

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

CSIR-NEIST hosted the Materials Research Society of India (MRSI) Symposium & 27th Annual General Meeting of MRSI



Top: Dr G Sundararajan speaking during the inaugural program as Chief Guest.

Just above: Release of Souvenir by the dignitaries (from left), Dr D Ramaiah, Director, CSIR-NEIST & Chairman- Organizing Committee; Prof S B Krupanidhi, Vice President & General Secretary, MRSI; Dr Suresh Das, President, MRSI & Executive Vice President, Kerala State Council for Science & Technology, Trivandrum; Dr G Sundararajan, Professor, IIT-Madras & Distinguished Emeritus Scientist, ARCI-Hyderabad and Chief Guest; Dr Vijayamohan K Pillai, Director, CSIR-CECRI, Karaikudi & Acting Director, CSIR-NCL, Pune and Guest of Honour and Dr P Sengupta, Convener cum Organizing Secretary.

The four-day program of Materials Research Society of India (MRSI) Symposium on “Advanced Materials for Sustainable Applications” was organized for the first time in North East India at CSIR-North East Institute of Science and Technology, Jorhat. The event which ran concurrently with the 27th An-

nual General Meeting of MRSI during 18-21 February, 2016 was hosted by CSIR-NEIST jointly with Tezpur University and Indian Institute of Technology, Guwahati.

The four-day program started off with a glittering inaugural program which was attended by eminent personalities, stake holders, council members of MRSI, dignitaries, student participants & researchers from various parts of the country besides CSIR-NEIST fraternity. Dr G Sundararajan, Professor, IIT-Madras & Distinguished Emeritus Scientist, ARCI-Hyderabad and Dr Vijayamohan K Pillai, Director, CSIR-CECRI, Karaikudi & Acting Director, CSIR-NCL, Pune graced the occasion as Chief Guest and Guest of Honour respectively. Dr D Ramaiah, Director, CSIR-NEIST & Chairman-Organizing Committee delivered the welcome address wherein he spoke briefly about CSIR-NEIST and the background of the Symposium. Prof S B Krupanidhi, Vice-President & General Secretary-MRSI spoke about MRSI and said that it is dedicated to attract & foster young scientists & researchers by exposing them to the world of Materials Science and the various advancements taking place by holding such events.

In his address, Dr Vijayamohan K Pillai mentioned the impact of MRSI in the scientific community and emphasized the need to develop affordable materials to address critical issues like water, energy, etc. Dr Suresh Das, President, MRSI & Executive Vice President, Kerala State Council for Science & Technology, Trivandrum, in his Presidential Address, spoke in detail about the importance of developing new materials and applications of R&D to address problems in harnessing Solar Energy for mitigating the energy crisis in a sustainable way. Making a strong reference about the ‘Valley of Death’ that exists between basic research and industry, Dr Das stressed upon a systematic approach to cross over the gap. Later, the Souvenir of the Symposium was released by the Chief Guest. The inaugural program concluded with a vote of thanks from Dr P Sengupta, Chief Scientist, CSIR-NEIST and Convener, Organizing Committee.

On the eve of the inaugural function, the Asia-

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Pacific Academy of Materials (APAM) India Chapter Meeting, 2016 was also held on 18 February, 2016, which was chaired by Prof SB Krupanidhi, IISc Bangalore in presence of Dr D Ramaiah, Director, CSIR-NEIST and Prof C Jagadish of ANU Australia. During the chapter meeting, three talks were delivered by the senior scientists of CSIR-NEIST Jorhat (Dr RL Goswamee: Hydrotalcite based nanocomposites- A group of materials with wide prospects; Dr (Mrs) S Hazarika: Development of indigenous membrane for emerging applications; and Dr T Goswami: Technology driven R & D for society: An Odyssey). About 70 scientists/faculty members and students from IISc Bangalore, Australian National University, CSIR-NEIST Jorhat, CSIR-NIIST Thiruvananthapuram, CSIR-CECRI Karaikudi, CSIR-CGCRI Kolkata, IACS Kolkata, IIT Jodhpur, IIT Hyderabad, IIT Kharagpur, S N Bose National Centre for Basic Sciences Kolkata, NIT Rourkela, Bharathidasan University Tiruchirappalli and Central Research Laboratory, BEL, Bangalore participated in the meeting.

The four-day Symposium was held in 9 Technical Sessions covering Award, Medal & Thematic Lectures by eminent scientists & subject experts besides 2 Poster Sessions wherein 163 Posters were presented by students, researchers and young scientists from different parts of the country. It is worthwhile to mention that the Board of Research in Nuclear Sciences (BRNS), Mumbai sponsored the first technical session (Award Lectures) while Oil India Limited, Duliajan sponsored the fourth technical session (Thematic Lectures).

Highlights of the technical sessions included Distinguished Material Scientist of the Year Award Lecture, CNR Rao Prize Lecture in Advanced Materials, MRSI Silver Jubilee International Medal Lecture, four MRSI-ICSC Superconductivity and Materials Science Annual Prize Lectures, seventeen MRSI Medal Lectures, five G C Jain Memorial Lectures and five Thematic Lectures. Dr G Sundarajan, ARCI, Hyderabad delivered the Distinguished Material Scientist of the Year Award Lecture on, "Development of oxide dispersion strengthened steels at ARCI". The CNR Rao Prize Lecture in Advanced Materials was delivered by Prof U V Waghmare, JNCASR, Bangalore on the topic, 'Theoretical predictions of novel structures, phenomena and functionality in 2-D materials' and Prof Chennupati Jagadish, Australian National Uni-

versity, Australia delivered the MRSI Silver Jubilee International Medal Lecture on, 'Semiconductor nanowires for optoelectronics and energy applications'. The Technical sessions deliberated on subject areas like Superconductivity & Materials Science, Energy, Theoretical/Computational Material Sciences, Nano-Materials & Devices and Fine Chemicals & Soft Materials. It is also worthwhile to mention that the G C Jain Memorial Lecture delivered by Dr D Durgalashmi, University of Madras entitled 'Investigation on various forms of nanobioglass 45S5 for orthopaedic and dentin regeneration' was adjudged as the Best G C Jain Memorial Award. Six posters presented by C V S Rosely of CSIR-NIIST Thiruvananthapuram, K Deka of Tezpur University, R R Behera of IIT Gauhati, R P Bhattacharjee of CSIR-NEIST Jorhat, S Sutradhar of IIT Chennai, and A Roy of CSIR-CGCRI Kolkata were adjudged and awarded as the best posters.

The symposium concluded with a Valedictory Function Chaired by Dr Suresh Das, President MRSI. Prof S B Krupanidhi gave an overview of the four-day program. The MRSI North East Chapter was formed giving a major boost to the materials research in this part of the country. Besides the scientific fraternity of CSIR-NEIST, the Symposium was attended by around 430 participants from various institutes, organizations and universities of the country. The symposium was partly sponsored by DAE-Board of Research in Nuclear Sciences (DAE-BRNS), Oil India Ltd. Duliajan and DST, Govt of India.

State Science Communicator Award 2016 to CSIR-NEIST scientist

Dr H B Singh, Scientist-in-charge, CSIR-NEIST branch lab., Imphal has been awarded the 'State Science Communicator Award 2016' by the Govt. of Manipur in recognition of his contribution in science popularization. The Award which carried a cash of INR 10,000/-, Citation, Memento & Shawl was awarded on the occasion of National Science Day 2016. The award is shared with Prof N Rajmuhon Singh of Manipur University.



Dr H B Singh,
Principal Scientist

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CSIR-NEIST celebrated National Science Day 2016



From left: Dr D Ramaiah, Director, CSIR-NEIST; Prof. Gautam Biswas, Director, IIT, Guwahati & Chief Guest of the program and Prof. Challa Vijaya Kumar; Professor, Dept. of Chemistry, University of Connecticut, USA & Guest of Honour.



Prof. Gautam Biswas delivering the National Science Day Lecture.

CSIR-NEIST, Jorhat celebrated National Science Day on 29 February, 2016 with a well charted out program held at Dr J N Baruah Auditorium. Prof. Gautam Biswas, Director IIT, Guwahati and Prof. Challa Vijaya Kumar, Professor, Dept. of Chemistry, University of Connecticut, USA graced the occasion as Chief Guest and Guest of Honour respectively. The program was attended largely by CSIR-NEIST staff members, invited guests and former CSIR-NEIST employees. In his Welcome Address, Dr D Ramaiah, Director, CSIR-NEIST spoke about the significance of the Day in Indian Science context.

Delivering the Science Day Lecture on “Manifesto for Future: Knowledge Economy, Some Concerns and Suggestions” Prof Gautam Biswas spoke in length about how knowledge and its applications can lead to rapid growth of economy in the country. Citing an example he mentioned the invention of Steam Engine by James Watt which not only was a key point for industrial revolution but also dramatically changed the economic scenario of the nation. He also talked about the rich scientific thoughts and approaches of early Indian Scientists such as C V Raman, J C Bose, Meghnad Saha, Homi J Bhabha, S Chandrasekhar, M S Swaminathan, etc. and their scientific achievements which catapulted Indian Science in the realm of International importance. He presented a comparative analysis of research work done in India and Abroad and focussed on major issues like quality of research work, importance of patenting, job opportunities, R & D funding etc. He mentioned that knowledge economy education should start right from school level and that the education system should focus on nurturing academics and research for innovation for upliftment of the poor and the down-trodden.

Prof. Challa Vijaya Kumar spoke on “Nano-Science and Technology in everyday life”. He provided an insight on understanding the meaning of “Nano” and the significance and applications of Nano-technology in the field of science and our everyday lives. He mentioned that Nano- Technology has been widely implemented in USA for production of various improved products. Nanomaterials applications in wide range of products such as in food, clothes, cosmetics, flooring and medicines etc were further illustrated in his lecture. “Nano can open new doors for Clean, Green and Sustainable future for all”, he said.

The program concluded with the vote of thanks offered by Dr Pranab Barkakati, Chief Scientist, CSIR-NEIST & Coordinator of the program.

Honour/Recognition

Dr Pranjal Gogoi, Scientist, Medicinal Chemistry Group has been honoured with ‘Certificate of Outstanding Contribution in Reviewing’ by *Tetrahedron Letters*, Elsevier, in recognition of his contribution to the quality of the journal.

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Societal Activities

Training on Mushroom cultivation organized

CSIR-NEIST branch lab., Itanagar organized a training cum awareness program on “Mushroom cultivation” at Dobum village, Banderdewa on 3 February, 2016 in collaboration with Dobum Child Development Centre (DCDC), Dobum village, Banderdewa. About 40 nos. of farmers and villagers received the training. Dr B C Baruah, Sr Technical Officer, Branch lab provided detail demonstration of the cultivation. Dr Chandan Tamuly, Scientist-in charge, branch lab delivered a talk about the importance and nutritional values of edible mushroom.

Under CSIR 800 project, “Rural Entrepreneurship and Skill Development through Demonstration and Training of Appropriate Technologies of CSIR-NEIST”, a training program was held on 27 February, 2016 at Bokakhat, Golaghat. About 29 women from Bokaghat were trained. Mushroom spawn packets were also distributed to the trainees for trial cultivation. The programme was coordinated by Dr S P Saikia, Senior Scientist & PI of the project.



Training held at Dobum village, Banderdewa.



Training held at Bokakhat (Golaghat).

Papers published

International Journals

- D T Jayaram, S Ramos-Romero, B H Shankar, C Garrido, N Rubio, L Sanchez-Cid, S Borros Gomez, J Blanco, D Ramaiah: *In Vitro* and *in Vivo* Demonstration of Photodynamic Activity and Cytoplasm Imaging through TPE Nanoparticles, *ACS Chemical Biology*, 2016, 11 (1), p: 104-112
- H K Wong, C R Ivan Lam, F Wen, S K Mark Chong, N S Tan, C Jerry, M Pal, L P Tan: Novel method to improve vascularization of tissue engineered constructs with biodegradable fibers, *Biofabrication*, 2016, 8, p: 15004
- R S Phatake, P Patel, C V Ramana: Ir(III)-Catalyzed Synthesis of Isoquinoline N-Oxides from Aryloxime and α -Diazocarbonyl Compounds, *Organic Letters*, 2016, 18 (2), p: 292-295
- U P Saikia, F L Hussain, M Suri, P Pahari: Selective N-acetylation of aromatic amines using acetonitrile as acylating agent, *Tetrahedron Letters*, 2016, 57(10), p: 1158-1160
- P Boruah, P Dowarah, R Hazarika, A Yadav, P Barkakati, T Goswami: Xylanase from *Penicillium meleagrinum* var. *viridiflavum* - a potential source for bamboo pulp bleaching, *Journal of Cleaner Production*, 2016, 116 p: 259-267

Book Chapter

Devi R K Mrinalinee, Bora Pabon K: The Impact of the Great 1950 Assam Earthquake on the Frontal Regions of the Northeast Himalaya, In-Earthquakes and Their Impact on Society, Ed by Sebastiano D'Amico, Springer International Publishing A G, Part of Springer Science+Business Media, 2016 p: 475-489.

Farewell

The following members of the staff have retired from Council's service on superannuation from CSIR-NEIST on 29 February, 2016.

1. Dr Ranju Duarah, Chief Scientist
2. Dr S D Baruah, Chief Scientist
3. Dr Mina Borthakur, Sr Principal Scientist
4. Mr J C Sarmah, Lab Assistant