

**CSIR-North East Institute of Science & Technology, Jorhat**  
*Connecting Science & Technology for a Brighter Tomorrow*

## CSIR-NEIST develops bio-based formulation for protecting bamboo and wood products

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 resources 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).



**Wood Care Formulation developed by CSIR-NEIST**

## CSIR 800 programme



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

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

## Colloquium held

Dr P C Goswami, Dept. of Radiation Oncology, The University of Iowa, USA delivered lecture entitled, "Natural Products in Health & Disease" and "A Redox Cycle within cell cycle: Ring in the old with the new" at CSIR-NEIST during 26-27 October, 2015.

## Visit by students under Gyanjyoti programme

At the instance of the Deputy Commissioner, Jorhat, and under the Hon'ble Chief Minister's Gyanjyoti Programme, Govt. of Assam, CSIR-NEIST organized the visit of students to the Institute during 6-8 October, 2014. Around 450 students of class VIII and IX along with their teacher escorts (12 nos.) from different schools of Kamrup (rural), Tinsukia, Karbi Anglong, Sonitpur, Dhemaji, and Lakhimpur districts visited the Institute during the period.

Students interacting with CSIR-NEIST staff during the visit.



The best way to find yourself is to lose yourself in the service of others.

*Mahatma Gandhi*

**CSIR-North East Institute of Science & Technology, Jorhat**  
*Connecting Science & Technology for a Brighter Tomorrow*

## Exhibition held



Top: CSIR-NEIST exhibition stall.  
Just above: Students and other visitors interacting with CSIR-NEIST staff during the exhibition.

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, Titabar (Assam). CSIR-NEIST showcased and disseminated its various technologies and products through posters, banners and exhibit materials. The event provided the students, an exposure to the latest developments in science & technology. CSIR-NEIST along with various other institutes/organizations staged their exhibition stalls and disseminated its technologies and processes to the students and general public.

## Seminar/Conference/Workshop/Meeting attended

Dr D Ramaiah, Director, CSIR-NEIST

- R&D Advisory Committee meeting of NEEPCO on 5 October, 2015 at NEEPCO, Guwahati and chaired the session

## Visit

- A group of students of Under Graduate level from JB College, Jorhat and Doomdooma College, Doomdooma, Tinsukia visited CSIR-NEIST on 14 October, 2015
- A group of students of class VIII from Sankardev Shishu Niketan, Sivasagar visited CSIR-NEIST on 28 October, 2015

## Papers published

### International Journals

- Naidu P S, Majumder S, Bhuyan P J: Iodine-catalyzed sp<sup>3</sup> C-H bond activation by selenium dioxide: synthesis of diindolylmethanes and di(3-indolyl)selenides, *Molecular Diversity*, 2015, 19 (4), p: 685-693
- Surineni N, Buragohain P, Barua N C: Stereoselective chlorothiolation of artemisinin-derived C-10 oxa terminal alkynes, *Molecular Diversity*, 2015, 19(4), p: 717-724
- Darabdhara G, Amin M A, Mersal Gaber A M, Ahmed E M, Das M R, Zakaria M B, Malgras V, Alshehri S M, Yamauchi Y, Szunerits S, Boukherroub R: Reduced graphene oxide nanosheets decorated with Au, Pd and Au-Pd bimetallic nanoparticles as highly efficient catalysts for electrochemical hydrogen generation, *Journal of Materials Chemistry A*, 2015, 3, p: 20254-20266
- Borah P, Begum A, Hazarika S, Chowdhury P

- K: Construction of a  $\gamma$ -butyrolactone moiety: A facile synthesis of 3 $\beta$ -hydroxy-5,6-dihydro-17 $\beta$ -methoxy-pregnan-21,16a-carbalactone - A new D-ring fused steroidal  $\gamma$ -butyrolactone from an abundant 20-oxopregnane using metal mediated halogenation as the key step, *Letters in Organic Chemistry*, 2015, 12(8), p: 566-573
- Saikia P, Gogoi S, Boruah R C: Carbon-Carbon Bond Cleavage Reaction: Synthesis of Multisubstituted Pyrazolo[1,5-a]pyrimidines, *J Organic Chemistry*, 2015, 80(13), p-6885-6889
  - Darabdhara G, Amin M A, Mersal Gaber A M, Ahmed E M, Das M R, Zakaria M B, Malgras V, Alshehri S M, Yamauchi Y, Szunerits Sabine, Boukherroub Rabah: Reduced graphene oxide nanosheets decorated with Au, Pd and Au-Pd bimetallic nanoparticles as highly efficient catalysts for electrochemical hydrogen generation, *J Materials Chemistry A*, 2015, 3 p: 205450-205466
  - Bhuyan D, Aziz Ali Abdul, Saikia Lakshi: Template-free synthesis of Fe<sub>3</sub>O<sub>4</sub> nanorod bundles and their highly efficient peroxidase mimetic activity for the degradation of organic dye pollutants with H<sub>2</sub>O<sub>2</sub>, *New J Chemistry*, 2015, 39(10), p: 7759-7762
  - Baruah D, Das R N, Hazarika S, Konwar D: Biogenic synthesis of cellulose supported Pd(0) nanoparticles using heart wood extract of *Artocarpus lakoocha* Roxb - A green, efficient and versatile catalyst for Suzuki and Heck coupling in water under microwave heating, *Catalysis Communication*, 2015, 72 p: 73-80
  - Gohain A, Gogoi A, Debnath R, Yadav A, Singh B P, Gupta V K, Sharma R, Saikia R: Antimicrobial biosynthetic potential and genetic diversity of endophytic actinomycetes associated with medicinal plants, *FEMS Microbial Letters*, 2015, 362(19), p: 1-10,fnv158
  - Passari A K, Mishra V K, Gupta V K, Yadav M K, Saikia R, Singh B P : In Vitro and In Vivo Plant Growth Promoting Activities and DNA Fingerprinting of Antagonistic Endophytic Actinomycetes Associates with Medicinal Plants, *PLoS ONE*, 2015, 10(9), p: 0139468.
- Indian Journals*
- Saikia B K, Sharma A, Sahu O P, Baruah B P: Study on physico-chemical properties, mineral matters and leaching characteristics of some Indian coals and fly ash, *J Geological Society of India*, 2015, 86(3), p: 275-282.
- Proceedings of Seminar / Conferences*
- Mapelli S, Saikia S P, Handique N, Borah J, Rakhal B, Brambilla I, Galasso I: Adaptation of *Camelina sativa* (L.) crantz in different biogeographic regions: Physiology and Biochemistry, In Book of Abstract of "The VIII Congress of the Russian Society of Plant Physiology "Plant under global and local natural-climatic and human impacts", 21-26 September, held at Petrozavodsk, Russia, 2015, p: 633.
- Farewell**
- The following member(s) of the staff have retired from Council's service on superannuation from CSIR-NEIST on 30 October, 2015.
1. Dr P R Bhattacharyya- Chief Scientist
  2. Dr P K Choudhury- Chief Scientist
  3. Dr (Mrs) Aradhana Goswami, Senior Principal Scientist
  4. Shri Bhuvan Bora-Senior Technician (2)
  5. Shri Nogen Boarh- Lab Assistant
  6. Shri Rishi Mahanta-Group C (Non Technical)
- Condolence held**
- The Director and members of the staff of CSIR-NEIST deeply condoled the sad demise of its former employee, Shri P C Rajkhowa (who breathed his last on 11.10.2015) at a condolence meeting held in front of the administrative building on 12.10.2015.