

CSIR-North East Institute of Science & Technology, Jorhat

Connecting Science & Technology for a Brighter Tomorrow

CSIR-NEIST celebrated its 55th Foundation Day



Padma Shri Prof. Jai Pal Mittal, B N Saha Distinguished Professor, Bhabha Atomic Research Centre, Mumbai delivering the Foundation Day Lecture.



Release of CSIR-NEIST publication, 'Highlights 2015-16' by the Chief Guest, Padma Shri Prof. Jai Pal Mittal in presence of Dr D Ramaiah, Director, CSIR-NEIST.

CSIR-NEIST, Jorhat celebrated its 55th Foundation Day with a special function on 18 March, 2016. Padma Shri Prof J P Mittal, B N Saha Distinguished Professor, Bhabha Atomic Research Centre, Mumbai graced the function as Chief Guest and delivered the Foundation Day Lecture. The program started with welcome address by Dr D Ramaiah, Director, CSIR-NEIST. In his address, he paid rich tributes to the founding members of the institute and to all his predecessors for their efforts towards building the institute. He inspired the sci-

entists towards Translation Research, by directing how they need to work on the Leads selected during Brain Storming session and from the Special Research Council Meeting held few days back. He stressed for out-of-box thinking to mitigate problems in scientific projects and to derive sustainable technology for our society. Dr Ramaiah also briefly introduced the Chief Guest of the function Padma Shri Prof. Jai Pal Mittal.

Delivering the Foundation Day Lecture on his chosen topic, "Discover, Innovate & Make In India", he wonderfully explained how radiation techniques are being used to mitigate many scientific challenges. He also broke the myths regarding the dangerous effects of radiation by elucidating how the same radiation is being used for the benefit of humanity in almost every field. Right from X- Rays Diagnosis, Treatment of Cancer, Disinfection of Sewage, Sterilization of Medical items, Food Preservation and also Chemical Synthesis. He stressed that the real Dot. Com is the Free Radical (R[•]), which is supporting a Multi-billion dollar industry through unique high end technology products. He explained how Radiation technology can be used for Chemical, Physical and Biological modifications to derive useful end-products and how it was used towards diagnosis of Jaundice [Bilirubin Strips], treatment of Burn & Leprosy cases by use of Biological hydrogels. He shared his experience with Baba Amte, the illustrious social worker while working with Leprosy patients at Anandvan, Gadchiroli District, Maharashtra and how the use of Biological hydrogels helped the Leprosy patients. He shared the quote of Baba Amte "When scientists meet common manATOMS SMILE". He vividly explained how the radiation technique was used for the treatment of sewage sludge to produce bio-fertilizer and also towards changing colour of Diamonds adding value to it. He also shared how radiation technique is being used for food processing and thereby contributing to country growth by export of the same and adding foreign reserve. However, during his interaction, he also shared the hurdles the scientific personnel encounter for the scientific progression, and how difficult it is to convince a non-scientific persons. He opined

Be less curious about people and more curious about ideas.

Marie Curie

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the need for 'Make in India' but advocated the same be done using indigenous technologies.

During the program, Dr Ramaiah, felicitated the retired employees, who superannuated during last year and also the members of CSIR-NEIST fraternity for their contributions toward publications, patents, technologies, and other support systems.

The program was followed by an interactive session between the scientists of CSIR-NEIST, Jorhat and Padma Shri Prof. Mittal. Director Dr Ramaiah highlighted the activities of CSIR-NEIST. Prof. Mittal appreciated the wide areas of activities of CSIR-NEIST and also its contributions in technologies. Discussions were held on various radiation utilities. Further, the interaction also motivated the scientists to propose new projects utilizing radiation technique.

CSIR-NEIST celebrated International Women's Day 2016



(From left) Ms. Anuradha Sarma Puzari, Editor, 'Saadin' & 'Satsari' and Chief Guest of the program; Dr D Ramaiah, Director, CSIR-NEIST; and Dr Aditi Bezbaruah, Assoc. Prof & Head- Dept. of Physics, Jorhat Engineering College and Guest of Honour.

CSIR-NEIST celebrated 'International Women's Day 2016' with a symposium on the theme, 'Pledge for parity in science from Mangalyaan to Mushroom' held at Dr J N Baruah Auditorium on 8 March, 2016. Mrs Anuradha Sarma Puzari, renowned writer and Editor of popular Assamese magazines, 'SaaDin' and 'Satsari' and Dr Aditi Bez-



Ms. Anuradha Sarma Puzari, delivering her speech as Chief Guest on the occasion.

baruah, Associate Professor & Head- Dept. of Physics, Jorhat Engineering College graced the occasion as Chief Guest and Guest of Honour respectively. Dr Kalpataru Dutta Mudoj, Convenor, Organizing Committee, delivered the welcome address. Speaking on the occasion on the topic, "Women-Today and Tomorrow", Mrs Anuradha discussed the status of women *vis-à-vis* globalization, economic empowerment, impact of science on thought process, etc. Dr Bezbaruah in her presentation entitled, "Women in science- looking backward and forward" highlighted the fact that the contribution of women to science since time immemorial has been immense and remarkable. Dr D Ramaiah, Director, CSIR-NEIST in his address mentioned about the immense potentialities still to be realized among women community and pointed out the paradigm shift in women in recent times.

It is worth mentioning that under women's day celebration, competitions like theme song and quiz were held among the CSIR-NEIST staff members in the preceding week and winners were awarded with certificates during the program. The program concluded with vote of thanks offered by Dr Archana Moni Das, Sr Scientist.

Later, an interactive session was held with CSIR-NEIST staff wherein Mrs Anuradha and Dr Bezbaruah participated as resource persons. Issues on women & career and essence of women & their day-to-day lives were discussed in the session.

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Societal Activities

CSIR-NEIST imparts training on Mushroom cultivation and Citronella cultivation & Oil distillation

Under CSIR 800 project, "Rural Entrepreneurship and Skill Development through Demonstration and Training of Appropriate Technologies of CSIR-NEIST", CSIR-NEIST imparted training on Mushroom cultivation to unemployed women on 15 March, 2016. About 26 women from suburbs Jorhat received the training held at the institute's premise. Under the same project, training on Citronella cultivation and oil distillation was imparted to unemployed people on 29 March, 2016. About 26 unemployed men and women from nearby areas of Jorhat were trained. The program was held at NEIST experimental farm. The programs were co-ordinated by Dr S P Saikia, Senior Scientist & PI of the project.

CSIR-NEIST branch lab., Itanagar organized a training cum awareness program on commercial Mushroom cultivation at Banderdewa on 21 March, 2016. About 15 nos. of farmers and women entrepreneurs from Banderdewa received the training. Dr B C Baruah, Sr Technical Officer, Branch lab, provided detail demonstration of the cultivation. About 20 packets of mushroom spawn were distributed to the trainees for trial cultivation.



Training on Mushroom cultivation held at CSIR-NEIST.

Colloquium held

A series of colloquia/seminars were held during the month wherein eminent speakers from various institutes & organizations delivered lectures (detailed below).

- Speaker:** Prof Monica Schmidt, School of Plant Sciences, University of Arizona, USA
Topic: Functional foods: using Biotechnology to make foods better for consumers.
Date: 01.03.2016
- Speaker:** Prof Challa Vijaya Kumar, University of Connecticut, USA
Topic (1): Novel protein fluorescent nanoparticles (Glow dots) as pH.
Date: 02.03.2016
Topic (2): Interlocking enzymes and polymers in ordinary paper for wash & wear biosensors.
Date: 03.03.2016
Topic (3): Kitchen chemistry 101: Graphene production by shear & edible proteins.
Date: 04.03.2016
- Speaker:** Dr Koushik Chandra, Asst. Professor, Dept. of Chemistry, Midnapore College, West Bengal
Topic: New methods for *in situ* peptide modification and protein modulation.
Date: 30.03.2016

Papers published

International Journals

- Prabin Das, Podma Pollov Sarmah, Bibek Jyoti Borah, Lakshi Saikia, Dipak Kumar Dutta: Aromatic ring hydrogenation catalysed by nanoporous montmorillonite supported Ir(0)-nanoparticle composites under solvent free conditions, *New Journal of Chemistry*, 2016, 40 (3), p: 2850-2855
- Ponchami Sharma, Dipankar J Borah, Pankaj Das, Manash R Das: Cationic and anionic dye

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- removal from aqueous solution using montmorillonite clay: evaluation of adsorption parameters and mechanism, *Desalination and Water Treatment*, 2016, 57(18), p: 8372-8388
- Mrinal Saikia, Lakshi Saikia: Palladium nanoparticles immobilized on an amine-functionalized MIL-101(Cr) as a highly active catalyst for oxidative amination of aldehydes, *RSC Advances*, 2016, 6(18), p: 14937-14947
 - Mrinal Saikia, Lakshi Saikia: Sulfonic acid-functionalized MIL-101(Cr) as a highly efficient heterogeneous catalyst for one-pot synthesis of 2-amino-4H-chromenes in aqueous medium, *RSC Advances*, 2016, 6(19), p: 15846-15853
 - Ashma Begum, Preetismita Borah, Prithi Chowdhury: Microwave (MW) promoted high yield expedient synthesis of steryl ferulates - A class of novel biologically active compounds: A comparative study of their antioxidant activity with that of naturally occurring?-oryzanol, *Steroids*, 2016, 107 p: 37-44
 - Najrul Hussain, Pranjal Gogoi, Muniraj V K Azhagan, Manjusha V Shelke, Manash R Das: Correction: Green synthesis of stable Cu (0) nanoparticles onto reduced graphene oxide nanosheets: A reusable catalyst for the synthesis of symmetrical biaryls from arylboronic acids under base-free conditions, *Catalysis Science and Technology*, 2016, 6(4), p: 1234
 - R K Mrinalinee Devi, S S Bhakuni, M K Phukan, R Duarah: Tectonic forcing of drainages and geomorphic features developed across Himalayan mountain frontal part of western limb of Siang Antiform, Arunachal Himalaya, *Environmental Earth Sciences*, 2016, 75 (5), p: 1-24
 - Manobjyoti Bordoloi, Prasanta K Bordoloi, Partha P Dutta, Vandana Singh, Shyamalendu Nath, Bardwi Narzary, Purnajyoti D Bhuyan, Paruchuri G Rao, Iswar C Barua: Studies on some edible herbs: Antioxidant activity, phenolic content, mineral content and antifungal properties, *Journal of Functional Food*, 2016, 23 p: 220-229
 - Saikia U P, Hussain F L, Suri M, Pahari P: Selective N-acetylation of aromatic amines using acetonitrile as acylating agent, *Tetrahedron Letters*, 2016, 57, p: 1158-1160
 - Binoy K Saikia, Adilson C Dalmora, Rahul Choudhury, Tonkeswar Das, Silvio R Taffarel, Luis F O Silva: Effective removal of sulfur components from Brazilian power-coals by ultrasonication (40 kHz) in presence of H₂O₂, *Ultrasonics Sonochemistry*, 2016, 32 p: 147-157

Visit

- A group of 20 B.Sc chemistry (Major) students from Jagiroad College, Morigaon (Assam) visited CSIR-NEIST on 10 March, 2016
- A group of 12 M. Sc students (2nd Semester) from the Dept. of Environmental Sciences, Gauhati University, visited CSIR-NEIST on 15 March, 2016

Farewell

The following members of the staff have retired from Council's service on superannuation from CSIR-NEIST on 31 March, 2016.

1. Dr N C Barua, Chief Scientist
2. Mr Dulal Ch Sarma, Lab Assistant