



Vol. XXVIII No. 3 MAY-JUNE, 2007

## NATIONAL TECHNOLOGY DAY OBSERVED



*Prof K Kannan, Vice Chancellor, Nagaland University (on left) and Dr P G Rao, Director, NEIST, Jorhat*



*Prof K Kannan delivering the National Technology Day Lecture*

"We have the biggest misconception that science is a must for developing a technology which is not always the case. Many discoveries which have become the stable products today have not come through science. Technology actually comes out of people's common sense and day to day observations and science can only help to analyse it better. Only thing is that one has to be very pro-active" - said Prof K Kannan adding that what is required for developing a technology is the vision and ability to pick up talents from among the masses just as what Dr Home J Bhaba did and nurser or groom them for accomplishing the task towards achieving the goal. Prof Kannan, Vice Chancellor, Nagaland University was delivering his speech as the Chief Guest on the topic 'A tale of two technologies : Biotechnologies' in the National Technology Day celebration function of North-East Institute of Science & Technology (NEIST), Jorhat. The National Technology Day was observed at NEIST along with the rests of the country on 11 May with a well charted out programme. Held at NEIST auditorium, the National Technology Day function was largely attended by distinguished guests, invitees, students and teachers from the neighbouring schools and colleges besides the scientific community of NEIST. The function was presided over by Dr P G Rao, Director, NEIST-Jorhat. Referring to the great historic events of Indian Science & Technology that took place at Pokhran, Dr Kannan said ' it was Dr Home

J Bhaba whose great vision was what we actually saw in Pokhran. He mentioned that Dr Bhaba actually visualized it in the year as back as in 1941 which was the time of second world war and the event at Pokhran was the culmination of the vision of that great visionary after so many years. It is quite heartening that we all are celebrating to-day this great vision with rejoyce and pride as a mission accomplished although Dr Bhaba did not live up to see it. It was basically the pro-active zeal of Dr Bhaba which gave us this National Technology Day. Corroborating his point of view Prof Kannan said, 'we don't have to do technology, we have simply to observe it in Nature. The Nature itself is the best technology'. Giving case examples of biotechnologies, Prof Kannan said that take for example the case of tiny insulin producing bacteria which can be likened to a big man-made factory. The bacteria can produce tons of volumes of insulin in just few hours which even a man-made factory cannot do and that too with so much of purity and perfection. The man has simply to observe this bacteria for innovating the technology. In the same way the stem cells which in recent times have created big wonders for the mankind, was originally discovered by a lady scientist while experimenting with the developmental biology of Salamandar or Chick embryo, but later on came to be applied as a most modern sophisticated biotechnology. Prof Kannan appealed to the scientists not to remain lost in the laboratory but to do something in a pro-active manner. One should work very hard even when one is bogged down by difficult conditions - he remarked. Earlier, Dr P G Rao, Director, NEIST, Jorhat expressed warm weocome on the occasion and showered National Technology Day greetings to all. He mentioned that the historic events at Pokhran not only ensured high security to the country, but also brought a worldclass dignity to the people of the country.

## Workshop on Hazards: Minimizing Risk, Maximizing Awareness



*Sri Monoranjan Gogoi, SDO(Civil), Hamren, Karbi Anglong inaugurating the Workshop at Hamren by lighting the Holy Lamp*

The laboratory organized two one-day local-level workshop on 'Hazards: Minimizing Risk, Maximizing Awareness' programmes at Hamren of Karbi Anglong district and Golaghat separately on 26 April, 2007 and 14 May, 2007 respectively in collaboration with the Society for Environmental Education of North-East (India), Golaghat, Assam and Assam Science Society, Hamren Branch, Hamren. In Hamren workshop More than four hundred participants comprising key teachers and students from different schools, members of local NGOs and women's organizations from different parts of Karbi Anglong district participated. Dr D C Goswami, Sct. G, NEIST-Jorhat, and Principal Coordinator of the workshop; Dr A K Bhagawati, Head, Geography Deptt, Gauhati University; Dr K Teron, MO, were present as Resource Persons. The Hamren Fire Brigade Unit demonstrated how to tackle with fire disaster. In Golaghat workshop more than two hundred participants comprising of key teachers and students, NCC cadets, NGOs and Self-Help Groups from different parts of Golaghat district joined the workshop. Dr DC Goswami, Sct. G, NEIST-

Jorhat, and Principal Coordinator of the workshop, emphasized on the need for awareness about disasters among the masses. Shri Pramod Baruah, Retd. Chairman cum Managing Director, CAD, Upper Assam, Govt of Assam; Shri MC Neog, Former District Transport Officer, Golaghat, Shri RK Baruah, Head, Dept. of Chemistry, DR College, Golaghat, and Shri Mukibur Rahman, Technical Officer, NEIST, Jorhat, delivered lectures as Resource Persons on different aspects of disasters.

## Process for Bacterial Bioformulation Released

The NEIST has developed a novel bacterial based bioformulation suitable for biomass improvement and yield enhancement in commercial crops. The formulation consists of two bacterial strains isolated from two different soil inhabiting bacterial strains which have the ability to improve the plant growth in addition to having the property of disease control and seed inoculation. The strains also have the ability to produce siderophore, an iron chelating compound, and antibiotics like phenazine in culture medium. The formulation also contains various enzymes which trigger the enhancement of soil fertility and plant growth. The formulation is liquid based and useful in all major crops of NE region such as tea, rice and vegetables. Since the price of the technology has presently been maintained at a very affordable level of Rs. 20,000/- excluding the factory installation charges, it can most suitably be adopted as a cottage and rural technology. The technology has recently been released to two parties in Titabor and Golaghat districts of Assam and the parties have, in the meantime, started commercial production of the same.

## NEIST Scientists' Research Publications find place among the 'Top 25 Hottest Articles' of `ScienceDirect'

The two of the research publications of Dr N C Barua, Scientist F and his team of the Natural Products Chemistry have been able to cut out a coveted niche among the 'Top 25 Hottest Articles' in Chemistry - Tetrahedron: Asymmetry on global perspective as estimated by the megazine `ScienceDirect' for each of the first quarter of two consecutive years viz. 2006 and 2007. The research publications are -

(i) Catalytic asymmetric Henry reaction - review article, *Tetrahedron : Asymmetry*, Volume 17, issue 24, 1 December, Pages 3315-3326 authored by Bruwa J, Gogoi N, Saikia P P and Barua N C and

(ii) Stereoselective total synthesis of (+)- boronolide, *Tetrahedron*, authored by Boruwa J and Barua N C. This rare achievement of Dr N C Barua *et.al.* came as a morale booster to the creative ability of the NEIST scientists and the scientific community.

Hearty congratulations to Dr Barua and his team. For more details please visit <http://www.sciencedirect.com>.

## Projects undertaken

### Grants-in-Aid

Survey, isolation, identification and preliminary characterization of microflora (Bacteria) from the Southern Corridor of Brahmaputra undertaken on behalf of Department of Science & Technology, Govt. of India, New Delhi. (Total estimated cost Rs. 7.07 lakh, Period- 3 yrs. PI - Dr B G Unni )

## Patents

### Filed in India\*

Title : An improved process for the production of substituted Amino-benzophenones

Authors : Dipak Prajapati and Dhiren Barman

Title : A novel herbal antifungal formulation against dermal infection

Author : Mantu Bhuyan, JJ Mahanta, M Chutia, PR Bhattacharryya, PB Kanjilal, PK Baruah, NC Baruah and PG Rao

Title : A versatile method for the oxidation of carbinols to carbonyls using hydrogen peroxide under triphase catalytic condition.

Authors : Amrit Goswami, Mrs N Bhati and Kuldip Sarmah

\* The DEL No. along with date of all these filed patents are awaited.

#### Granted in US

Title : 2-Methyl-*l*-tryptophan and process for production thereof

Author : Gajendra Nath Bordoloi, Babita Kumari, Manabjyoti Bordoloi, MK Roy and Tarun Chandra Bora.

Patent No.: US 6998411 B2

Term : 20 years from the date of filing i.e. 20 Dec., 2001.

## SEMINAR/SYMPOSIA/MEETING ATTENDED

Dr P G Rao, Director, NEIST, Jorhat attended the followings meetings/seminars :

(i) 1st Meeting of the Core Committee under S&T department for preparation of road map for rapid development of Agri. Nureceuticals etc. at the Office of Commissioner & Secretary, DST, Govt. of Assam on 14 May, 2007.

(ii) Second CSIR-Industry meet along with Dr N C Barua, Scientist F at IICT-Hyderabad on 18 May, 2007.

(iii) IICHE Meeting at Mumbai

(iv) The CSIR Annual Business Meeting along with Sri B C Saikia, Scientist at IICT, Hyderabad on 19 May, 2007.

(v) Workshop-Light Path to India : R&D Network and Distance Education at India Habitat Centre, New Delhi on 25 May, 2007.

(vi) Attended as the Chief Guest of the Inaugural function of QIP Short term course on Engineering Aspects of Enzyme and Microbial processes at IIT, Guwahati on 4 June, 2007.

(vii) Review meeting of the Core Committee at the Chamber of the Commissioner and Secretary, Science & Technology Department, Govt. of Assam on 4 June, 2007.

(viii) Assessment Committee Meeting at CGCRI, Kolkata during 10-11 June, 2007.

(ix) Meeting of the Sub-Committee of GB for appraisal of the investment for 11th Five Year Plan at CSIR Science Centre, New Delhi on 12 June, 2007.

(x) 3rd Meeting of the Academic Council of Tezpur University on 21 June, 2007.

Dr P K Bora, Scientist attended the following workshops -

(i) Workshop jointly organised by NEIST, Jorhat and Assam Science Society at Patacharkuchi during 29-31 March, 2007.

(ii) Zonal workshop on Hazard-minimising Risk, Maximizing Awareness held at Dhemaji, organised by NEIST-Jorhat during 9-10 April, 2007.

Dr H B Singh, Scientist-in-Charge, NEIST Substation, Imphal attended the two-day National Workshop on 'Conservation & Commercialization of Medicinal & Aromatic Plants in NE region with special reference to Manipur' held under the aegis of National Medicinal Plants Board, New Delhi and organised by State Medicinal Plants Board, Manipur at IBSD, Imphal during 12-13 April, 2007 and co-shared a session.

Dr Paran Baruah, Scientist attended the following -

(i) As a resource person of the World Environment Day at Baligaon organized jointly by Assam Science Society, Jorhat Branch, Jorhat District Children Science Academy and SEWA- an Environmental Activist Group on 5 June, 2007.

(ii)Principal Investigators' meeting of the DST sponsored shallow sub- surface studies of Brahmaputra valley project at Dibrugarh University on 18 May, 2007.

Sri Ranju Duarah, Scientist F made a presentation pertaining to Supra-institutional Project of NEIST titled 'Hazard-Risk Evaluation and Earthquake Precursor Rlated Studies in N E India' at CSIR, New Delhi on 12 June, 2007.

## HONOURS & RECOGNITION

Dr Swapnali Hazarika, Scientist was nominated as a Reviewer of the Journal of Membrane Science (Elsevier) in June, 2007.

Dr H B Singh, Scientist-in-Charge, NEIST Substation, Imphal acted as an Evaluator for evaluating the following CAPART projects :

(i)Sustainable development & economic growth (mid-term evaluation)- a project implemented by the Mayal Lambi Integrated Development Organization, Samurou Bazar, Manipur.

(ii) Integrated Pisciculture Development at Samusang village (pre-funding evaluation ) submitted by Social Development Association, Mayang Imphal Bazar, Manipur.

(iii)Capacitation of rural people through strengthening of SHG for Mushroom cultivation (final evaluation) a project implemented by Organization for Unemployed Women Welfare, Imphal.

(iv) Integrated Development of `Kouna' (Scirpus lacustris) water rush with fishery (pre funding evaluation)a project submitted by Development of Economic Self Help, Khangabok, Manipur.

(v)Dissemination of roof-top rain harvesting technology ( pre-funding evaluation ) - a project submitted by Covenant Children's Home, Chura-chandpur, Manipur.

(vi)Makui natural resource development project (pre-funding evaluation) - a project submitted by Tribal Youth Council, Imphal.

(vii)Bio-brequetting technology for eco-friendly fuel management' - a project submitted by Good Samaritan Foundation, Churachandpur, Manipur.

(viii) Purum Khullen ST village banana cultivation (mid-term evaluation) - a project implemented by Rural Development Society, Wanfjing, Manipur.

Dr B G Unni, Scientist F was nominated by the syndicate of the University of Kerala to be a member of the Board of Adjudicators to evaluate the Ph D thesis in Biochemistry.

Dr Paran Baruah, Scientist received the FPSI Award Certificate from the Indian Phytopathological Society of Indian Agricultural Research Institute, New Delhi on 18 June, 2007.

Dr Poban Bora, Scientist visited Department of Mathematical Sciences, Tezpur University as an External to the presentation of pertaining to project work.

## TALKS DELIVERED

Dr P K Bora, Scientist delivered talks on the following -

(i)'Disaster Management - Earthquake' at Bahona College, Jorhat for College and School student on 24 March, 2007.

(ii)` Historical earthquakes and current seismicity picture of NER of India with special reference to earthquake awareness' in the workshop jointly organised by NEIST, Jorhat and Assam Science Society at Patacharkuchi during 29-31 March, 2007.

(iii)'Earthquake awareness with special reference to school children' in the Zonal workshop on Hazard-minimising Risk, Maximizing Awareness held at Dhemaji, organised by NEIST, Jorhat during 9-10 April, 2007.

Dr H B Singh, Scientist-in-Charge, NEIST Substation, Imphal delivered an invited Radio talk on 'Cultivation prospects of medicinal plants in Manipur, in Manipuri which was broadcast by All India Radio, Imphal on 6 May, 2007

Dr S Baruah, Scientist delivered an 'Global challenge' on the occasion of World Environment Day organised by Association of Institute of Engineers, Panbazar, Guwahati on 5 June, 2007.

## Ph D Awarded

Shri Devajit Hazarika, Research Scholar was awarded the degree of Ph D by the Dibrugarh University for his thesis titled 'Attenuation of Coda wave and waveform analysis for Northeastern region of India with special emphasis on the seismo-tectonics of Chedrang valley, the Rupture area of 1897 (M=8.7), Great Assam Earthquake', He worked under the guidance of Dr S Baruah, Scientist of NEIST, Jorhat and Dr S B Singh of Department of Physics, Dibrugarh University.

Shri Manash Ranjan Das, Research Scholar was awarded the Ph D degree in Chemistry by the Dibrugarh University for his thesis titled 'Adsorption of Organic Anions on the Metal Oxide Surfaces'. He worked under the guidance of Dr S Mahiuddin, Scientist, Material Science Division of NEIST, Jorhat.

## Award

### HEDA Award For NEIST Scientist



*Dr S C Nath*

Dr S C Nath, Scientist F was conferred the 'Life Time Education Achievement Award 2006' by Health and Education Development Association (HEDA), New Delhi for his significant research contributions in the area of medicinal, aromatic and spice plants. Dr Nath's major area of research included preparation of inventory, characterization and development of new plant resources of economic value for sustainable use. He discovered many economic plants species and new sources of import substitution products from the flora of North-East Indian having vast potentialities for use in perfumery, flavour and pharmaceutical industries besides undertaking the documentation and validation studies of folklore medicinal plants of the region. Dr Nath also contributed significantly towards the fundamental aspects of plant sciences by virtue of describing new taxa and new stomata to plant kingdom and developing new keys and technique to Angiosperm taxonomy apart from standardizing methods for propagation of a number of new industrial crops and preserving live plant germplasms of many rare, endangered and threatened species academic and commercial importance through the development of botanic gardens at NEIST, Jorhat. A Fellow of the Linnean Society of London, Indian Association of Angiosperm Taxonomy and Society of Ethnobotanists, India, Dr Nath has so far 133 research papers, 27 science articles, 13 radio talks and 4 patents to his credit besides being research guide to many Ph D students. Dr Nath is also the recipient of Assam Science Society P C Goswami Award and Dr B M Das Memorial Science Award in 1993 for his research contributions in the area of Plant Sciences and Economic Botany. Dr Nath's name has been enrolled in the 'International Directory of Specialists in Herbs, Spices and Medicinal Plants' compiled

and published by the University of Massachusetts. USA.

## PAPERS PUBLISHED

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### Quote from Reader's Comments

*Greetings from SriLanka :*

I was very happy to receive your Newsletter and the Journal. Thank you very much .... Your News Letter is high standard and provide information of the great things you are doing for the SME Sector.

Nihal Cooray  
Manager, Industrial Engineering Project, SMED,  
Colombo,SriLanka

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