Techniche 2011 – the annual techno-management festival of the Institute – was held during 1–4 September 2011. The thirteenth edition of the Techniche had set the goal to understand the significance and celebrate innovation that has changed the course of man kind – be it the Internet or the Telephone or the Paperclip or the Wheel.

One of the main attractions of Techniche is the Lecture Series, where eminent scientists, business wizards, entrepreneurs, adventurers from around the world deliver lectures on their work, share their experiences and thus greatly inspire the students. This year too, people from diverse fields of knowledge participated in the event and shared their knowledge and experience with the student community. Among them were Mr. Stephen P. Morse, the chief architect of the Intel 8086 chip (the grand-daddy of today’s Pentium processor) which sparked the PC revolution 25 years ago; Ian Wright, host of the famous television travel show Globe Trekker, known for his witty banter; Dr. Rajendra Kumar Pachauri, who has served as the chair of the Intergovernmental Panel on Climate Change (IPCC) since 2002, and has been awarded the Nobel Peace Prize in 2007; Mr. M. K. Venu, Editor of The Financial Express; Dr. Lyn Evans, the project leader of the Large Hadron Collider.
A regional consultation meeting on formulation of 12th Five Year Plan of Department of Higher Education, Ministry of Human Resource Development, Govt. of India, was held at IIT Guwahati on 25 July 2011. Ms. Vibha Puri Das, Secretary, Higher Education, MHRD; Prof. Ved Prakash, Chairman, UGC; Prof. S.S. Mantha, Chairman, AICTE; Prof. V.N.R. Pillai, Chairman, DEC and VC, IGNOU; and Prof. Gautam Barua, Director, IIT Guwahati, along with other MHRD officials and Vice-Chancellors or their representatives of the universities of the NE states; officials from the Govts of the NE states; and noted academicians of the region were present in the meeting.

The main aim of the meeting was to receive views and suggestions of all the states of the north eastern states on each of the three broad areas of the Working Group on Higher Education, Technical Education and Private participation in Higher Education including Public Private Partnership.

In the meeting, major physical achievements of the first four years of the 11th Five Year Plan were highlighted.

Techniche also presented a great opportunity to showcase students’ talent on different technical issues. Robotics competition was one such module which witnessed large participation from all over the nation.

Some of the other events of Techniche-2011 were workshops on mobile making, robotics, aircraft making, exhibitions, paper presentations, quizzes, online events, Guwahati half marathon, and Technothlon – the international school olympiad.

(LHC), at CERN – the European Organization for Nuclear Research; Ms. Leila Chirayath Jenah, founder of Samasource, an award-winning social initiative; Mr. B. G. Verghese, veteran journalist and recipient of the Magsaysay Award; Mr. Jonar Nader, renowned leadership guru and author of How to Lose Friends and Infuriate People; Mr. Tim Samaras, storm chaser.

During the 11th Five Year Plan, 15 new Central Universities have been established in each State which did not have a Central University, except Goa. Eight new Indian Institutes of Technology, seven new Indian Institutes of Management, five new Indian Institutes of Science Education and Research, two new Schools of Planning and Architecture, ten new National Institutes of Technology have been established in various places across the country under this Plan. Elaborate discussions were held and numerous suggestions were made on the formulation of the 12th Five Year Plan (2012-2017) in Higher Education sector.

Prof. Ved Prakash and Ms. Vibha Puri Das

Academics and administrators present in the meeting.
Seminar/Conference/Workshop/Invited Talk Organised

Civil Engineering

Prof. Taiichi Hayashi, Disaster Prevention Research Institute, Kyoto University, Japan, presented a lecture on ‘Recent Trends of Rainfall Research in North Eastern Region of Indian Subcontinent’ on 24 August 2011.

Mr. M. S. Chawla, General Manager (EMG, Ash Utilisation and Afforestation) NTPC Limited, delivered a talk on the topic ‘Fly Ash–A Resource Material’ on 10 September 2011.

Mathematics


Prof. K. B. Athreya, Iowa State University, delivered a lecture on ‘Ancestor Problem for Branching Trees’ on 14 July 2011.

Dr. Avijit Joarder, Department of Statistics and Information Management, Reserve Bank of India, gave a talk on ‘Analysis of Type-II Progressively Hybrid Censored Competing Risks Data’ on 1 August 2011.

Prof. Anant R. Shastri, Department of Mathematics, IIT Bombay, delivered a speech on ‘Polynomial Representation of knots’ on 15 September 2011.

Quality Improvement Programme – Short Term Courses Organised

IIT Guwahati regularly organises QIP–Short Term Courses with an aim of upgrading the expertise, qualification and capabilities of the teachers of degree level technical institutions. The courses are sponsored by AICTE, MHRD. The following are the courses organised during July–September 2011:

1. Data Structures and Algorithms, 4-8 July 2011, Computer Science and Engineering, Dr. Pinaki Mitra
2. Tools for Bioresources Conservation, 11-15 July 2011, Biotechnology, Dr. Latha Ranjan and Dr. Utpal Bora
3. Society and the Web, 19-23 September 2011, Computer Science and Engineering, Dr. Sanasam Ranbir Singh and Dr. Amit Awekar
5. Computational Techniques in Physics, 1-6 August 2011, Physics, Dr. B. R. Boruah and Dr. S. Das
6. Recent Trends in fuels and Combustion, 29 August – 2 September 2011, Mechanical Engineering, Dr. P. Muthukumar and Dr. N. Sahoo
7. Digital Communication Techniques, 12-16 September 2011, Electronics and Electrical Engineering, Dr. P. R. Sahu

A Summer School on Efficient Fossil Energy Technologies was organised during 4-10 July 2011 jointly by Centre for Energy, IIT Guwahati and the University of Nottingham, UK. A group of thirty research students and teachers from University of Loughborough, the University of Nottingham and the University of Birmingham participated in the summer school and shared their views in the areas of fossil fuel technologies. Twenty seven research scholars from various Indian institutes, universities also participated in the school. Two professors from Pusan University, Korea and technical expert from Alhtom, Jadavpur University attended the summer school and delivered lectures. Faculty members associated with the Centre for Energy and from other departments of the Institute took part and delivered lectures in the summer school.
Workshop on Cancer Biology

A workshop entitled ‘Cancer Biology 2011: Basic Theoretical Aspect’ was organised by IIT DBT-Biotech Hub during 26-27 August 2011. Experts in this area like Dr. T. Madhan Mohan, Adviser, DBT, Govt. of India; Dr. B.B. Borthakur, BBCI, Guwahati; Dr. P. Nahar, IGIB, Delhi and Dr. D. Kumar, NBAGR, Karnal took part in the workshop and shared their knowledge with over 85 participating engineers, scientists, teachers, doctors and research scholars from all over the country. An electronic souvenir was published to mark the occasion. Dr. U. Bora, Associate Professor and Dr. R. Tamuli, Assistant Professor, Biotechnology were the coordinators of the workshop.

Biotech Hub Coordinators Meet

A meeting of the Biotech Hub Coordinators was jointly organised by the IIT DBT-Biotech Hub, Centre for the Environment and Department of Biotechnology, Govt. of India on 26 August 2011. The purpose of the meeting was to find ways to enhance the functioning of the Biotech Hubs. The meeting was chaired by Dr. T. Madhan Mohan, Adviser, DBT and the coordinators were addressed by Prof. C. Mahanta, IITG Biotech Hub Steering Committee, Prof. A. Goyal, Biotechnology, IITG and DBT Member, and Prof. P. Bora, DBT Member CVSc, Guwahati. A total of 13 coordinators representing 10 Biotech Hubs participated in the meeting.

New Projects Started

**Biotechnology**

**Title:** Development of aptamer based molecular diagnostics for breast cancer; **Sponsor:** DBT, GoI; **Principal Investigator:** Utpal Bora

Development and application of recombinant and other cellulases for large scale recycling of cellulosic biomass; DBT, GoI; Arun Goyal

**Chemical Engineering**

Process intensification in drag reduction in high viscous multi phase flow through pipeline; CSIR; S. K. Majumder

Development of Plant Prototype for Purification of Industrial Wastewater by Microbubbles; DST, GoI; P. Ghosh

**Civil Engineering**

Seismic Vulnerability Assessment of Building Types in India; National Disaster Management Authority; K. Dasgupta, H. B. Kaushik and S. K. Deb

**Humanities and Social Sciences**

Water and Livelihood – Assessing climate change vulnerability and potential adaptive strategies for Eastern Himalaya, India; SIDA (In collaboration with Lund University, Sweden); Anamika Barua

**Mathematics**

Distance problems for structured matrix polynomials; DST, GoI and DAAD, Germany; Dr. Shreemayee Bora and Dr. Christian Mehl (TU Berlin)

**Physics**

Design and implementation of a high speed wavefront sensor of light beams; DIT, GoI; Bosanta R Boruah

CORRAL–Chalk the Talk

CORRAL, a forum of the Centre for Nanotechnology, regularly organises seminar programmes–Chalk the Talk–on topics related to nanoscience and technology with an aim to create conducive environment for the exchange of ideas related to nanoscience, engineering and technology. Following are the talks organised in the last three months:

- Easy formation of nanowire thin films from solution deposition of organic semiconducting polymers,
- Large Area, Few-Layer Graphene Films on Arbitrary Substrates by Chemical Vapor Deposition,
- Surface Acoustic Wave Hydrogen Gas sensor using graphene-like nanosheet on LiTaO3.

**Foreign Student Internship**

Two students from foreign universities (EIVP, France and Energy Technology Institute, Zimbabwe) have successfully completed their internship at IIT Guwahati in September.
Publications (Research Journal/Book/Book Chapter)

Biotechnology
S. Patel, D. Kothari and A. Goyal, “Purification and characterisation of an extracellular dextranase from *Pediococcus pentosaceus* isolated from soil of North East India”, *Food Technology and Biotechnology*, 49 (3), pp 297-303, 2011

Chemical Engineering

Chemistry

Civil Engineering

Humanities and Social Sciences

Mathematics
Mechanical Engineering

Physics


Centre for Energy


Book Chapter
Biotechnology

Humanitites and Social Sciences

The 65th Independence Day of India was celebrated with enthusiasm on 15 August 2011 in the Institute campus. The Director of the Institute, Prof. Gautam Barua, hoisted the tricolour and addressed the gathering. This was followed by colourful cultural programmes presented by the students of the Institute, the IIT Guwahati Kendriya Vidyalaya and Akshara School and children of the campus.

Independence Day Celebrated

The 65th Independence Day of India was celebrated with enthusiasm on 15 August 2011 in the Institute campus. The Director of the Institute, Prof. Gautam Barua, hoisted the tricolour and addressed the gathering. This was followed by colourful cultural programmes presented by the students of the Institute, the IIT Guwahati Kendriya Vidyalaya and Akshara School and children of the campus.

Awards and Honours

Prof. Arun Goyal, Biotechnology, was elected as fellow, National Academy of Agricultural Sciences, India 2011.

Dr. Kannan Pakshirajan, Associate Professor, Biotechnology, has been awarded (1) the BOYSCAST Fellowship for the year 2010-2011 by DST, GoI, to conduct advanced research at Department of Environmental Resources, UNESCO-IHE, Delft, the Netherlands, for a period of twelve months starting August 2011; (2) the Hiyoshi Young Leaf Award-2010 by Hiyoshi Corporation, Japan.

Dr. Jashmini Deka, Research Associate, Chemistry, received Materials Research Society of India (MRSI) Young Scientist Award 2011 in the Young Scientists’ Colloquium-2011 held on 4 August 2011 at the Indian Association for the Cultivation of Science (IACS), Kolkata.

Total Number of Students on Campus as on September 2011

<table>
<thead>
<tr>
<th>Programme</th>
<th>No. of Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preparatory</td>
<td>10</td>
</tr>
<tr>
<td>BTech/BDes</td>
<td>2046</td>
</tr>
<tr>
<td>MTech/MDes</td>
<td>678</td>
</tr>
<tr>
<td>MSc</td>
<td>229</td>
</tr>
<tr>
<td>MA</td>
<td>85</td>
</tr>
<tr>
<td>PhD</td>
<td>816</td>
</tr>
<tr>
<td>Dual (MTech + PhD)</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>3867</td>
</tr>
</tbody>
</table>

PhDs Completed During July–September 2011

<table>
<thead>
<tr>
<th>Department/Centre</th>
<th>BTech/BDes</th>
<th>MSc/MA</th>
<th>MTech/MDes</th>
<th>PhD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biotechnology</td>
<td>45</td>
<td>—</td>
<td>29</td>
<td>26</td>
</tr>
<tr>
<td>Chemical Engineering</td>
<td>64</td>
<td>—</td>
<td>52</td>
<td>19</td>
</tr>
<tr>
<td>Chemistry</td>
<td>38</td>
<td>31</td>
<td>—</td>
<td>39</td>
</tr>
<tr>
<td>Civil Engineering</td>
<td>73</td>
<td>—</td>
<td>82</td>
<td>18</td>
</tr>
<tr>
<td>Computer Science and Engineering</td>
<td>73</td>
<td>—</td>
<td>54</td>
<td>7</td>
</tr>
<tr>
<td>Design</td>
<td>39</td>
<td>—</td>
<td>20</td>
<td>7</td>
</tr>
<tr>
<td>Electronics and Electrical Engineering</td>
<td>111</td>
<td>—</td>
<td>45</td>
<td>23</td>
</tr>
<tr>
<td>Humanities and Social Sciences</td>
<td>—</td>
<td>46</td>
<td>—</td>
<td>12</td>
</tr>
<tr>
<td>Mathematics</td>
<td>41</td>
<td>38</td>
<td>—</td>
<td>5</td>
</tr>
<tr>
<td>Mechanical Engineering</td>
<td>72</td>
<td>—</td>
<td>84</td>
<td>21</td>
</tr>
<tr>
<td>Physics</td>
<td>37</td>
<td>39</td>
<td>—</td>
<td>20</td>
</tr>
<tr>
<td>Centre for Energy</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>4</td>
</tr>
<tr>
<td>Centre for the Environment</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>2</td>
</tr>
<tr>
<td>Centre for Nanotechnology</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>593</td>
<td>154</td>
<td>366</td>
<td>206</td>
</tr>
</tbody>
</table>
Trainees with the trainers and other officials of the Institute (photo above); Dr. Brajendra Nath Raychoudhury, Registrar, IIT Guwahati (1L) and Prof. Samarendra Dandapat, Dean, Administration, IIT Guwahati (2L) along with the trainers from SERT and Dr. Saurabh Basu, Faculty In-Charge, Training and Placement, IIT Guwahati (1R) at the inauguration function of the programme (photo left).

A training programme for the group B and C employees of IIT Guwahati was organised during 26-29 August 2011. The programme was conducted by Society for Economic Research and Training (SERT), New Delhi. In this four day training programme the employees had lively sessions on various aspects of office procedure and Right to Information Act 2005.

A four day workshop on handmade paper making was organised at the Department of Design during 7-10 September 2011. The workshop was conducted by Mr. Anupam Chakraborty, an expert in printmaking and handmade papers. Students of BDes and MDes programmes took part in the workshop. An exhibition of students’ works was also held on the concluding day.