

### Testing & Analysis

The division is also responsible for processing of the samples received by the institute for testing and analysis. The samples are sent to the respective division and on completion of the analysis, the reports received by the division are sent to the respective parties.

### MoU/Agreement

In addition to the MoU signed for technology/knowhow transfer, agreements were signed with various organization/universities for different purpose as given below:

- M/s North East Bioventures Pvt.Ltd., Jorhat for collaborative research work for research institute – industry interaction on 13.08.2012
- Eco Concept, a private NGO, Head office: Beltola, Survey, Ajanta Path, 1<sup>st</sup> Bylane, H.No.20, Guwahati For handing over of hot air oven, BOD incubator, Laminar Air Flow, Autoclave, Mushroom drying cabinet, Refrigerator, Water still (Distillation unit) and Heating mantle on 06.09.2012.
- Mr Tony M John, a qualified leather technologist and technopreneur under the Dept. of Scientific & Industrial Research, Technopreneur Promotion Programme project being incubated at the eHealth Technology Business Incubator, Bangalore sponsored by DST, Govt. of India Pixel Park A, PES School of Engineering, Electronics City, Bangalore for designing, developing and integrating clean technology processes to maximize the value of NER-India hides benchmarked against global eco label on 13.09.2012
- District Multipurpose Development and Information Centre, Naharkotia, Dibrugarh, Assam for handing over of hot air oven, BOD incubator, Laminar Air Flow, Autoclave, Mushroom drying cabinet, Refrigerator, Water still (Distillation unit) and Heating mantle on 10/10/2012.
- CSIR-URDIP (Unit for Research and Development of Information Products) 85/1, Pand Road, Kothrud, Pune for IP search and analysis services on 17/10/2012.
- Assam Kaziranga University for collaboration on 21/11/2012
- Acharya Nagarjuna University, Nagarjuna Nagar, Guntur, Andhra Pradesh for collaboration in Nov 2012
- M/S Sarada Clinics Private Limited, 550, Block 'N', New Alipore, Kolkata for marketing of Anti-Arthritis on 3.12.12
- The Science Foundation for Tribal and Rural Resource Development, Bhubaneswar for collaboration on 3.9.12
- Federation of Industry & Commerce of North Eastern Region (FINER) for collaboration
- M/S Cold Pellet Technologies, Kolkata Consultancy on “Demonstration of technology on pilot scale and commercialization of the technology of Cold bonbed iron ore pellets” on 13.12.12
- Public Works Department ( R & B), Govt. of Tripura for Support Services in running “Tripura State Testing Laboratory” of PWD ( R & B) on 14.12.12
- Nagaland University, HQ. Lumami, Nagaland for collaboration on 26.12.12
- Indian School of Mines, Dhanbad for collaboration on 24.12.12
- M/S Suraj Trading Co., H. No. 140 Sec. No. 4, Extension Marble Enclave, Trikuta Nagar, Jammu for marketing of Anti-Arthritis on 27.12.12
- The Science Foundation for Tribal and Rural Resource Development, Bhubaneswar for Search for Bioactive extracts/molecules from plants & synthetic source on 28.12.12
- CSIR-IICT, Hyderabad for evaluation of plant extract provided by CSIR-NEIST for mosquitocidal activity on 16.1.2013
- Georgetown University, 37<sup>th</sup> and 0 streets, N.W. Washington D.C. for collaborative work “Anti-cancer effects of Mahanine on various cancers and its mechanism of action” on 11.2.2013
- JRL Employees' Consumers' Cooperative Stores for marketing of Anti-Arthritis on 21.3.13
- JRL Employees' Consumers' Cooperative Stores for marketing of Fungi-Destruct on 21.3.13
- DBT, Ministry of Science & Technology, New Delhi for the twinning project “Studies on bio-ecology of Helopeltis theivora and development of a forecasting model of its incidence for effective management”
- DBT, Ministry of Science & Technology, New Delhi for the twinning project “Screening and characterization of microbial pathogen diversity of Staphylococci and development of diagnostic test for rapid detection”



- DBT, Ministry of Science & Technology, New Delhi for the twinning project “DNA fingerprinting of Endophytic Actinomycetes isolated from protected Forest areas of Assam and Mizoram”
- DBT, Ministry of Science & Technology, New Delhi for the twinning project “Identification of bioactive compound from medicinal plants effective against multi-drug resistant *Escherichia coli*”

## Information and Commucation Technology

During the year 2012-13 the Information and Communication Technology (ICT) section provided continuous IT support and services in the Institute and provides uninterrupted high speed internet connectivity to the entire Institute. Three new sites i.e. Natural Product Chemistry (new block), Applied Microbiology, Drug Manufacturing Unit, residence of Outstanding Scientist and FCC building have been connected with OFC links.

Since from the last couple of years due to the enormous growth of Local Area Network of the Institute and the implementation of High Speed Bandwidth from NKN Project, the section has designed and proposed a sophisticated Virtual LAN (VLAN) strategy in RC meeting to enhance the performance of Network and its Security from inbound and outbound threat by introducing the technology of clustering of 7(Seven) Firewalls and a Link Balancer. After putting serious effort the plan was materialized recently in 2013-14. The work of strategically segregating the LAN to segments for an edge to monitor the traffic and implement the administering rule for controlling the data flow within the LAN which in turn provides the smooth flawless Services in the Institute. Further, for the efficient management of bandwidth from different ISPs, a link balancer is introduced which dynamically manage the bandwidth among the ISPs for efficient utilization of bandwidth.

In the ERP project, the clustering of the 5(Five) Servers and SAN Storage has been completed. A new IP segment has been introduced for the Fast Data Entry Operation. The section also attended the Annual CSIR IT Nodal Officer Meet and Workshop held at CSIR-SERC and raises the technical issues regarding the implementation of ERP in the Institute. The Section also participated in Annual NKN Workshop organized at IIT-Mumbai.

The section arranged several simultaneous broadcasting of some events through CCTV Network and Webcasting and coordinated 15 Meetings through Video Conferencing throughout the year. Apart from regular updating of Intranet and Institute's Websites the Section has imparted summer/winter Training program/project on Web Based Applications to 2 undergraduate students from Sikim Manipal University and J B College, Jorhat.

## Knowledge Resource Centre

The Knowledge Resource Centre (KRC) continued to provide library and information services to R&D divisions, Research Fellows, outside students and individuals like from universities of NE region and R&D and industrial institutions such as Rain Forest Research Institute, Jorhat, Tezpur University, Dibrugarh University, Gauhati University, Assam University, Assam Engineering College, Jorhat Engineering College, etc. The KRC also provides services to NEIST Branch Laboratory, Itanagar, Arunachal Pradesh and Imphal, Manipur. During the period the KRC added 57 books to its stock. It subscribed to 28 foreign and 62 Indian journals of which 20 in electronic form. During the period, the KRC also collected Annual and other reports from various R&D and academic institutions.

The KRC continued to maintain database on publications and presentation of papers from the laboratory on the basis of which various reports with bibliometric analysis of laboratory's publications were carried out as and when required by the management. A data base on available Ph.D. thesis of NEIST, Jorhat was updated. Reference services were provided to its users as and when needed.

The reprography section of the KRC copied 3,299 pages of documents during the period and earned an amount of Rs. 3,027/- through the services to outsiders. The library earned Rs. 2,220/- as membership fee from outside institutions, individuals and students during the period. The KRC has online access to SCOPUS database through institutional IP address. NEIST have e-access to a number of core journals from Elsevier Science, John Wiley, OUP, CUP, Blackwell, Springer, Taylor & Francis, etc through from DBT e-resource Consortium, New Delhi, CSIR e-journal Consortium (NKRC, NISCAIR). Further the institute is also being facilitated with e-access to Scifinder through NKRC during the year.

## Planning

The major activities of planning division are R&D management in terms of resource (budget, manpower & other inputs) planning and allocation, evaluation of R&D projects & outcomes. Proper management of limited resources available in the institute for gainful utilization in innovative research is an important task of this division. It carves out the annual performance targets of the projects and the laboratory as a whole by focusing the R&D thrust areas which was in accordance with the CSIR vision and the National Mission. The division also acts as a link between CSIR-Hq and laboratory with respect to formulation of the Five Year Plans (FYP), Annual Plans and their operationalization, monthly and quarterly performances reporting and developmental activities of the laboratory. Apart from these activities, the division was also actively involved in science dissemination programmes through various Grant-in aid projects. The details for the year 2012-13 are as follows-

1. The Division prepared the Twelfth FYP (2012-17) and Annual Plan 2013-2014 incorporating Supra Institutional, Facility Creation, Network, NMITLI, In-house projects with proper imagination of future trend of research along with global changing scenario focusing R&D needs of the region and conducive to the industrial and economic development of NER.
2. Accomplishment/Completion report of the Eleventh FYP (2007-12) was prepared by highlighting the target wise achievements in various aspects of different projects under the Eleventh FYP of the Institute. There were 13 In-house/Non-network projects, 10 Network projects, one Facility Creation project, one Supra Institutional Project, one Head Quarter Coordinated Project (HCP) and 2 NMITLI projects in 11<sup>th</sup> FYP.
3. Documents on Revised Budget estimates of 2012-13 of CSIR-NEIST, Budget Estimates for the year 2013-14 and "Division wise list of equipment along with its status", were prepared for the proper execution of the projects.
4. "Awards & Appreciation received by the staff Members & CSIR-NEIST" was prepared to highlight the achievements and for requirement of CSIR Hq.
5. The manpower deployment in In-house, Grant-in-aid, sponsored and consultancy projects were analyzed and reviewed by the division and the resource use efficiency was examined. Resource requirements and its utilization were reviewed in various stages and corrective measures were taken for better R&D management. "Man-month distribution under various projects", "HR Policy of CSIR-NEIST", and "Manpower profile of CSIR NEIST" were brought out for management purposes.
6. HR portal of CSIR-NEIST was maintained including the staff on new appointments/transfer from other laboratory and omission on superannuation/expired/transferred, etc.
7. The Monthly and Quarterly reports of the institute were prepared including the papers, patents, development of technology, awards & appreciation received by scientists & staff members on a regular basis. These reports help in the image building of the institute and have impact on the growth of the institute.
8. The Division organized seminar on "Popularization of Coir Technologies in NE States" held during 06-07 November 2012.
9. The Division coordinated the celebration of the CSIR Foundation Day on 24 September 2012 and organized an essay and a quiz competition on science topics among the staff of CSIR-NEIST & their wards.
10. As per the performance targets for CSIR@80, CSIR has given more emphasis on international network of CSIR campuses with other nations of Africa & Asia during 12<sup>th</sup> FYP. As per the CSIR-NEIST 12<sup>th</sup> FYP targets, it is proposed to set up CSIR-NEIST campuses in Thailand & Srilanka. The Planning Division along with Information & Business Development Division has taken initiative and visited Thailand during the year to study the possibility of establishing a CSIR-NEIST Outreach Centre in Thailand and to identify further area of collaboration.

## Project Monitoring and Evaluation

Project Monitoring and Evaluation (PME) Cell is involved in the management of the institute's externally funded R&D projects as well as Network projects. Contract R&D viz. Sponsored, Collaborative and Grant-in-Aid Projects; and Consultancy projects are undertaken by the Institute with funding from External Agencies. The Network Projects (BSCs, CSCs, ESCs, ISCs, OSCs, PSCs, etc), Other Lab Projects (OLPs), Headquarter



Controlled Projects (HCPs) and Technology Leadership Projects (TLPs) are funded by CSIR Hq, New Delhi. There were 76 numbers of externally funded projects and 32 numbers of Network projects during the year. PME Cell is the main centre for appropriate dissemination of information regarding externally funded projects to the management and as well as the concerned Scientists. Updating of information of various projects was continued and reports were prepared regularly for management support and other purposes. Processing of purchase indents and maintenance of Lab Notebooks are also important activities of PME Cell.

PME Cell is actively involved on the following activities:

**External Cash Flow (ECF):** The details of funds received from funding agencies were regularly recorded and monitored. Monthly statement of department wise ECF positions of the institute was prepared highlighting receipts from Govt Departments, Public and Private organisations. Total ECF generated during 2012-13 was ₹ 678.85 lakhs which comprised receipts from Govt Depts/Ministries, Public Sector Industries and private sector organizations to the extent of 91.47%, 4.58% and 3.74% respectively. The Commercial Rupee Value of ECF was found to be ₹ 56.44 lakhs being 4.58 % of total ECF. ECF of the institute from different projects and services are shown below:

EXTERNAL CASH FLOW (ECF)									
(Excluding Service Tax) (₹ in lakh)									
Sl No	Category	Govt	Indian Industry	*CPSE	**SPSE	Foreign Company	Foreign Agency	Others	Total
1	Collaborative	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2	R&D Consultancy	15.414	8.374	0.000	9.699	0.000	0.000	0.000	33.487
3	Grant-in-aid	598.038	1.386	16.000	0.000	0.000	0.000	0.000	615.424
4	Premia	0.000	1.970	0.000	0.000	0.000	0.000	0.000	1.970
5	Royalty	0.000	0.081	0.000	0.000	0.000	0.000	0.000	0.081
6	Sponsored R&D	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
7	Technical Service	4.981	10.976	2.172	1.532	0.000	1.296	0.000	20.957
	Total:	618.433	22.787	18.172	11.231	0.000	1.296	0.000	671.919

\* CPSE : Central Public Sector Enterprise

\*\*SPSE : State Public Sector Enterprise

(1) The area wise ECF are as follows:

(2) **Expenditure monitoring:** All the project related expenditure is passed through PME Cell. The Cell keep track on the expenditure, budget allocations of all externally funded and Network projects, and upload the details of receipt & expenditure in PME portal so that the fund position of a given project is readily accessible to concerned PI and management for effective management. Division also helps to issue Utilization Certificate and Statement of Expenditure of the externally funded projects.

(3) **Service Tax:** The PME Cell regularly carries out activities for the payment of service tax accrued from the various services rendered by the laboratory on monthly basis. Total Service Tax realized during the year 2012-2013 (@12.36%) is ₹ 6.96 Lakh which comprises receipts from various heads as follows:

Area wise ECF

Areas	ECF(₹ in Lakh)
Agro Technology	57.39
Biological Sciences	106.17
Chemical Sciences	43.03
Engineering Sciences	78.44
Extension Centre	48.91
Geo Science	68.64
Management Science	40.63
Material Science	235.65
Total	678.85

Category	Service Tax (₹ in Lakh)
Consultancy Projects	4.14
Testing Charges	2.35
Premia	0.24
Royalty	0.10
Misc	0.22
Total	6.96

(4) **Project Status:** Status of Project Contracted and Completed during 2012-2013 are as follows:

SI No.	Sources Project	Project Contracted		Project Completed	
		Contract Value (₹ in Lakh)	No. of Projects	Contract Value (₹ in Lakh)	No. of Projects
1.	Grants-in-Aid	658.42	18	283.20	15
2.	Consultancy	26.69	03	7.87	1
	<b>Total</b>	<b>685.11</b>	<b>21</b>	<b>291.07</b>	<b>16</b>

- (5) **Audit Queries:** Cell responds to various audit queries (ISO, Internal & External), Parliament queries and unstarred Rajya Sabha queries in relation to externally funded projects. During the year reply to 10 ISO, 4 internal, 19 external audit and 1 Parliament query were handled.
- (6) **Contribution to Lab Reserve Fund:** The PME Cell has taken initiative to transfer the Overhead and Non-Refundable Balance amount of ₹ 38.0 Lakhs from ongoing as well as closed Externally Funded Projects to LRF in the financial year 2012-2013.
- (7) **Research Utilization Data:** Research Utilization Data deals with the revenue generated from the projects and other activities funded by external funding agencies undertaken by the institute. One annual report and four quarterly reports were furnished to CSIR Headquarters regularly.
- (8) **Pipe line projects:** Every research project is being processed through PME Cell, from the initial stage of submission to a funding agency.
- (9) **PME website:** PME Cell hosted and maintained a website for display of all the project related reports on-line. The PME website is linked to the NEIST Intranet and at present displays reports on Projects-(Completed, on-going, in proposal stage), Research Utilization Data, External Cash Flow, Expenditure details of all ongoing funded and network projects, Service Tax, Organisation Structure, Project Evaluation, Computer AMC, Central Plan Scheme Monitoring System etc. Principal Investigators of projects can access and monitor on-line the expenditure incurred in their projects through PME portal. For analysis of outcome of funded projects, the on-line form has been designed and the Principal Investigators are to fill it on completion of their projects. The on-line reports available have proved to be efficient technical support for the management and scientists.
- (10) **Annual Maintenance Contract of all the Computers:** The Cell oversees the management of the Annual Maintenance Contract of about 300 Computers and their peripherals in the Institute. In addition about 122 computers are under warranty.
- (11) **ERP System:** Enterprise Resource Planning (ERP) system has seven modules namely human resource, e-learning, research and development, policy & programmes, materials management, finance management and project management. One Scientist from PME Cell is the coordinator of the ERP implementation team of CSIR-NEIST. Data entry in various modules has progressed satisfactorily. The Cell is mainly involved in entering projects related data and mapping of NEIST staff with the roles of the staff in CSIR Enterprise Transformation Portal.
- (12) **Miscellaneous activities of the PME Cell include:**
- Computer softwares developed
    - (1) to generate Form-16 for all income tax assesses
    - (2) "Human Resource Web Portal" for Planning Division, displaying information related of staff members. The web portal is linked to NEIST intranet.
    - (3) Web based "Director's Appointment Diary" for staff members desiring to have an appointment with Director.
  - Lab Notebooks are indexed and maintained for future reference and intellectual property rights protection by the cell. During the year 86 nos. issued, 70 nos. returned & reissued.
  - One BCA student of Dibrugarh University completed his last semester project titled "Project Management System for R&D projects in CSIR-NEIST, Jorhat", in PME Cell.
  - In short, the PME Division acts as a supporting division for providing required data and reports to the management as well as to the scientists in respect of externally funded projects.



## WORKSHOP/SEMINAR/MEETING ORGANIZED

### 4<sup>th</sup> Institutional Ethics Committee meeting



The 4<sup>th</sup> Institutional Ethics Committee (IEC) meeting of CSIR-NEIST Jorhat was held on 7 May 2012. Dr PG Rao, Director, CSIR-NEIST mentioned that the purpose of the meeting was to review the progress work on on-going projects related to clinical evaluation of herbal cancer drugs and anti-arthritis and herbal antifungal from important medicinal plants of North East India. Chairman Dr. M Hazarika, Former Director of Tea Research Association said that as time progress the ethical issues also changes also that the legal and moral aspects are very

important for undertaking clinical trial on the new products, though they may be of herbal made. Dr. MJ Bordoloi, Project Leader gave presentation on the progress made so far on clinical trials and tests made on 'Research on oral cancer drugs from plant origin' and gave the mechanism for cancer development and the biological response after drug treatment. He said that the compound, vbnst 011 isolated from edible plants which inhibits oral cancer cells has been identified. IEC members suggested having animal studies with the same drug molecule that may give better clinical data which is more important. Dr. Mantu Bhuyan gave presentation on the progress made on clinical trials of herbal drug anti-arthritis and another on fungal diseases, herbal fungi destruct. He also gave the progress on lung cancer drug, Luncan, an herbal inhaler. The compound having anti-cancer property has been characterized and identified. IEC members suggested having more clinical trials for early stage of disease and this will give great relief from pain. Dr BG Unni, Member Secretary, IEC requested both project leaders to submit the progress report.

### Indo-Norwegian workshop

A workshop was organized and conducted at the NEIST-Jorhat on May 8-12, 2012. The one-day workshop was well attended by professionals from various research streams both from Norway namely Dr. Conrad Lindholm, Head, Seismology and Dr. Daniela Kuehn, Leading Scientist, NORSAR, Norway and India. The workshop was basically subdivided into three parts:

*Part 1:* A summary of the on going projects both at NORSAR and CSIR NEIST were presented by Dr. Conrad Lindholm and Dr. Saurabh Barua respectively.

*Part 2:* The presentation of the different research topics made by Dr. Manoj K. Phukan, Junior Scientist and Dr. Santanu Baruah, Research Associate in conformity with the proposed collaborative project.

*Part 3:* Presentations by the Dr. Daniela Kuhn for the proposed collaborative issues/topic

All the sessions went along with fruitful discussions.

### Tea Improvement Consortium Review meeting

The meeting of the Executive Committee to review status of "Tea Improvement Consortium" was held on 10 May, 2012 in CSIR-NEIST, Jorhat under the Presidentship of Dr. PG Rao, Director, CSIR-NEIST, Jorhat. Dr. Muraleedharan Director, TRA appreciated the performance of TIC and assured to provide all support to strengthen the activities further. He suggested activities like biocontrol mechanism of pests, soil related studies and more mechanization in tea industries due to shortage of man power that can be considered by TIC in



the form of project proposals for future. The Committee considered renewing of TIC registration. The committee noted that improvement in TIC membership is required to aid proper function and awareness of the TIC among tea scientists, tea planters, and small tea growers. The Committee requested Dr. P Sen from AAU to initiate TIC newsletter.

### CSIR-NEIST organized North East Graduate Congress jointly with USTM

CSIR-NEIST organized the 1st North East Graduate Congress jointly with the University of Science & Technology, Meghalaya (USTM) during 29-30 May 2012 at the USTM premises. The inaugural function was presided over by Dr H S Ray, Former Director, CSIR-IMMT, Bhubaneswar in which Dr P G Rao, Director, CSIR-NEIST attended as the Guest of Honour. Both the days had technical sessions namely on Counseling and Motivation; Higher/Professional Education and Research; Micro-finance, Business loan, Small scale industries, Govt. schemes & Entrepreneurship; Personality development, Soft skills and Capacity Building in Priority Areas & Employability; Vocational Training; Youth Politics & Corruption and Competitive examinations. Selection for talent award was held on 30 May 2012. Congress concluded with Valedictory programme held on 30 May 2012 in which His Excellency, the Governor of Assam, Shri JB Patnaik attended as the Chief Guest.



Dr PG Rao, Director, CSIR-NEIST, speaking at the Inaugural function.

### Brain Storming Session on Geology & Mining, Coal and Mineral Utilization in NE Region

A "Brain Storming Session on Geology & Mining, Coal and Mineral Utilization in NE Region" was held on 7-8 August 2012 at NEIST, Jorhat. Mr P P Shrivastav, Member NEC and RC member, CSIR-NEIST, Prof T C Rao, Consultant (Materials Sciences), CSIR-NEIST and former Director, AMPRI, Bhopal; Dr K Balasubramanian, Director of NFTDC, Hyderabad; Prof Nikkam Suresh, Indian School of Mines, Dhanbad, Dr E Laloo, Joint Director, Directorate of Mineral Resources, Meghalaya; Ms Dipti Das, Joint Director, Deptt of Geology & Mining, Assam; Shri A Temjentoshi, Joint Director and Shri T Mar Imchen, Senior Geologist, Deptt of Geology & Mining, Nagaland; Dr D K Chutia, Joint Director and Dr A S Rawat, Geologist, Deptt of Geology & Mining, Arunachal Pradesh and senior scientists of CSIR-NEIST participated. The scope & future prospect of a few identified valuable minerals available in the NER particularly Graphite deposits in Arunachal Pradesh, Ni-Co bearing magnetite deposit of Pokphur, Nagaland and Manipur, Scope of Kaolin (China Clay) mining & processing industries in Meghalaya, Scope of Limestone mining & processing industries in Meghalaya, Scope of Placer Gold found in the Subansiri Basin and Coal in NER and its utilization in the light of National priority areas in the form of Clean Coal Technology and Clean environment were discussed. A road map for mineral sector in NER was also drawn. The initiative for further beneficiation of the graphite samples collected from three deposits of Arunachal Pradesh (Bopi, La-Lamdak and Taliha) has been undertaken.



Fig. During the Brain Storming Session at M.S. Iyenger Hall, CSIR-NEIST



**One day Training Programme on writing Research papers**

A training program on “Writing Research Papers” was organized at CSIR-NEIST Substation, Imphal in collaboration with Manipur Science & Technology Council (MASTEC) on September 4, 2012. Prof H Nandakumar Sharma, Vice Chancellor, Prof GNK Chetty, HOD, Life Sciences, Prof B Manihar Sharma att from Manipur University and Dr BG Unni, Chief Scientist, CSIR-NEIST attended as Chief Guest, Guests of Honour and President, respectively.

In the technical session presentations were made by (i) Prof N Rajmuhon Singh on "Writing scientific papers", (ii) Dr BG Unni on “How to write a good research paper”, and (iii) Dr HB Singh on “Proper planning for writing a research paper”. The program was attended by 27 Research Scholars, Lecturers, Assistant Prof, and Associate Prof from Manipur University, Assam University, NERIST-Itanagar, GP Women's College-Imphal, Pettigrew College-Ukhrul, etc. The sessions included panel discussion.



*Inauguration of the workshop by the Vice Chancellor Manipur Central University –Prof H Nandakumar Sharma*

**National seminar on “Popularization of Coir technologies in NE States”**

CSIR-NEIST organized a seminar to popularize various Coir Technologies in North-Eastern Region during 6-7 November 2012 in collaboration with Central Coir Research Institute, Kerala. The objective of the seminar was to generate awareness among the entrepreneurs/ NGOs/ SHGs and prospective small scale industrialists about various technologies available for development of entrepreneurship by setting up of coir related enterprises utilizing readily available raw materials for self employment. The seminar was inaugurated by Dr PG Rao, Director, CSIR-NEIST. Mr Subrata Hazarika, Member, Coir Board attended the inaugural function as Chief Guest. The Resource Persons were from CCRI, Kerala; NABARD, Jorhat; DICC, Jorhat; Coconut Development Board, Guwahati; besides the scientists from NEIST, Jorhat. Suitable coir technologies were highlighted by Dr S Radhakrishnan & Shri CK Jayanand of CCRI, Kerala under Coir Board, and explained about the schemes of Coir Board and possibilities for setting up such industries in the NE region of India. Dr T Goswami, Principal Scientist, Dr Dipul Kalita, Scientist and Dr Jatin Kalita, Jr Scientist of CSIR-NEIST delivered lectures on various aspects like possibility of setting up of coir industry, utilization of coir fibre for building construction, economics & feasibility of various coir technologies in NE states. The seminar had a great impact on over 100 participants coming from all districts of Assam.



*Inaugural Function*

as Chief Guest. The Resource Persons were from CCRI, Kerala; NABARD, Jorhat; DICC, Jorhat; Coconut Development Board, Guwahati; besides the scientists from NEIST, Jorhat. Suitable coir technologies were highlighted by Dr S Radhakrishnan & Shri CK Jayanand of CCRI, Kerala under Coir Board, and explained about the schemes of Coir Board and possibilities for setting up such industries in the NE region of India. Dr T Goswami, Principal Scientist, Dr Dipul Kalita, Scientist and Dr Jatin Kalita, Jr Scientist of CSIR-NEIST delivered lectures on various aspects like possibility of setting up of coir industry, utilization of coir fibre for building construction, economics & feasibility of various coir technologies in NE states. The seminar had a great impact on over 100 participants coming from all districts of Assam.

**Symposium on “Scientific Intervention for Societal Development”**



*Left: Shri P P Shrivastav, Member, North Eastern Council, Shillong and Chief Guest, inaugurating the Symposium by lighting the lamp as Dr P G Rao (2nd from right), Director, CSIR-NEIST and Dr R C Boruah, Outstanding Scientist, looks on. Right: A section of audience attending the symposium.*



CSIR-NEIST organized a special symposium on "Scientific Intervention for Societal Development" at its premises on 20 December 2012 at Dr J N Baruah Auditorium. The symposium was inaugurated by lighting of the lamp by Chief Guest Shri PP Shrivastava, Member, North Eastern Council, Shillong and other dignitaries. Dr PG Rao, Director, CSIR-NEIST presided over the inaugural session. A special book entitled "Doyen of CSIR-NEIST Family - A festschrift on Dr PG Rao" was released by the Chief Guest. The book was brought out in honour of Dr Rao who led the Institute for over ten years with significant contribution not only in the Institute but in the entire North East Region and was superannuating on 31 December 2012. Shri Shrivastava pointed out that research for the benefit of the society is as important as the academic one and more. He appreciated CSIR-NEIST for carrying out splendid academic and research work and said that the momentum should be kept up in the future. In his address, Shri Syed Iftikar Hussain, Commissioner of Upper Assam and a distinguished guest, applauded the works of Dr Rao and CSIR-NEIST and said that in future he would like CSIR-NEIST to work in areas of local problems like unsafe and contaminated drinking water. Dr Rao said that CSIR-NEIST has always worked for solutions ahead of time like it developed solutions as far as 40 years back to cater to local problems with technologies like low cost bamboocrete house, water filter candle etc.

The symposium had 6 technical sessions, first one being on Agrotechnology which was chaired by Prof GD Sharma, Vice Chancellor, Bilaspur University where Dr USN Murty, Chief Scientist, CSIR-IICT, Hyderabad delivered a talk on "Agrotechnology—A future hope of NEIST". The second session on Biological Sciences was also chaired by Prof Sharma wherein Dr Napavarn Noparatnaraporn, BEDO Expert for Biodiversity & Bio-resources, Bangkok, Thailand delivered a talk on "Bio-resources and Biodiversity: from Research to Bio-economy Development". The third session on Chemical Sciences was chaired by Dr KV Raghavan, INAE Distinguished Professor wherein Prof Wenhong Hu, East China Normal University, Shanghai, China delivered a talk on "Novel multi-component reactions via active intermediate trapping process". The fourth session on Engineering Sciences was chaired by Prof VG Gaikar, ICT, Mumbai wherein Dr Raghavan delivered a talk on "Societal Role in Shaping Green Process Options— Pharma and Agrochemical Case Studies". The fifth session on Geoscience was Chaired by Dr BK Rastogi, Director General, ISR, Ahmedabad wherein Prof VP Dimri, CSIR Distinguished Scientist delivered a talk on "CO<sub>2</sub> Geosequestration for Sustainable Green Earth". In the session Dr Rastogi also gave a presentation on "Earthquake Risk Mitigation for Sustainable Development of NE India". The sixth session on Materials Science was chaired by Dr TC Rao, former Director, CSIR-AMPRI, Bhopal wherein Dr K Balasubramanian, Director, Non Ferrous Materials Technology Development Centre, Hyderabad delivered a talk on "Minerals and Materials (NER) to Value Added Products". Dr G Thyagarajan, former Director of CSIR-NEIST addressed the gathering through video conferencing. He appreciated the successful works of the Institute in diverse fields and encouraged for increased scientific investment for societal development. The symposium was attended by scientists, professors, delegates from China and Thailand, invitees, students, researchers and other stake holders.

**"Way forward" Programme organized**



Release of Anti-fungal herbal drug called "Fungi-destruct" by Prof Samir K Brahmachari (2nd from left), DG-CSIR & Secretary, DSIR and Chief Guest, in presence of Dr P G Rao (extreme left), Director, CSIR-NEIST. Also seen in the dais, is Prof Vani Brahmachari (3rd from right) from B R Ambedkar Centre for Biomedical Research, Delhi University and Guest of Honour.



Release of Book on "Effective Science Writing" By Prof Vani Brahmachari.



CSIR-NEIST organized a "Way Forward" programme on 26 December, 2012 at Dr J N Baruah Auditorium. Prof Samir K Brahmachari, DGCSIR & Secretary, DSIR and Prof Vani Brahmachari from the B R Ambedkar Centre for Biomedical Research, Delhi University graced the occasion as Chief Guest and Guest of Honour respectively. Highlighting the objectives Dr PG Rao, Director, CSIR-NEIST recapitulated what CSIR-NEIST has accomplished so far particularly in the last decade 2002-2012 and the projects scheduled for 12<sup>th</sup> FYP. He urged the scientists to plan for 13<sup>th</sup> FYP and beyond leading to societal benefits. He mentioned some new initiatives already taken by CSIR-NEIST like the first being Herbal Drug Processing Unit established with manufacturing capacity of 40000 tubes/day. The unit was inaugurated by the Prof Samir Brahmachari, who also released "Fungi-Destruct" (anti-fungal herbal formulation developed by CSIR-NEIST) and a brochure on "Fungi-Destruct". Prof Brahmachari also inaugurated a 100 KWp capacity Offgrid Solar PV Power Plant appropriately titled "Surujmukhi".

Prof Vani Brahmachari inaugurated the newly added and fully modernized Applied Microbiology Block to its Biotechnology Wing with all the infrastructure and state of the art facility. The block has a BSL lab of Level II. She also released a Book titled "Effective Science Writing" edited by Mrs Pramila Majumdar and Mr Biman Basu and published by CSIR-NEIST. The book was brought out with the objective of helping budding science writers and researchers for effectively popularizing science.

Prof Samir K Brahmachari appreciated R&D being carried out at CSIR-NEIST and said the institute has justified its establishment via both the research and the societal development of the North East.

**Awareness Programme on "Anti Arthritis" and "Fungi Destruct" held at Kolkata**

An Awareness Programme on "Anti Arthritis" and "Fungi Destruct" two herbal products manufactured at CSIR-NEIST was held in Kolkata in collaboration with Sarada Clinics Private Limited, an authorized distributor for Eastern India on 11 February 2013. The programme was attended by large number of Press and Media people from Kolkata. A team of Scientist under the leadership of Dr R C Boruah, Acting Director of CSIR-NEIST explained the numerous queries of media people and appraised the positive response received from various patients from India and abroad.



**Workshop-cum-training on "IPR Sensitization in North East Region"**

CSIR-NEIST organized a one-day Workshop-cum-training programme on "IPR Sensitization in North East Region" was held on 13 February 2013. Held at Dr J N Baruah Auditorium the inaugural function was presided over by Dr R C Boruah, Acting Director, CSIR-NEIST in which Dr USN Murty, Chief Scientist & Head-Biological Sciences, CSIR-IICT, Hyderabad graced as the Chief Guest.



Participants of the workshop along with Dr R C Boruah, Acting Director, CSIR-NEIST, experts and the organizing team



Dignitaries on the dais at the Inaugural session (from right), Dr R L Bezbaruah, Head-I&BD and Coordinator; Dr RC Boruah, Acting Director, CSIR-NEIST and Chief Guest Dr USN Murty, Chief Scientist, CSIR-IICT, Hyderabad



Dr Murty spoke about the need for protecting one's intellectual work emphasized on the need to protect the traditional and cultural heritage of one's country and said that it becomes every citizen's duty to preserve and conserve the rich age old tradition based knowledge and culture which are useful even today. In the first technical session Ms Juri Borborah Saikia, Research Officer, IPR cell, Tezpur University delivered a lecture on 'Overview of IPR and its role in protecting Trademarks'. In the second session Dr TC James, Director, National Intellectual Property Organization, New Delhi deliberated on 'Copyright and related rights'. In the third session Shri Madhurjya Thakur, Assistant Controller of Patents & Designs, Indian Patent Office, Kolkata deliberated on 'Patenting system in India'. In the fourth session Dr James deliberated on 'Geographical Indications-fundamentals and its emerging importance with reference to India'. In the fifth session Prof S K Borthakur, Deptt of Botany, Gauhati University deliberated on 'Traditional Knowledge vis-à-vis Utilization, Protection and Biodiversity Conservation'. There was also a short written quiz among the participants. The workshop was attended by 65 UG/PG students, faculty members and innovators from different Universities, Colleges and Institutes of Assam and Nagaland.

### Training on Science Communication

CSIR-NEIST organized a four day training programme on Science Communication during 18-21 February, 2013 especially for the benefit of students, freelancers and unemployed people of North East India. The training was "Catalyzed and supported by Rashtriya Vigyan Evam Prodyogiki Sanchar Parishad (RVPS), Department of Science and Technology (DST), New Delhi". Dr Rajendra Dobhal, Director General of Uttarakhand State Council for Science and Technology (UCOST) attended the inaugural function held on 18 February as Chief Guest. President of the function, Dr RC Boruah, Acting Director, CSIR-NEIST, Jorhat stressed on the importance of science communication and its significance of propagating science in the society. In a special session following the inaugural function Dr Dobhal spoke about "Role of Science & Technology Council's in the Promotion of Science" where he talked about the objectives, strategies, issues, innovative steps and achievements of UCOST highlighting various R&D Projects in different areas like EIA, pollution control, medicinal and aromatic plant, climate change, biodegradation of pesticide etc undertaken by UCOST.



Participants of the workshop along with Chief Guest Dr R Dobhal, Actg Director, CSIR-NEIST, Dr RC Boruah, and the organizing team



Dignitaries on the dais at the Inaugural session (from right), Dr R Dobhal, DG, UCOST, Uttarakhand, Dr R C Boruah, Acting Director, CSIR-NEIST, and Dr R L Bezbaruah, Head-I&BD

The First Day emphasized on science communication and its need in the present day highlighted through lectures by Mr. A K Hazarika, former scientist, CSIR-NEIST on "Role of Research Organisation in Science Communication – CSIR-NEIST experience", Mr HJ Khan, Editor, Science Reporter, CSIR-NISCAIR, New Delhi on "Communicating Science" and NCSTC Award Winner Mr Biman Basu, former Scientist and Editor, Science Reporter, CSIR-NISCAIR, New Delhi on "Popular Science Writing: Why and How?".

Second day highlighted various media available. Dr Bala Lakhendra, Assistant Professor of Mass Communication and Journalism Department, Tezpur University talked about "Science Communication through Mass Media", Dr PC Neog, Head, Planning Div, CSIR-NEIST talked about "Science Programmes for Electronic Media". NCSTC Award winner, Dr PC Tamuly, Editor of Mouchaq and Natun Awiscar, Assamese magazines spoke about "Science Communication for the Children". Dr Aditi Bezbaruah, Deptt of Physics, Jorhat Engineering College talked about "Women and science communication". In their second lectures respectively Mr Khan talked about "Effective science writing" and Mr Basu about "Editing popular science articles".



On the third day, in the first lecture Mr Basu deliberated on “*Writing Video Scripts*”. Padamshree Prof Anil K Gupta, Professor, Indian Institute of Management, Ahmedabad talked about “*Knowledge Dissemination through Print Media*” through internet. “*Knowledge communicate in Rural Areas-scope and experience*” was highlighted by Mr Kishore Kalita, NIF-India Assam Cell, Gauhati. Mr Suryya Kumar Chetia, Journalist, The Assam Tribune deliberated on “*Science journalism- Do's & Don't*”. Dr Tamuly in his second lecture talked about “*Effective Translation of scientific communications*”. A popular lecture on “*Eye Donation*” was given by Dr Narayan Bordoloi, Medical Director, Chandraprabha Eye Hospital, Jorhat. Film Maker Mr Goraiya Shailendra from Ahmedabad talked about “*Communication through Photography and Videography*”. He also showed various short documentaries and films made by him to show the impact of this very strong media which can play a vital role in communicating science.

On the fourth day Mr Shailendra gave practical demonstration on photography. He talked about various aspects of photography like lighting, composition, different camera and their features. Activities like quiz and practical writing assignments were organized and well appreciated by the participants. The training concluded with valedictory function held on 21 February, 2013 where prize winners of the quiz competition were awarded certificates. The training was attended by 66 participants from different districts of Assam, Arunachal Pradesh, Meghalaya, Mizoram, Sikkim and Tripura.

#### Conference on Road and Transportation Technologies for North-East Region



(Left): Hon'ble Chief Minister of Assam, Mr Tarun Gogoi lighting the lamp (Right): Dr RC Boruah, Acting Director, CSIR-NEIST, Jorhat presenting memento to Mr Tarun Gogoi, Chief Minister of Assam

CSIR-NEIST organized 3-day conference on Road and Transportation Technologies for North-East Region (CORTNE 2013) on 22-24 February 2013 at Maniram Dewan Trade Centre, Guwahati jointly with CSIR-Central Road Research Institute, New Delhi in collaboration with Public Works Departments (PWDs) of eight North Eastern States and supported by ERD Foundation, Guwahati; M/s BitChem, Guwahati & FINER, Guwahati. The conference was the first of its kind in the region in common platform for eight state PWDs of NER. Nearly 300 delegates from various organisations in the country, specifically from the North East like Public Works Departments from Govt of Assam, Govt of Arunachal Pradesh, Govt of Meghalaya, Govt of Nagaland, Govt of Mizoram, Govt of Manipur, Govt of Tripura, Govt of Sikkim, Scientific staffs from CSIR-NEIST, Jorhat and CSIR-CRRI, New Delhi, faculties & students from RIST, Meghalaya and private companies from Guwahati like M/s BitChem, M/s Om Infracon Pvt. Ltd, etc participated in the conference. Hon'ble Chief Minister of Assam, Mr Tarun Gogoi was the Chief Guest of the inaugural ceremony which was presided over by Dr Subhamay Gangopadhyay, Director, CSIR-Central Road Research Institute, New Delhi. In his inaugural address CM Mr Gogoi pointed out that poor connectivity in the past was one of the factors for slow economic growth in the region. He further said that the roads are the vital lifeline for communication. It serves as a vehicle for achieving economic growth and prosperity.” He also said, “Through better connectivity not only development can be ushered in all fronts but also the region can be brought closer to the rest of the country. Modern means of transportation can only bring about a sea change in the economic landscape.” He stressed on the need for proper drainage system while constructing roads. Dr Gangopadhyay, in his welcome address, said that the conference would deliberate on the issues that are acting as challenges for the development of the road and transport structure infrastructure in the north-east region. Dr RC Boruah, Actg Director, CSIR-NEIST in his address, said “India's NER consisting of eight states having abundant natural

resources is still far behind in every aspects from rest of the country. Various National Development Programmes like NHDP, PMGSY, NREGA etc. for development of road connectivity in the North-East region are affected due to reasons like lack of materials, machine, knowledge, technology and skilled human resources as well as high rainfall, landslide, environmental issues in the region". Mr Boro advocated the need for steel bridges in flood, landslide and seismic prone areas to ensure connectivity.

The 3-day conference had 9 technical sessions followed by a Way Forward (Valedictory Programme) and with a site visit of new Saraighat Bridge on River Brahmaputra. The workshop was largely attended by eminent Engineers, Scientists and Govt Officials. A technical exhibition was also organised during the conference where CSIR-NEIST, Jorhat, CSIR-CRRI, New Delhi, M/s BitChem, ERD Foundation, M/s Maccaferri, New Delhi, M/s TechFab India, M/s Hindustan Colas Ltd., M/s Purbanchal Cements Ltd., M/s Volvo, M/s Alchemist Touchnology Ltd., M/s 3M India Ltd., M/s Starmass took part in the exhibition.



Mr Tarun Gogoi, Chief Minister of Assam releasing the Souvenir



A Section of Delegates

### 3-Days National Training programme on Chemical Informatics in Biological Research

A National Training program on Chemical Informatics in Biological Research sponsored by DBT, GOI was organized during 26-28 February 2013 at CSIR-NEIST as one of the mandate of the Bioinformatics Facility of CSIR-NEIST. The aim of the workshop was to disseminate and explore knowledge on Cheminformatics among the Biology students realizing the importance of computer application in modern biological Research. About 22 participants from Dibrugarh University, Tezpur University, Bahona College and D R College and 4 students from CSIR-NEIST attended. Inaugural function presided by Dr RC Boruah, Actg Director, CSIR-NEIST was held on 26 February. Dr RL Bezbaruah, Head, I&BD Division and Coordinator of BIF Centre spoke briefly on the scope of the program. Prof. RC Deka from Tezpur University and Dr. MJ Bordoloi, Scientist of NEIST delivered talks on "Chemical Informatics in Drug Designing" and "Phyto-chemical screening", respectively. The hands on training was conducted in the second half of the day on the topic Retrieval of Journals and Informatics using online Search engines by Dhrubajyoti Gogoi. Second day started with lectures on "Molecular Dynamics" and "Bioprogramming in Cheminformatics" delivered by Dr. Rajeev Sarmah and Mr. Subrata Sinha, Asst. Prof from Bioinformatics department of Dibrugarh University. Special focus was given on Biojava in the practical session. On the last day Dr. Pankaj Chetia, Research Associate from Assam University spoke about "Computer aided drug design in Cheminformatics". During the practical session in the first half, Dr. Chetia taught many Cheminformatics tools such as Autodock Vina, PharmaMapper, Openable & some CADD web servers. The training concluded with valedictory function.



Dr RL Bezbaruah, Programme Coordinator addressing the trainees at the inaugural function. Also seen seated on the dais is Dr R C Boruah, Acting Director

### Branch Lab Imphal organized 3-day Educational Mega Festival

CSIR-NEIST Branch Laboratory, Imphal organized 3-Day Mega Festival of DNA Club Schools of Manipur during 24-26 March under the project "DNA Clubs: DBT-TERI Mentoring Schools of the Northeast". During the



festival, programs like (i) Science film shows (ii) Spot-painting competition (theme: Bioresource conservation with special reference to Manipur) (iii) Essay writing competition (theme: Biodiversity need of human being) (iv) Ex-tempore speech competition (topic: Conservation issues of biodiversity) (v) Project report writing (topic: Bioresources available around you) & (vi) Lecture series (topics: *Loktak wetland ecosystem & its economic bioresources* by Dr SS Singh of Loktak Development Authority and *Impact of pesticides/insecticides on environment* by Dr KI Singh of Central Agricultural University, Imphal) were organized. Prof N Iboton Singh, Dean, Central Agricultural University, Imphal and Dr BG Unni, Chief Scientist, CSIR-NEIST were Chief Guest & President of the closing function respectively where prizes and certificates were distributed to winners. Glasswares were also distributed to the 57 DNA Club schools.



Glasswares were also distributed to the 57 DNA Club schools.

### Faculty Training and Motivation and Adoption of School and Colleges by CSIR labs

In its pursuit for motivating and building innovative disposition among students and teachers of the region three workshops under “Faculty Training and Motivation and Adoption of School and Colleges by CSIR labs” were organized.

**1<sup>st</sup> Workshop:** The workshop was organized outside the state of Assam for the faculty members of (Physics and Chemistry subjects) of Saint Mary's College, Shillong; St. Anthony's College, Shillong; Shillong College, Shillong; St Edmund's College, Shillong; Synod College, Shillong and UC College, Umiam Khwan, Meghalaya during November 27–28, 2012. Altogether 29 Chemistry teachers and 28 Physics teachers were nominated by the Principals of the colleges. Out of which a total of 55 teachers, 28 from Chemistry department and 27 from Physics department of the colleges participated in the programme.



(left) Dr L Nath, Head, HRD and Coordinator of the programme addressing the gathering, also seen sitted on dais Dr P G Rao, Director, CSIR-NEIST (Right) Resource persons and the participants

The workshop was conducted parallelly, in two technical sessions for two groups Chemistry and Physics. The lectures in physics included Earthquake source process and a case study by Dr S Barua, SPS, CSIR-NEIST, Hundred years of cosmic ray research by Prof Kalyanee Boruah, Professor, Gauhati University, Interdisciplinary Studies: A few examples by Prof A Gohain Barua, Professor, NEHU, Shillong, assessment of the radiological hazards of sand sediments collected from streams & streamlets of the uranium deposit in west khasi hills district, meghalaya, india, Prof p nongkyurih, Recent advances and applications of laser spectroscopy by Prof Alike Khare, Professor, IIT, Guwahati. In Chemistry session lectures included Green Chemistry by Dr NC Barua, CS, CSIR-NEIST, A visit to the world of porous materials by Prof AK Talukdar, Professor, Gauhati University, Nanotechnology by Dr DK Dutta, CS, CSIR-NEIST, Explorations of chemistry through use of the computer by Prof RHD Lyngdoh, Professor, NEHU, Shillong and Everyone will become a chemist one day by Prof A Chattopadhyay, Professor, IIT, Guwahati.

**2<sup>nd</sup> Workshop:** A one day workshop was organized on 14 February 2013 for class XI students (science stream) of KV NEIST, Jorhat, a school adopted by this institute. Thirty students attended. The two lectures were

arranged namely *Global Warming* by Dr S Barua, SPS, CSIR-NEIST and *World of Insects* Dr M Bhuyan, Sc, CSIR-NEIST. After, each lecture sessions, the students interacted with the Resource Persons to know more on the subjects. Visit to the institute was arranged for demonstration cum hands on training.



**3<sup>rd</sup> Workshop:** The third workshop was held at St Edmund's College, Shillong during 21-22 March 2013 for the faculty members (Botany and Zoology) of St Mary's College, St. Anthony's College, Shillong College, St. Edmund's College, Synod College, Shillong, UC College, Lady Keane College, all affiliated to NEHU University, Shillong. Altogether 31 Botany and 29 Zoology teachers were nominated by the Principals of the colleges, of the teachers, 26 from Botany and 26 teachers from Zoology department participated. Two technical sessions for Botany and Zoology were conducted parallel. Following lectures were delivered in Botany session Perspectives of Medicinal and Aromatic Plant Cultivation in North East India by Dr PR Bhattacharyya, CS, CSIR-NEIST, Biological Nomenclature- Biocode and Phylocode by Prof SK Borthakur, Professor, Gauhati University, Life: Compulsion of Birth, Death & Inheritance by Prof AK Misra, Professor, NEHU, Shillong, Application of Enzymes and Microbes for Developing Biosensors and Biofuelcells by Prof P Goswami, Professor, IIT, Guwahati and Energy Transformation in Living System by Prof NK Chrungoo, Professor, NEHU, Shillong. In the Zoology session lectures given were Molecular and Functional Properties of Insect Neuropeptides with respect to Growth and Development of Insects by Dr BG Unni, CS, CSIR-NEIST, A Few Innovatives in Generating Interest, Excitement and Excellence in Teaching and Inspiring Students for Life science Zoology by Prof UC Goswami, Professor, Gauhati University, Biological Clock: Role of the Pineal Gland by Prof BBP Gupta, Professor, NEHU, Shillong, Interventions for Healthy Aging by Prof R Sharma, Professor, NEHU, Shillong and Biosystematic: A Molecular and Insilico Approach Unifying the Classical by Prof Veena Tandon, Professor, NEHU, Shillong.



## EVENTS

### Technology Extension Building of Branch Lab Imphal Inaugurated

The Technology Extension Centre Building of the CSIR-NEIST Substation, Imphal was inaugurated by Shri Gurbachan Jagat, Hon'ble Governor of Manipur on November 17, 2012. During the Inauguration, the Chief Guest released a booklet entitled "CSIR-NEIST in the State of Manipur". He also visited the exhibition stall of novel products based on ethnic designs (a joint collaboration of CSIR-NEIST & CSIR-CLRI, Chennai). In his speech Shri Jagat emphasized for development of bioresource based products and formulation and appealed to CSIR-NEIST to play a lead role for the development of Manipur. He praised the Substation, Imphal for activities taken up for School Educational Programs under the banner DNA Clubs.



Shri Gurbachan Singh Jagat, Governor of Manipur Inaugurating the Technology Extension Centre.

### National Technology Day celebrated

CSIR-NEIST celebrated the National Technology Day on 11 May 2012 which was presided over by Dr PG Rao, Director, CSIR-NEIST in which Chief Guest Prof Samir Bhattacharya, INSA Fellow, Visva-Bharati, Santiniketan delivered the technology day lecture. Dr Rao encouraged young researchers to put extra efforts and forward research works by not only developing technologies, publishing papers or acquiring patents but also to strive for its commercialization to benefit the society and the country's economy. Prof Bhattacharya highlighted few great technological discoveries and their impact in societal and economic growth. He emphasized on the works of Michael Faraday in electromagnetic induction and his breakthrough in inventing electricity. He spoke about Alexander Fleming and his developing world's first antibiotic, Penicillin. Prof Bhattacharya appreciated CSIR-NEIST's small scale technologies which are generally not given much attention but otherwise has the potential for commercialization and exploitation in SSI. Concluding, he encouraged the scientists to make use of the vast resources of the NE region for the development of the region, the people and the country at large. The day was also observed as 'Open Day' during 2-4 pm for the visit of students and general public wherein a large number visited the Institute.



Prof Samir Bhattacharya, INSA Fellow, Visva-Bharati delivering the technology day lecture. Also seen seated on the dais is Dr P G Rao, Director, CSIR-NEIST.

### Anti-terrorism Day observed

Like previous years, this year also CSIR-NEIST observed Anti-terrorism day on 21 May 2012. All the staff members attended the pledge taking ceremony.

### 66<sup>th</sup> Independence Day observed

CSIR-NEIST celebrated the country's 66<sup>th</sup> Independence Day on 15 August, 2012 in which Dr RC Boruah, Scientist-in-charge, CSIR-NEIST inspected the Guard of honour, followed by unfurling of the National Flag. He also took the salute of March past performed by members from NEIST Security section, KV-NEIST students



and CSIR-NEIST research scholars. Speaking on the occasion, Dr Boruah urged one and all to rekindle their vows and to rededicate themselves for national integrity and communal harmony and also highlighted briefly all round achievements of the Institute during the year 2011-2012, in terms of paper published, patents acquired, Awards and external cash flow.



(Left) Dr R C Borah, Scientist -in-charge unfurling the National flag.

(Right) Dr Boruah, delivering his address on the day.

**State Mourning Day 'Shok Diwas'**

At the instance of Government of Assam, every year the CSIR-NEIST observed the State Mourning Day (Shok Diwas) on 16 August 2012 along with the rest of the state in the memory of those killed in bomb blast on Independence Day 15 August 2004 at Dhemaji under Lakhimpur district of Assam. A pledge taking function was held at CSIR-NEIST old canteen building in which the Dr RC Boruah, Scientist-in-charge administered the Shok Diwas pledge to staff members.

**Sadbhavana Diwas**

CSIR-NEIST observed 'Sadbhavana Diwas' on 19 August 2012 along with the rest of the country. The day is observed every year to commemorate the Birth Anniversary of Late Prime Minister of India, Shri Rajiv Gandhi. Dr RC Boruah, Scientist-in-charge, CSIR-NEIST administered the Sadbhavana Diwas pledge to members of the staff.

**70th CSIR Foundation Day**



On dais (from left) Dr PG Rao, Director, CSIR-NEIST and Chief Guest, Prof V Nagaraja of IISC, Bangalore



Release of CSIR-NEIST Annual Report 2011-2012

CSIR-NEIST celebrated the 70<sup>th</sup> Foundation Day of its apex body, Council of Scientific and Industrial Research (CSIR) on 24 September 2012 instead of 26 September. Prof V Nagaraja, Chairman, Deptt of Microbiology & Cell Biology, Indian Institute of Science, Bangalore graced the occasion as the Chief Guest and delivered lecture on “Restriction endonucleases, topoisomerases, transcription activation and termination: four short stories”. He spoke about the future and prospects of research in molecular biology depicting the outcome of the research carried out by his group. As a part of the programme, the staff members who retired during 2011-12 were felicitated along with those who completed 25 years of service in CSIR. Mr SK Pal, Administrative Officer announced the cash award for excellence in sports during 2011-12 among the children of NEIST staff



members who will be awarded shortly. On the occasion, 4 SC/ST students of Meghalaya, Assam and Mizoram States who topped among the SC/ST students in their 10<sup>th</sup> final exams of respective state boards and had pursued science course in their 11<sup>th</sup> standard were presented with cash awards by Dr Rao. The Studentship Award for the children among the staff members of CSIR-NEIST securing above 90% in each individual science subject in their 12<sup>th</sup> standard board exams were presented by Dr Nagaraja. To mark the day, the bilingual Annual Report 2011-12 was released on the occasion by Dr Nagaraja. Also, the winners of Essay, Art and Quiz competitions held on the occasion of CSIR foundation day celebration were awarded. The first half of the day was observed as 'Open Day' and nearly 400 students from different schools of Jorhat town and adjoining areas visited the Institute.

### Vigilance Awareness Week observed

CSIR-NEIST observed Vigilance Awareness Week 2012 during 29 October to 3 November, 2012. The week was inaugurated by pledge taking ceremony on 29 October 2012 under the Chairmanship of Dr RC Boruah, Scientist-in-charge, CSIR-NEIST who administered pledge to all the employees. The Week was marked by exhibition of banners & posters in various parts of the Institute spreading message about the importance of keeping vigil in all spheres of life and to fight against all sorts of corruption. The Valedictory function was held on 5 November 2012 under the Chairmanship of Dr PG Rao, Director, CSIR-NEIST wherein Shri TP Singh, IPS, Principal, Police Training College, Dergaon attended as Chief Guest. Shri Singh said that 'Vigilance' means 'Transparency in Government Transactions'. He mentioned that the causes of corruption are embedded in the social, political and legal system, MNCs controlling national economy, illiteracy, poverty, etc. 'Right To Information' is very important in checking corruption and bringing transparency in Government organizations, he opined. Shri Singh further added that impartial media is the call of the day. Delivering his speech, Dr Rao said that corruption does not always mean monetary scam. Then there are actions where intentions are correct but the delay in action leads to a step towards corruption.



Shri TP Singh, IPS, Principal, Police Training College, Dergaon delivering his speech. Seated on the dais are (from right), Dr PG Rao, Director, CSIR-NEIST and Dr RC Boruah, Outstanding Scientist.

### National Science Day celebrated at CSIR-NEIST

CSIR-NEIST celebrated National Science Day 2013 on 28 February 2013. The programme was presided over by Dr RC Boruah, Acting Director, CSIR-NEIST in which Dr Prabir G Dastidar, Director and Policy Maker (R&D), MoES, GOI, New Delhi graced the occasion as Chief Guest and delivered the Science Day lecture on "Analytical framework for research and innovation studies with examples from some subject specialities". Dr Dastidar gave an overview of India's vision and its policies in diverse areas for economic growth and development. He briefed about the existing Innovations in Indian subcontinent for instance, the Invention of Zero and Decimal system, India as a home to one of the three ancient civilizations (Indus Valley Civilization), Traditional Knowledge System in Medicine, Dance, Art, paintings, etc. Dr Dastidar touched on various issues such as Internationalization of Science, S&T vis-à-vis food security for India, evolution of S&T policy in India over the years, competitive intelligence and its building blocks etc. and said that Science is the core of National Development and R&D should be linked with



(Left) Dr Prabir G Dastidar delivering the lecture (Right) Dr. PG Dastidar, Dr RC Boruah & Dr PK Bora seated from right.

commercial processes. He also gave a glimpse of the country's position with other developed and developing countries in terms of publications, research growth, knowledge economy index, GDP, etc. pointing out that science agencies and universities have evolved their respective law governing IPR in India in 2010. As part of the celebration, the laboratory was declared 'Open Day' for the visit of students and general public in which around 300 students from in and around Jorhat district visited the laboratory.

#### CSIR-NEIST Branch Laboratory Imphal celebrated National Science Day

The CSIR-NEIST Branch Laboratory, Imphal celebrated National Science Day on 28 February 2013 under the banner "DNA Clubs: DBT-TERI Mentoring Schools of the Northeast". For students upto class X Quiz competition was held among 5 finalist schools of DNA Clubs while spot-painting competition was opened for schools of Manipur. The theme of the spot-painting was "biodiversity". Chief Guest Shri L Nandakumar Singh, MLA, Guest of Honour Shri K Shyam, MLA and President Dr BG Unni, Chief Scientist distributed Bicycles and certificates to all the winners. National Science Day lecture was delivered by Prof N Rajmuhon, Chemistry Deptt, Manipur University.



Shri K Shyam Con Podciun delivering his address

## EXHIBITION

### North East Graduate Congress



CSIR-NEIST participated in the S&T exhibition held on the occasion of North East Graduate Congress, 2012 organized jointly by University of Science & Technology, Meghalaya (USTM) and CSIR-NEIST at USTM premises during 29-30 May 2012. In the exhibition, the Institute's activities and achievements were displayed through banners, posters, commercial samples based on CSIR-NEIST technologies, publication materials, video screening of films on CSIR-NEIST, etc. More than 500 participating students of the congress visited the exhibition stall.

### International Coir Tech Expo 2012

At the instance of Coir Board (Min. of MSME, Govt. of India), CSIR-NEIST participated in the International Coir Tech Expo 2012 held during 12-16 August 2012 at Marine Drive, Kochi, Kerala. As one of the event partners along with NSIC, NRDC, TERI, Rajiv Gandhi Centre for Biotechnology, NIO Goa, Maulana Azad National Institute of Technology, Bhopal and with Knowledge Partner, Kerala State Council for Science, Technology and Environment, CSIR-NEIST participated in this mega event and show cased its activities and technologies developed in the area of Coir fibres. Nearly 1000 visitors including entrepreneurs, industrialists, coconut growers, coir fibre suppliers and exporters visited CSIR-NEIST stall and expressed their interest to take up technology in different composite boards prepared by CSIR-NEIST using various binders like Polymer with LDPE, Natural resin, Cellulose acetate, Waste polyethylene etc.



*Dr Dipul Kalita (left), Scientist, interacting with the visitors at CSIR-NEIST stall.*

### Agri Tech India 2012



*Former Prime Minister Shri H D Deve Gowda inaugurating the Expo*



*Mrs Pramila Majumdar, Jr Scientist, interacting with the visitors at CSIR-NEIST stall.*