

CSIR-NEIST at World Food India 2024



The CSIR-North East Institute of Science and Technology (CSIR-NEIST) made a significant impact at the prestigious World Food India (WFI) 2024, held from 19th to 22nd September 2024 at Gandhi Mandapam, New Delhi. The event, organised by the Ministry of Food Processing Industries, attracted global attention as one of the premier platforms to explore emerging trends and innovations in the food processing sector.

At the CSIR Pavilion, CSIR-NEIST presented its pioneering research and technologies aimed at revolutionizing food production, preservation, and sustainability. With a focus on leveraging science to enhance agricultural productivity and food security, the institute showcased a variety of innovations, including advanced biotechnological solutions, eco-friendly agrochemicals, and novel methods for improving crop yield and quality.

CSIR-NEIST's contributions stood out for their potential to address some of the critical challenges faced by the global food industry, such as the need for sustainable farming practices, efficient resource utilization, and climate-resilient agriculture. The pavilion attracted a diverse audience, ranging from industry leaders to



academic researchers, fostering meaningful discussions on the future of food and technology.

CSIR-NEIST organized “EK PED MAA KE NAAM” initiative with Tree Plantation Drive



On September 21, 2024, CSIR-NEIST organised a special event under the Central Government's ambitious project "Ek Ped Maa Ke Naam". The programme began with a brief meeting at the MS Iyenger Hall, where Brigadier Subodh, GOC, attended as the Chief Guest. Dr. V M Tiwari, Director of CSIR-NEIST, welcomed the Chief Guest and the audience, speaking about the importance of adopting Gandhian models of science. He highlighted that Western scientific models may not always suit India's unique environment, social beliefs, and cultural fabric. Dr. Tiwari emphasized that Gandhi's model of cleanliness, or "Swachhta," is particularly relevant today as it aligns with the urgent need for environmental protection, better health, and societal development.

During the event, Dr. Tiwari also discussed the importance of environmental conservation in the Northeast, addressing concerns such as carbon emissions and the preservation of soil and water health. As part of the plantation drive, he announced that NEIST plans to plant an additional 1,000 saplings within its campus under this initiative.



Group photo of the Chief Guest Brigadier Subodh, Dr V M Tiwari & staff members of CSIR-NEIST

The Chief Guest, Brigadier Subodh, expressed his deep connection with the scientific community, recalling his childhood spent at the Indian Institute of Science (IISc), Bangalore. He stressed the importance of education in protecting the environment and called for research institutions like CSIR-NEIST to lead major environmental projects. He commended NEIST for its long-standing commitment to environmental protection in the region. Brigadier Subodh also engaged with scientists, school students, teachers, and others present at the event.

Following the meeting, attendees moved to the main agenda: the plantation drive. The Chief Guest, Dr. Tiwari, and other dignitaries, along with NEIST staff, participated in planting tree saplings to officially launch the initiative.

The programme was coordinated by Dr. Kalyani Medhi, Senior Scientist at the institute, who also provided an overview of the "Ek Ped Maa Ke Naam" initiative. Dr. Sanjay Deori concluded the event with a vote of thanks.

On the occasion of World Environment Day, Prime Minister Shri Narendra Modi launched the 'Ek Ped Maa Ke Naam' campaign by planting a Pipal tree at Buddha Jayanti Park in Delhi. This initiative encourages citizens to plant trees in honor of their mothers, symbolizing both respect for nature and maternal care. During the launch, Shri Modi highlighted the importance of individual contributions to environmental conservation and emphasized the positive impact of collective efforts on increasing India's forest cover over the last decade. He remarked that this growing green cover is a significant step toward the country's sustainable development goals.

CSIR-NEIST Jorhat Conducted Hindi Saptah Celebrations



Dr V M Tiwari felicitating Dr Runu Baruah

CSIR-North East Institute of Science and Technology Jorhat conducted Hindi Saptah programme during 14th to 23rd September of 2024. After a week filled with activities celebrating the beauty of the Hindi language, a meeting was organised on 23rd of September of 2024 in which Dr Runu Baruah was the Chief Guest.

Dr Runu Baruah, the Chief Guest of the closing ceremony, praised the institute's efforts in advancing the use of Hindi. In her address, she commended everyone for their enthusiasm and hard work throughout the week, encouraging the participants to continue engaging with the language. She also had the honor of awarding prizes to the winners of various competitions that had taken place over the week.



Dr Runu Baruah & Dr V M Tiwari distributing prizes

Dr V M Tiwari, Director of CSIR-NEIST, warmly welcomed the attendees and spoke passionately about the importance of Hindi Week. He stressed how such events are a key to preserving our cultural and linguistic identity, and he expressed excitement about the opportunity the week offered to dive into the richness of Hindi literature, art, and traditions.

Mr Ajay Kumar, Hindi officer at CSIR-NEIST, shared the highlights of the competitions and events that made the week memorable, while Dr Ajit Singh, Senior Scientist of CSIR-NEIST, expressed gratitude to all involved with a heartfelt vote of thanks. The event was seamlessly hosted by Ajay Kumar, creating an atmosphere of unity and pride in India's linguistic diversity. The event highlighted the institute's commitment to

promoting Hindi and embracing India's rich cultural heritage.

CSIR-NEIST celebrated 83rd CSIR Foundation Day



Padma Shri Prof. Vinod K. Singh delivering speech

CSIR-NEIST celebrated the 83rd Foundation Day of its parent organization, the Council of Scientific & Industrial Research (CSIR), with great enthusiasm on 30th September 2024. The celebrations were held at the Dr. J N Baruah Auditorium, attracting an esteemed audience of dignitaries, invitees, and eminent personalities from Jorhat and beyond, alongside the CSIR-NEIST fraternity.

Padma Shri Prof. Vinod K. Singh, Chair Professor at IIT Kanpur and Chairman of the Research Advisory Board (CSIR), was the Chief Guest of the occasion. Prof. Singh delivered an inspiring Foundation Day Lecture on the theme "Leadership in Academics." The program was presided over by Dr. V M Tiwari, Director of CSIR-NEIST, who in his welcome address extended warm greetings and heartfelt thanks. Dr. Tiwari highlighted key contributions made by CSIR over the years and urged all to unite with renewed vigor to build a stronger CSIR for a dynamic, prosperous India. He also emphasized the pivotal role CSIR-NEIST has played in various sectors of science and technology, particularly in enhancing quality of life and creating livelihood opportunities across the Northeast region.

In his thought-provoking lecture, Prof. Vinod K. Singh stressed the importance of developing leadership skills in research and academia. He underscored the need for common sense in addition to education and laid out essential traits for leaders in science, such as clarity of thought, effective decision-making, ethics, integrity, and respect for peers.



Integration of the Solid Waste Management Plant

As part of the day's events, an Integrated Solid Waste Management Plant was inaugurated on the CSIR-NEIST campus by the Chief Guest. Additionally, employees who retired in the past year were honored with CSIR Sanman Patras and mementoes, while those who completed 25 years of service were felicitated with token gifts.



Signing of MoU between CSIR-NEIST, Jorhat and Rabindranath Tagore University, Hojai, Assam

A significant highlight of the occasion was the signing of a Memorandum of Understanding (MoU) between CSIR-NEIST and Rabindranath Tagore University, Hojai, Assam, to foster research and educational collaborations. Dr. V M Tiwari, Director, signed on behalf of CSIR-NEIST, while Prof. Kaushik Chanda, Dean of Research and Development, represented Rabindranath Tagore University.

The celebrations also included an 'Open Day' from 2:00 pm to 4:45 pm, during which students and the general public from Jorhat and nearby areas toured the Institute and interacted with scientists, gaining insights into ongoing research and technological innovations.

With a strong focus on innovation, leadership, and collaboration, CSIR-NEIST's Foundation Day celebration reflected the organization's enduring commitment to advancing science and technology for the nation.

TEST SAMPLE REPORT:

Number of samples received: 90 nos.

Number of test report dispatched: 22

PAPER PUBLISHED:

In International Peer Reviewed Journals

- Title:** Photosensitization of Ir-Dye on TiO₂ for Enhanced Hydrogen Evolution: Presence of Ferrocene Matters
Authors: Sandip Prabhakar Shelake, Debashree Bora, Switi Dattatraya Kshirsagar, Firdaus Rahaman Gayen, Naiwrit Karmodak, Dibyendu Mallick, Annadanam V Sesha Sainath, Biswajit Saha and Ujjwal Pal
Journal: The Journal of Physical Chemistry C 2024
http://intranet.rrl.jorhat.res.in/paper_pub/Publ_files/2024/Photosensitization%20of%20Ir%20Dye%20on%20TiO2.pdf
IF: 3.7
- Title:** Synthesis, Antimicrobial Evaluation, and In Silico Studies of 2-Substituted-Phenyl-3-(5-Aryl/Heteroaryl Substituted Thiazol-2-yl) Thiazolidin-4-One Derivatives
Authors: Swati Pawar, Ram Karan, Srijia Hazarika, Mohan Lal, Ravindra K. Rawal and Praveen Kumar Gupta
Journal: ASSAY and Drug Development Technologies
<https://www.liebertpub.com/doi/10.1089/adt.2024.027>
IF: 1.8
- Title:** Chemical fixation of CO₂ with epoxides catalyzed by a Cr(iii)-metalated guanidinium-based covalent organic polymer
Authors: Naranarayan Deori,^a Surabhi Lahkar,^a Saurav Paul,^a Dipanka Dutta,^b Rakhimoni Boraha and Sanfaori Brahma
Journal: New Journal of Chemistry 2024
<https://doi.org/10.1039/D3NJ05807G>
IF: 3.3
- Title:** Surface-Functionalized Nanoceria: Dual Action in Diabetes Management via Glucose-Responsive Insulin Delivery and Oxidative Stress Mitigation
Authors: Bhaben Sharmah, Hiranmoy Barman, Nazim Uddin Afzal, Rikraj Loying, Mir Ekbal Kabir, Anupriya Borah, Joydeep Das, Jatin Kalita, Prasenjit Manna
Journal: ACS Biomaterials Science & Engineering 2024
<https://pubs.acs.org/doi/10.1021/acsbiomaterials.4c01368?>
IF: 5.8
- Title:** Natural product-loaded lipid-based nanocarriers for skin cancer treatment: An overview
Authors: Chaurasiya, Mithilesh; Kumar, Gaurav; Paul, Smita; Verma, Shweta Singh; Rawal, Ravindra K
Journal: Life Sciences 2024
<https://www.sciencedirect.com/science/article/abs/pii/S0024320524006337?via%3Dihub>
IF: 6.1
- Title:** A new berry-fruited *Begonia* (Begoniaceae) from Arunachal Pradesh, India
Authors: Bikas Das, Jadumoni Saikia, Parthapratim Konwar, Appu Siga, Dipanwita Banik
Journal: India Phytotaxa 2024
<https://phytotaxa.mapress.com/pt/article/view/phytotaxa.665.1.5>
IF: 1.1
- Title:** Chemical fixation of CO₂ with epoxides catalyzed by a Cr(iii)-metalated guanidinium-based covalent organic polymer
Authors: Naranarayan Deori,^a Surabhi Lahkar,^a Saurav Paul,^a Dipanka Dutta,^b Rakhimoni Boraha and Sanfaori Brahma
Journal: New Journal of Chemistry 2024
<https://pubs.rsc.org/en/content/articlelanding/2024/nj/d3nj05807g>
IF: 3.3
- Title:** Evaluation of antioxidant, catalytic and antidiabetic activity of *Phaseolus vulgaris* (French green bean) mediated nickel oxide and copper doped nickel oxide bimetallic nanoparticles
Authors: Karishma Talukdar, Vekuno Cukhamu, Deexa Chutia, Rebika Baruah, Archana Moni Das
Journal: Inorganic Chemistry Communications 2024
<https://doi.org/10.1016/j.inoche.2024.113164>
IF: 3.8
- Title:** Effect of horizontal web reinforcement, depth, proportionated loading and bearing plates on shear strength and serviceability of reinforced concrete deep beams
Authors: Appa Rao G, Leon Raj
Journal: Structures 2024
<https://doi.org/10.1016/j.istruc.2024.107106>
IF: 4.1
- Title:** Natural product-loaded lipid-based nanocarriers for skin cancer treatment: An overview
Authors: Mithilesh Chaurasiya, Gaurav Kumar, Smita Paul, Shweta Singh Verma and Ravindra K. Rawal
Journal: Life Sciences 2024
<https://www.sciencedirect.com/science/article/abs/pii/S0024320524006337?via%3Dihub>

IF: 6.1

11. **Title:** Spatial Distribution in Surface Aerosol Light Absorption Across India Geophysical Research

Authors: Taveen S. Kapoor, Chimurkar Navinya, Adishree Apte, Nishit J. Shetty, Pradnya Lokhande, Sujit Singh, Sadashiva Murthy B. M., Meena Deswal, Jitender S. Laura, Akila Muthalagu, Asif Qureshi, Ankur Bhardwaj, Ramya Sunder Raman, Yang Lian, G. Pandithurai, Pooja Chaudhary, Baerbel Sinha, Shahadev Rabha, Binoy K. Saikia, Tanveer Ahmad Najar, Arshid Jehangir, Sauryadeep Mukherjee, Abhijit Chatterjee, Harish C. Phuleria, Rajan K. Chakrabarty, Chandra Venkataraman

Journal: Geophysical Research Letters 2024

<https://doi.org/10.1029/2024GL110089>

IF: 5.2

12. **Title:** New hydrazide derivatives of *N*-amino-11-azaartemisinin as promising epidermal growth factor receptor inhibitors for therapeutic development in triple-negative breast cancer

Authors: Manvika Karnatak, Priyanka Yadav, Komal Rathi, Monika Shukla, Prachi Dugam, Shruthi Suthakaran, Varun Rawat, Mohammad Hassam, Aditi Pandey, Ram Awatar Maurya, Debanjan Sen, Sudhan Debnath, Amitava Das, Achal Mukhija and Ved Prakash Verma

Journal: Chemistry in Life Sciences 2024

<https://onlinelibrary.wiley.com/doi/10.1002/ar dp.202400466>

IF: 5.1

13. **Title:** Deciphering the stability indices using additive main effect and multiplicative interaction model for high yielding registered variety of Lemongrass (Jor Lab L-8)

Authors: M Lal, A Gogoi, T Gupta, T Begum

Journal: Journal of Essential Oil Bearing Plants 2024

<https://www.tandfonline.com/doi/abs/10.1080 /0972060X.2024.2375554>

IF: 2.4

14. **Title:** Divergent Reactivity of Iminyl Radicals in Four Interrupted Pathways for the Synthesis of Cyclic/Acyclic Ketones and N-Heterocycles from Vinyl Azides and Phenylacetic Acids

Authors: Swagota Paul, Ashitosh Baruah, Atul A

Journal: The Journal of Organic Chemistry 2024

<https://pubs.acs.org/doi/10.1021/acs.joc.4c01 243>

IF: 3.6

FAREWELL:

The following member(s) of the staff have retired from Council's service on superannuation from CSIR-NEIST w.e.f 31.09.2024.

1. Mr Ratul Saikia, Senior Secretariat Assistant