

निस्ट न्यूज NEIST NEWS

सी एस आई आर-उत्तर पूर्व विज्ञान तथा प्रौद्योगिकी संस्थान, जोरहाट
CSIR-NORTH EAST INSTITUTE OF SCIENCE & TECHNOLOGY, JORHAT

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Connecting Science & Technology for a Brighter Tomorrow

CSIR-NEIST DEVELOPS BIO-BASED FORMULATION FOR PROTECTING BAMBOO AND WOOD PRODUCTS



Tested wood samples in lab with the formulation.



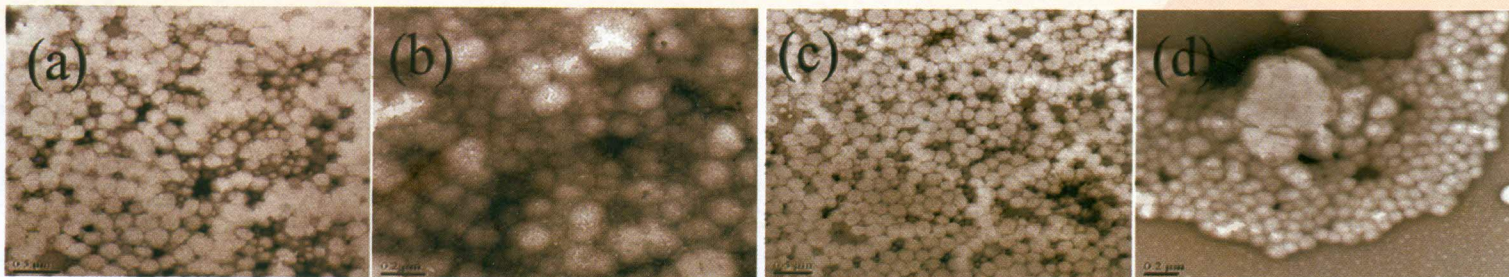
Wood care Formulation developed by CSIR-NEIST

A potential formulation to prevent damage in wood and bamboo has been developed by CSIR-NEIST. One of the major causes for degradation of wood and bamboo products is due to fungal and

borer insect attack along with unfavourable climatic conditions. Recognized as one of the world's biodiversity hotspot, the North East India is a major producer of wood and bamboo products in the country. Wood and bamboo have wide array of applications from housing and building to furnishing materials and handicraft items.

The bio-based formulation is aimed to not only protect such products from degrading but also enhance its strength and durability. Developed from plant sources, the formulation is eco-friendly with insect and fungal resistant properties. The process technology is currently available for transfer to interested entrepreneurs and companies. The technology has been developed at cottage level (100L/day).

CSIR-NEIST RESEARCH ARTICLE ON 'SYNTHESIS OF HYBRID ALKYD-ACRYLATE LATEXES' ATTRACTS EDITOR'S INTEREST



TEM images of the hybrid alkyd-acrylate latex films: (a) R-1, (b) R-2, (c) R-3, (d) R-4.

CSIR-NEIST synthesized *Ricinodendron heudelotii* oil based hybrid alkyd-acrylate latexes via miniemulsion polymerization. The process uses an alkyd resin based on *R. heudelotii* oil with variation of phthalic anhydride and maleic anhydride to synthesize hybrid alkyd-acrylic waterborne binder suitable for coating application. The work carried out by E F Assanvo and S D Baruah was recently published in the International Journal, Progress in Organic Coatings, Vol 86, Sept., 2015, p: 25-32. Editor-in-chief of the Journal, Dr Sonja Schulte quoted the article as, most interesting science and technology news of the week in her weekly

update on 11 November, 2015. Quoting further from her review, the results of the study suggest that the Rh oil-based alkyd-crylate hybrid latexes have potential improved properties for manufacture of waterborne coatings and are usable as an alternative to petroleum-based coating systems. The study showed an overall improved performance of the hybrid latex in terms of drying time at room temperature, mechanical properties after UV exposure, better thermal stability, shore A hardness and hydrophobic water repellency contact angle.

**AIR MARSHAL RAJAN CHAUDHRY, DIRECTOR GENERAL
MEDICAL SERVICES (AIR) VISITS CSIR-NEIST**



Air Marshal Rajan Chaudhry, AVSM, VSM, PHS, DG-MS (Air) visited CSIR-NEIST on 26 November, 2015 along with Air Commodore Hirdesh Sahni, 5 Air Force Hospital, Jorhat and other distinguished Air force officials. Air Mshl Rajan Chaudhry visited various divisions of the Institute accompanied by Dr D Ramaiah, Director, CSIR-NEIST. He showed keen interest in the bioformulations developed by the Institute for healthcare, soil enhancement and plant growth. He also visited the 100 KWp capacity Off-grid Solar PV Power Plant installed at the Institute.

Air Marshal Rajan Chaudhry (in black coat), visiting Biotechnology division accompanied by Dr D Ramaiah (2nd from right), Director, CSIR-NEIST and other officials from Air Force and CSIR-NEIST.

**CSIR-NEIST PARTICIPATED IN THE STATE LEVEL NATIONAL CHILDREN'S
SCIENCE CONGRESS EXHIBITION**



Students and Teachers of Childrens Science Congress visited CSIR-NEIST exhibition stall of CSIR-NEIST at Jawahar Novodaya Vidyalaya, Titabor.



Shri Basanta Das, Hon'ble Minister of State (Ind) Deptt. of Fisheries, Printing & Statioery, Govt of Assam, (3rd from left) Shri Vishal Basanth Solanki, IAS, Deputy Commissioner, Jorhat (2nd from right) visited CSIR-NEIST exhibition stall.

CSIR-NEIST participated in the exhibition held on the occasion of State Level National Children's Science Congress held during 29-31 October, 2015 at Jawahar Navodaya Vidyalaya, Titabar (Assam). CSIR-NEIST showcased and disseminated its various technologies through product samples, numbers of medicinal plants pots, posters, banners and exhibit materials. The event

provided the students, an exposure to the latest developments in science & technology of CSIR-NEIST along with various other institutes/organizations staged their exhibition stalls and disseminated its technologies and processes to the students and general public. A huge gathering of students, teachers, and child scientist were benefited through displayed exhibits.

MUSHROOM TRAINING UNDER SOCIETAL DEVELOPMENT PROGRAMME/PROJECT



A training programme on Mushroom cultivation was organized to create Master Trainers under the project "S&T interventions to combat malnutrition in women and children" at CSIR-NEIST on 13 November, 2015. Under the programme, 6 persons were trained to empower them as master trainers who in turn will disseminate the same to other persons for creating new livelihood for themselves. The training programme covered various aspects of mushroom cultivation and its processing to set up mushroom production farm. The programme was coordinated by Dr S P Saikia, Nodal Scientist of the project.

Dr S P Saikia, Coordinator of the project with Master Trainers created for Mushroom cultivation.

OTHER EVENTS HELD

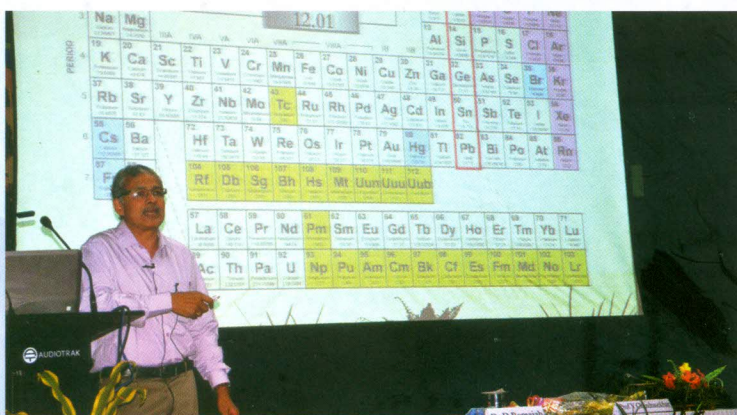


Air Commodore H Sahni, Air Force Hospital, Jorhat delivering his address as Chief Guest on the occasion of Hindi Diwas observed at CSIR-NEIST. Dignitaries present in the dais are (from right), Dr D Ramaiah, Director, CSIR-NEIST and Dr D Prajapati, Chief Scientist & Chairman, Official Language Implementation Committee, CSIR-NEIST.



Dr D Ramaiah, Director, CSIR-NEIST delivering his address in the Valedictory function. Shri Vikram Singh, Administrative Officer, CSIR-NEIST, is seen seated on the dais.

73RD CSIR FOUNDATION DAY CELEBRATED ON 26 SEPTEMBER, 2015



Left: Prof V Chandrasekhar, Director, National Institute of Science Education & Research, Bhubaneswar delivering the CSIR-Foundation Day Lecture on 'Lord of the rings: The Rise of Carbon'. Right: Release of NEIST Annual Report 2014-15 by the dignitaries during the function.



SOCIETAL ACTIVITIES



At the request of the Institute for Cultural and Rural Development (I-CARD), Bagchung, Jorhat, CSIR-NEIST organized training on Mushroom cultivation at its premise on 7 October, 2015. A batch of 19 school dropout youths from I-CARD were imparted the training with an aim to empower them by creating employment opportunities through such technologies for socio-economic development.

Dr S P Saikia, Coordinator, CSIR 800 programme along with the trainees from I-CARD, Jorhat.

21ST DR J N BARUAH MEMORIAL LECTURE HELD ON 1 SEPTEMBER, 2015



Left: Dignitaries on the dais (from left), Dr R K Bordoloi, Principal, DKD College; Prof Santanu Bhattacharyya, Director, Indian Association for the Cultivation of Science, Kolkata; Dr R C Boruah, President, Assam Science Society (Jorhat branch); Dr D Ramaiah, Director, CSIR-NEIST and Shri S R Medhi, Director, (Technical), NRL, Numaligarh



Right: Prof Bhattacharyya delivering the 21st Dr J N Baruah Memorial Lecture

PH D AWARDED

Ms. Kalyani Medhi, Scientist, Planning & Project Monitoring Division, has been awarded the Degree of Doctor of Philosophy by Gauhati University for her thesis entitled, "A comparative Assessment of some PCR based molecular markers and morphological characterization for evaluation of genetic diversity in *Zanthoxylum* species of Upper Brahmaputra Valley Zone".

Ms. Medhi had carried out her research work under the joint supervision and guidance of Dr B S Bhau, Principal Scientist, CSIR-NEIST and Prof Manab Deba, Head-Biological Sciences Dept., Gauhati University, Assam.



Dr Kalyani Medhi

COLLOQUIUM HELD

A series of colloquia/seminars were held during the period in which invited speakers from various Institutes delivered talk on different topics detailed as below.

- Speaker: Dr V Jayathirtha Rao, CSIR-IICT, Hyderabad
Topic: 'Pharmaceutically Favored Heterocycles via Baylis-Hillman Chemistry' Date: 24.09.2015
- Speaker: Dr Maickam Jayakannan, IISER, Pune
Topic: 'Polymer Vesicles for Combination' Date: 24.09.2015
- Speaker: Dr Vijayamohan K Pillai, Director, CSIR-CECRI, Karaikudi
Topic: 'Nanotechnology and the World of Smart Materials' Date: 29.09.2015
- Speaker: Dr P C Goswami, Dept. of Radiation Oncology, The University of Iowa, USA
Topic: 'Natural Products in Health & Disease' and 'A Redox Cycle within Cell Cycle: Ring in the Old with the New' Date: 26 & 27 October, 2015
- Speaker: Dr S V Mohan, CSIR-IICT, Hyderabad
Topic: Waste to Energy; Sustainable Waste Remediation towards Circular Economy Date: 04.11.2015
- Speaker: Dr Jay Bordoloi, Rutgers University, School of Pharmacy, New Brunswick, NJ.
Topic: 'US Drug Regulation and Drug Development Overview' Date: 17.11.2015

