CSIR-Institute of Himalayan Bioresource Technology (CSIR-IHBT) in Palampur, Himachal Pradesh.. The students were accompanied by faculty members, Dr. Shelly Sehgal and Dr. Swarkar Sharma, on this journey that combined academic learning, interactions beyond classrooms, fun activities with practical exposure to advanced research environments.

Upon their arrival at CSIR-IHBT, the students were introduced to cutting-edge laboratory facilities and advanced instrumentation. The institute, renowned for its research in Himalayan bioresources, provided them access to state-of-the-art labs, where students gained first-hand knowledge of sophisticated equipment and were briefed on the current research in biotechnology, molecular biology, and bioresource utilization. This interaction provided students with an understanding of the technical intricacies involved in biotechnological research and offered them an invaluable opportunity to witness professional research methodologies.

Throughout the visit, students interacted closely with IHBT faculty and research students, discussing ongoing projects, recent advancements in the field, and career possibilities in biotechnology. These exchanges provided the students with insights into research topics they might wish to explore in their own academic pursuits. Dr. Narendra Bairwa, Head of the Department at Central University of Jammu, lauded this interaction, stating, "Such engagements enable our students to broaden their perspectives, allowing them to see how theoretical concepts are applied practically and fostering a sense of curiosity and innovation in their minds."





In addition to their time at IHBT, the students explored the renowned tea gardens of Kangra, where they explored and discussed extensively the process of tea production, from cultivation to processing. As part of their itinerary, the group also visited Sourabh Van Vihar, a lush ecopark in Palampur, where they observed diverse species of flora and fauna, enriching their understanding of biodiversity and ecological conservation. This experience allowed them to appreciate the interconnectedness of biological ecosystems and the importance of preserving them in the face of increasing environmental challenges.

A visit to the Kangra tea factory outlet on the way back, provided students with insights into the economic impact of tea cultivation in the Himalayan region. This part of the tour emphasized the socio-economic value of biodiversity and demonstrated how traditional industries like tea production can contribute significantly to the economy. "It is crucial for students to understand that biotechnology is not only about research but also about how it can impact local economies and biodiversity, and students can exploit these resources and develop technologies to be converted in Startups" emphasized Dr. Swarkar Sharma, one of the faculty accompanying the students, who is also one of the Director of CUJ Startup Incubation and Technology Enablement Council, a section 8 company established at Central University of Jammu.

Central University of Jammu fully supported this educational tour, reinforcing its commitment to offering students diverse learning experiences. The Vice-Chancellor, Prof. Sanjeev Jain, expressed his pride in the initiative, stating, "Field trips like this are essential in

equipping our students with practical knowledge and skills. They foster a deeper understanding of their academic subjects and prepare them to become future leaders in research and innovation." Overall, the trip proved to be a significant learning experience for the students, blending theory with practice and deepening their appreciation of the natural and scientific world around them. Such initiatives highlight the university's dedication to comprehensive education, preparing students for successful futures in biotechnology and beyond. <u>Published in:</u>

Takeonedigitalnetwork





CSIR-NIScPR Takes Traditional Knowledge Global with CDTK 2024

CSIR-NIScPR, NIIST

17th November, 2024

CSIR-National Institute of Science Communication and Policy Research (NIScPR) and Gurugram University jointly hosted the International Conference on Communication and Dissemination of Traditional Knowledge (CDTK-2024) at Gurugram University, Gurugram on 13-14 November 2024.



The conference's first day featured diverse sessions, including discussions on integrating traditional pedagogies into modern education, ethics in traditional knowledge research, and the science behind traditional agriculture and cuisine. Additional sessions explored sustainable traditional architecture, integrating ancient sciences into modern disciplines, and effective communication of traditional knowledge through the "Paramparik Gyan Sanchar: SVASTIK workshop.

Following a successful inaugural day at CDTK 2024, the second day has featured remaining

compelling sessions that delve deep into the realms of traditional knowledge research and communication. The Arogya Vidya session was chaired Prof. Bhushan Patwardhan, National Research Professor-AYUSH, SBPPU, Pune, who urged healthcare professionals to prioritize patient welfare above personal egos and adopt the best practices for humanity's benefit. Dr. Rabinarayan Acharya DG, CCRAS, New Delhi, stressed the need for an inclusive, evidencebased healthcare framework. He discussed integrating AYUSH systems and cross-referrals in tertiary healthcare. Dr. N. Zaheer Ahmed, DG, CCRUM, New Delhi, highlighted the importance of research in drug quality and traditional remedies.





Dr. N. J. Muthukumar DG, CCRS, Chennai, emphasised the revival of Siddha practices, and CCRS introduced digital tools to enhance healthcare communication. The session on "Jal, Paristhitiki Evam Paryavaran" was chaired by Dr. Virendra M. Tiwari, Director, CSIR-NEIST and featured Prof. Saroj K. Barik, Professor, NEHU Shillong, who discussed Traditional Ecological Knowledge and its applications in biodiversity, forest conservation, and sustainable practices using examples from Northeast India. He emphasised sustainable bamboo management by referencing "Asha Van" and the significance of sacred groves.

Prof. Sharad Jain, Former Director, National Institute of Hydrology, Roorkee, explored ancient India's advancements in hydrology, tracing knowledge to the Indus Valley Civilization and referencing texts like the Rig Veda and Arthashastra. He highlighted historical water management structures and techniques, showcasing India's rich hydrologic heritage and its connection to civilisation and sustainability. The session on "Reviving Ancient Healing Traditions and Integration into Modern Healthcare: Yoga, Homeopathy & Sowa Rigpa" was chaired by Dr. A. Raghu, Deputy Director General of Health Services at the Ministry of Health and Family Welfare, with Dr. Yogita Munjal, Director, Directorate of AYUSH, as co-chair.

Dr. A. Raghu addressed the efforts of the Indian government in disseminating traditional knowledge across various sectors, highlighting the commitment to share this wisdom with the international community. Dr. Sunil S. Ramteke, Deputy Director General, CCRH, New Delhi, discussed the operational principles of homeopathy, illustrating them with examples of

various plants and their medicinal benefits. Dr. I N Acharya, from the Morarji Desai National Institute of Yoga in New Delhi, emphasised the therapeutic effects of pranayama in managing contemporary stress.

Furthermore, Dr. Padma Gurmet, Director of the National Institute of Sowa Rigpa in Leh, underscored the importance of Sowa Rigpa in the Himalayan region, particularly its ties to Indian Buddhism. Prof Vibha Tripathi, Former Head & Emeritus Professor, BHU, Varanasi opened the panel discussion on Scientific Validation of Traditional Knowledge: Challenges





and the Way Forward. The panellist, Prof (Dr) Rama Jayasundar, Prof & Head, NMR Division, AIIMS, New Delhi highlighted 3 major objectives of research that are validation for providing the evidence(s), use of information from traditional knowledge in modern science like drug discovery, and research to improve healthcare system. Dr Rabindra N Padariya, Joint Director (Extension), IARI, New Delhi highlighted the authentication of traditional agricultural knowledge that requires interdisciplinary collaboration, community-based validation, digitalisation, scientific incentives, NGO partnerships and University-level research. About 400 delegates engaged in both poster and oral presentations, demonstrating their research efforts.

Prof. Ranjana Aggarwal, Director, CSIR-NIScPR opened the valedictory session by warmly welcoming everyone and expressing gratitude for their contribution to the success of the event. She extended a special welcome to the chief guest, Anil Joshi, who graciously attended at short notice. Prof. Dinesh Kumar, Vice Chancellor, Gurugram University offered his congratulations to the entire team for their collective efforts in making the conference a success. He highlighted the urgency of sustainability, expressing concern that material possessions cannot shield us from environmental degradation unless we commit to sustainable practices.

The Chief Guest of the session Padma Bhushan Prof Anil P. Joshi, HESCO, Dehradun addressed the audience, stressing the importance of remembering and preserving Indian traditions. He urged attendees to be mindful of their cultural heritage while navigating the influences of the western world. Prof Vibha Tripathi emphasised on harmonising traditional knowledge with contemporary science for a better future. Dr. Charu Lata summarised the deliberations of the conference. Dr. Dhirender Kaushik, Professor at Gurugram University, expressed his heartfelt thanks to all the dignitaries and delegates for their invaluable contributions to the conference. He emphasised the collaborative efforts that led to the event's success and encouraged continued engagement in future initiatives. This valedictory session reflected the conference's achievements and reinforced the importance of sustainability and tradition in India. **Published in:**









Union Minister Jitendra Singh on Saturday said that Jammu & Kashmir was a key player in India's 'Viksit Bharat' journey. Speaking at the inaugural session of CSIR Healthcare Theme Conclave at SKICC Srinagar Singh positioned Jammu and Kashmir as a treasure trove of untapped resources. He presented a vibrant picture of India's innovation-driven future, emphasising the transformative potential of biotechnology, space technology, and youth-led startups.



The audience included Startups, doctors, scientists, innovators, and young entrepreneurs. "India's startup ecosystem, now the third-largest globally with over 1.6 lakh ventures, stands testament to our entrepreneurial spirit. From just 350 startups a decade ago, we've grown exponentially, becoming a powerhouse of innovation," the Minister of State (Independent Charge) of the Ministry of Science and Technology said.

Jitendra highlighted India's remarkable progress in the space sector, achieved through publicprivate partnerships. "Three years ago, we had just single-digit collaborations in space; today, over 300 global-standard partners have joined hands with ISRO. Our first-generation space startups are now celebrated entrepreneurs and knowledge leaders," he said.

Singh credited Prime Minister Narendra Modi's visionary policies for catalyzing these achievements. "The launch of Startup India was more than a slogan; it was the spark that ignited a nationwide movement," he noted.





The Minister also outlined the extraordinary strides in biotechnology, an area he called the future of the global economy. He pointed to pioneering achievements, such as India's first DNA vaccine and the HPV vaccine for cervical cancer, which underscore the nation's scientific

prowess.

"In 2014, India's bio-economy was worth just \$10 billion. Today, it stands at \$130 billion, and we are on track to reach \$300 billion by 2030," he announced. Singh also spoke passionately about Jammu and Kashmir's role in this transformation. "The region is poised to become a bioeconomy hub, driving the next industrial revolution with its unique natural resources."

Jitendra made a heartfelt appeal to young innovators, urging them to become "the architects of 2047 India". He emphasized the importance of societal awareness, suggesting that parents accompany their children to such conclaves to bridge generational knowledge gaps. Citing examples from the region, he highlighted the lavender cultivation success story as proof of the area's potential.

"When a young entrepreneur earns ₹15,000 per vial of lavender oil, why should our youth stand in line for government jobs?" he asked, challenging the audience to rethink traditional career paths. The Minister ended his speech by aligning the conclave's goals with India's broader aspirations for 2047. He stressed the critical role of Himalayan states, including Jammu and Kashmir, in driving sustainable growth and innovation.

"As resources in other parts of the country diminish, the untouched potential of this region will lead India's growth story," Jitendra stated, adding that this transition is supported by robust government policies and the unwavering determination of the nation's youth. The twoday conclave brings together experts and stakeholders to discuss healthcare advancements, biotechnology, and sustainable development strategies. It also features exhibitions showcasing cutting-edge innovations, particularly from young startups.

Published in:

Thekashmirhorizon



The city is all set to host the 10th edition of the Indian International Science Festival (IISF) from Nov 30 to Dec 3, marking the prestigious festival's debut in the northeast.

The four-day-long festival will be held at IIT- Guwahati and will encompass an array of events and programmes for students and science enthusiasts. The event aims to introduce them to new-age technological advancements and penetrate scientific thoughts across every nook and corner of the state.

The mission for this year's IISF is to make a prosperous Bharat in harmony with modern infrastructure and nature while giving opportunities to all citizens to reach their potential through science and technology. At the festival, experts from various scientific backgrounds will interact with science enthusiasts through seminars and other programmes. C Anandharamakrishnan, director of CSIR-NHST and chief coordinator of HSF 2024, said, "The idea of HSF is to build the nation through practising science. The theme of this year's festival has been selected as how to transform India into a science and technology-driven global manufacturing hub." Guwahati: The city is all set to host the 10th edition of the Indian

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