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Typography Day 2013

'Typography Day' – the International Conference on Typography was held at IIT Guwahati during 7-9 March 2013. The Department of Design organised the conference in collaboration with Industrial Design Centre, IIT Bombay with support from India Design Association (InDeAs). It was one of the first of its kind international design conference in Northeastern part of India.

The conference was devoted to addressing issues faced by type designers, type users and type educators. The theme for this year's event was 'Display Typography' with focus on experiments and explorations in display typography design, display typography design with multilingual scripts, display typography design in native (indigenous) scripts, display typography design within local contexts and research activities in display typography. Sub themes include Typography in education, media, e Typography, Environmental Typography, Commercial Typography, Vernacular Typography and Visual Literacy.

The event was planned across three days; first day for workshops followed by two days of conference that included presentations of invited keynote speakers, eminent academicians, blind juried papers, industries, research scholars and students. Prof. Gautam Barua, Director, IIT Guwahati, inaugurated the conference and addressed the participants. There were two keynote addresses, delivered by Prof. Mary Dyson, University of Reading, United Kingdom and Prof. Kok Cheow Yeoh, Nanyang Technological University, Singapore. The event received a good number of quality papers across the globe from which 28 papers were selected for oral presentation and 12 papers for poster presentation.

An international poster competition was organised as part of the conference where a total of 480 posters were received from various parts of the world among which 25 entries were chosen as winning posters. Moreover there was an exhibition

of works from Design Schools and interesting and innovative typographic installations designed by students of Department of Design.

More than 180 academicians, researchers, and students registered for the conference. Prof. Debkumar Chakrabarty, Design, was in the Chair and Dr. D. Udaya Kumar, Assistant Professor, Design, was the organising secretary of the conference.



Prof. Gautam Barua, Director, IIT Guwahati at the inaugural session



Participating students, scholars and resource persons

Chairman, Board of Governors



Dr. R. P. Singh has been appointed as Chairman, Board of Governors of IIT Guwahati for another term of three years, till February 2016.

3rd Indo-USA Neutrino Collaboration Meeting

IIT Guwahati hosted the 3rd Indo-US Neutrino Collaboration meeting during 7-10 February 2013. About 35 participants from both India and USA participated in this meeting.

The focus of the meeting was to review the ongoing research work on the current generation of neutrino experiments at Fermi Lab such as MINOS, MINOS+ and Nova, in which India is a partner and the planning for the next generation Long Baseline Neutrino Experiment (LBNE).

This collaboration is strategic in nature and is part of a wider collaboration (supported by DAE and DST) to develop the technology for the future accelerator driven nuclear fission reaction using Thorium (which is abundant in India) to meet India's future energy need. Dr. Bipul Bhuyan, Assistant Professor, Department of Physics, was the convener of the meeting.

Conference on Recent Trends in the Study of Compact Objects



A national conference on Recent Trends in the Study of Compact Objects: Theory and Observation was organised by the Department of Physics during 11-13 March 2013. The aim of the conference was to bring together a group of researchers to discuss theoretical and observational progress toward the understanding of accretion disc and jet around compact objects. In the meeting, 45 delegates which includes distinguished academicians and scientists like Prof. Sandip K. Chakrabarti, SNBNCBS; Prof. A. R. Rao, TIFR; Prof. D. J. Saikia, CCSU; Prof. K. P. Singh, TIFR; Prof. Biswajit Paul, RRI and Prof. Andrzej Zdziarski, NCAC, Poland shared their views on theoretical modelling, numerical simulation and observational study of disc-jet systems through their technical presentations.

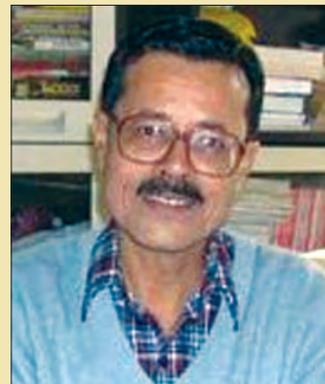
The conference was sponsored by S. N. Bose National Centre for Basic Sciences, Kolkata in the format of Advance Research Workshop under Theoretical Physics Seminar Circuit.

Dr. Santabrata Das, Assistant Professor, Physics was the convener of the conference.

Superannuated



Prof. Mihir Kanti Chaudhuri
Chemistry



Prof. Anil Mahanta
Electronics and Electrical Engineering

International Conference and Workshop on Numerical Linear Algebra and Its Applications

The International Conference on Numerical Linear Algebra and its Applications (NLAA 2013) was organised by the Department of Mathematics during 15–18 January 2013. The event which was endorsed by the International Linear Algebra Society (ILAS) saw a

healthy intermingling of young and experienced researchers from ten different countries. The talks delivered in the conference were mostly based on invitation with some contributed talks given by young researchers and faculty. The plenary and invited talks were

delivered by some of the world's leading experts and these highlighted the state of the art research in Numerical Linear Algebra and its many applications. On the other hand, the young researchers got a valuable opportunity to present their work to a very eminent audience.



The conference was preceded by a workshop on Numerical Linear Algebra at the same venue during 7–12 January 2013. The workshop was fully sponsored by the National Centre for Mathematics which is a joint initiative of IIT Bombay and TIFR Mumbai and was a part of its 'Advanced Training in Mathematics' series of workshops that seek to promote Mathematics research in the country.

The resource persons for the workshop – Prof. David

Watkins from the Washington State University, Prof. Michael Overton from the Courant Institute of Mathematical Sciences, Prof. D. Steven Mackey from Western Michigan University, Prof. Ravindra Bapat from ISI Delhi and Prof. Volker Mehrmann, Prof. Christian Mehl and Prof. Michael Karow from TU Berlin – were some of the world's leading experts in the area. The workshop saw the enthusiastic participation of 35 PhD and post doctoral scholars from different institutions in India and abroad. These were selected from an overwhelming number of 250 applications from both India and abroad.

The local organising committee of the conference was chaired by Prof. Rafikul Alam with Dr. Shreemayee Bora, Associate Professor, Mathematics, as the organising secretary whereas the workshop was coordinated by Prof. Rafikul Alam and Dr. Shreemayee Bora.



Spring time at IIT Guwahati campus

International Women's Day



Teresa Rehman

International Women's Day was celebrated at IIT Guwahati on 8 March 2013. This year the UN theme for the International Women's Day was 'A promise is a promise: Time for action to end violence against women', while International Women's Day 2013 declared the year's theme as 'The Gender Agenda: Gaining Momentum'.

Prof. Gautam Barua, Director, IIT Guwahati attended the event and addressed the gathering. As part of the celebration, two noted speakers presented talks on women's issues. Mrs. Teresa Rehman, Managing Editor, *The Thumb Print*, a contemporary news magazine spoke on the theme 'Women in Media'. The second speaker, Ms. Banamallika Choudhury spoke on the topic 'Being feminist in North East India-Identity politics and Women'. The talks followed interesting queries and lively discussions.

Students of the Department of Humanities and Social Sciences raised various issues concerning women through various creative manifestations like song, dance and drama.



Banamallika Choudhury

Construction site for the 10th boys' hostel with a capacity of 1000 single-bedded rooms



Publications (Research Journal/Book/Book Chapter)

Research Journal

Biotechnology

A. N. Singh, P. Yadav and V. K. Dubey, "cDNA cloning and molecular modelling of Procerain B, a novel cysteine protease isolated from *Calotropis procera*", *PLOS ONE*, 8 (3), 2013 (DOI: 10.1371/journal.pone.0059806)

A. Kakoti and P. Goswami, "Heart type fatty acid binding protein: structure, function and biosensing applications for early detection of myocardial infarction", *Biosensors and Bioelectronics*, 43, 400–411, 2013

P. Goswami, S. S. R. Chinnadayala, M. Chakraborty, A. K. Kumar and A. Kakoti, "An overview on alcohol oxidases and their potential applications", *Applied Microbiology and Biotechnology*, 2013 (DOI: 10.1007/s00253-013-4842-9)

S. Choudhury, P. Panda, L. Sahoo and S. K. Panda, "Reactive oxygen species signalling in plants under abiotic stress", *Plant Signalling and Behavior*, 8 (4), 2013

P. Mazumdar, V. B. Borugadda, V. V. Goud and L. Sahoo, "Effect of storage parameters on stability of *Jatropha* derived biodiesel", *International Journal of Energy and Environmental Engineering*, 2013 (DOI: 10.1186/2251-6832-4-13)

S. Nag, K. M. N. Prasad, A. Bhowmick, R. Deshmukh and V. Trivedi, "PfRIO-2 Kinase is a potential therapeutic target of antimalarial protein kinase inhibitors", *Current Drug Discovery Technologies*, 10, 85-91, 2013

R. Deshmukh and V. Trivedi, "Methemoglobin exposure produces toxicological effects in macrophages due to multiple ROS spike induced apoptosis", *Toxicology in Vitro*, 27, 16-23, 2013

S. N. Balaji and V. Trivedi, "Extracellular methemoglobin primes red blood cell aggregation in malaria: An in-vitro mechanistic study", *FEBS Letters*, 587, 350-357, 2013

S. N. Balaji and V. Trivedi, "Methemoglobin incites the primaquine toxicity through single electron oxidation and modification", *Journal of Basic and Clinical Physiology and Pharmacology*, 14, 1-10, 2013 (DOI: 10.1515/jbcpp-2012-0058)

Chemistry

A. T. Khan, A. Ghosh, S. Basha R. and M. H. Mir, "Synthesis of trisubstituted 1*H*-pyrazole-4-carbodithioate in a one-pot three-component condensation reaction catalysed by ferric sulfate", *Asian Journal of Organic Chemistry*, 2, 126-129, 2013

A. T. Khan, R. SidickBasha and M. Lal, "Bromodimethylsulfonium bromide (BDMS) catalysed synthesis of 2,3-unsaturated-O-glycosides via Ferrier rearrangement", *ARKIVOC*, 2, 201-212, 2013

A. T. Khan, M. Lal and R. SidickBasha, "Regio- and diastereoselective synthesis of trans-2,3-dihydrofuran derivatives in an aqueous medium", *Synthesis*, 45, 406-412, 2013

R. A. Laskar, N. A. Begum, M. H. Mir, S. Ali and A. T. Khan, "Vanadium (IV) acetylacetonate catalysed stereoselective syntheses of β -enaminoesters and β -enaminones", *Tetrahedron Letters*, 54, 436-440, 2013

Civil Engineering

T. V. Bharat, P. V. Sivapullaiah and M. M. Allam, "Novel procedure for the estimation of swelling pressures of bentonites based on diffuse double layer theory", *Environmental Earth Sciences*, 2013 (DOI: 10.1007/s12665-012-2128-7)

R. K. Bhattacharjya and S. Chaurasia, "Geomorphology based semi-distributed approach for modelling rainfall-runoff process", *Journal of Water Resources Management*, 27 (2), 567-579, 2013

C. Marthong, A. Dutta and S. K. Deb, "Seismic rehabilitation of RC exterior beam-column connections using epoxy resin injection", *Journal of Earthquake Engineering*, 17 (3), 378-398, 2013

A. M. Choudhury, A. Dutta and S. K. Deb, "Effective retrofitting of plain concrete elements using fibre reinforced polymer wrapping", *Journal of Structural Engineering*, 39 (6), pp. 687-694, 2013

N. K. Sahoo, P. K. Ghosh and K. Pakshirajan, "Biodegradation of 4-Bromophenol using *Arthrobacter chlorophenicus* A6 in a novel packed bed reactor", *Journal of Bioscience and Bioengineering*, 115 (2), 182-188, 2013

A. R. Senthil Kumar, M. K. Goyal, C. S. P. Ojha, R. D. Singh, P. K. Swamee and R. K. Nema, "Application of ANN, fuzzy logic and decision tree algorithms for the development of reservoir operating rules", *Water Resources Management*, 27 (3), 911-925, 2013

J. Singh and A. S. Kalamdhad, "Assessment of bioavailability and leachability of heavy metals during rotary drum composting of green waste (water hyacinth)", *Ecological Engineering*, 52, 59-69, 2013.

J. Singh and A. S. Kalamdhad, "Bioavailability and leachability of heavy metals during water hyacinth composting", *Chemical Speciation and Bioavailability*, 25(1), 1-14, 2013.

S. Patowary and A. K. Sarma, "Hydrodynamic flood routing considering piedmont zone", *International Journal of Civil and Structural Engineering*, 3 (3), 464-474, 2013

Electronics and Electrical Engineering

M. K. Bhuyan, V. V. Ramaraju and Y. Iwahori, "Hand gesture recognition and animation for local hand motions", *International Journal of Machine Learning and Cybernetics*, 2013, (DOI: 10.1007/s13042-013-0158-4)

K. Karthik, "Constructing intrinsic image signatures by random downsampling and differential mean-median information", *International Journal of Tomography and Simulation*, 22 (1), 112-144, 2013

Humanities and Social Sciences

A. Barua and M. Das, "Re-visiting inter-subjectivity in Edmund Husserl: A phenomenological exploration of *The Self and Its Other* by J. N. Mohanty", *Research Expo: International Multidisciplinary Research Journal*, 2013

D. Hussain and B. Bhushan, "Posttraumatic growth experiences among Tibetan refugees: A qualitative investigation", *Qualitative Research in Psychology*, 10 (2), 204-216, 2013

Mathematics

P. Agrawal and G. K. Das, "Improved interference in wireless sensor networks", *Distributed Computing and Internet Technologies, Lecture Notes in Computer Science*, 7753, 92-102, 2013

K. Mondal, A. Talwar, P. S. Mandal and B. P. Sinha, "Localisation based on two bounds reflected signals in wireless sensor networks", *Distributed Computing and Internet Technology, Lecture Notes in Computer Science*, 7753, 334-346, 2013.

P. Das and S. Natesan, "A uniformly convergent hybrid scheme for singularly perturbed system of reaction-diffusion Robin-type boundary-value problems", *Journal of Applied Mathematics and Computing*, 41 (1-2), 441-471, 2013

S. Palaparathi, "Closed geodesic lengths in hyperbolic link complements in S^3 ", *International Journal of Pure and Applied Mathematics*, 83 (1), 2013

Mechanical Engineering

D. N. Basu, S. Bhattacharyya and P. K. Das, "Influence of geometry and operating parameters on the stability response of single-phase natural circulation loop", *International Journal of Heat and Mass Transfer*, 58 (1-2), pp. 322-334, 2013

S. Karthick, P. Muthukumar, M. Linder, R. Mertz and R. Kulenovic, "Measurement of thermochemical properties of some metal hydrides - titanium (Ti), misch metal (Mm) and lanthanum (La) based alloys", *International Journal of Hydrogen Energy*, 2013 (DOI: 10.1016/j.ijhydene.2013.02.009)

B. Satya Sekhar and P. Muthukumar, "Studies on metal hydride based single-stage heat transformer", *International Journal of Hydrogen Energy*, 2013 (DOI 10.1016/j.ijhydene.2012.09.095)

Physics

V. Prasad, B. Bhuyan (et. al.) "Search for di-muon decays of a light Higgs boson in the radiative decays of $Y(1S)$ ", *Physical Review D (Rapid Communications)*, 87, 031102 2013

D. Kumar, A. Das and B. R. Boruah, "A simple experimental arrangement to generate optical vortex beams", *Review of Scientific Instruments*, 84, 026103, 2013

A. Das and B. R. Boruah, "Beam deflection by an aperiodic binary diffraction grating", *Journal of Optics*, 15, 025709, 2013

B. Santara and P. K. Giri, "Impact of reaction temperature, stirring and cosolvent on the solvothermal synthesis of anatase TiO_2 and TiO_2 /titanate hybrid nanostructures: Elucidating the growth mechanism", *Materials Chemistry and Physics*, 137 (3),

928-936, 2013

S. Dhara and P. K. Giri, "Tin nanoparticles decorated ZnO nanowires heterostructure: photocurrent and photoluminescence properties", *Journal of Experimental Nanoscience*, 8, 332, 2013

A. Alberti, T. Ewerth, P. Gambino and S. Nandi, "Kinetic operator effects in $B^- \rightarrow Xc\bar{\nu}$ at $O(\alpha_s)$ ", *Nuclear Physics B*, 870 (1), 16-29, 2013

A. Kundu, S. Nandi, S. K. Patra and A. Soni, " $B_s \rightarrow D_s K$ as a Probe of CPT Violation", *Physical Review D*, 87, 016005, 2013

P. Kumar and A. K. Sarma, "Frequency modulated few-cycle-optical pulse-train induced controllable ultrafast coherent population oscillations in two-level atomic systems", *Physical Review A*, 87, 025401, 2013

M. Saha and A. K. Sarma, "Solitary wave solutions and modulation instability analysis of the nonlinear Schrodinger equation with higher order dispersion and nonlinear terms", *Communications in Nonlinear Science and Numerical Simulation*, 2013 (DOI: 10.1016/j.cnsns.2012.12.028)

Energy

A. Ranjan, R. Mayank and V. S. Moholkar, "Development of semi-defined rice straw-based medium for butanol production and its kinetic study", *3 Biotech*, 2013 (DOI: 10.1007/s13205-013-0120-x)

P. Kalita, U. K. Saha and P. Mahanta, "Effect of biomass blending on hydrodynamics and heat transfer behavior in a cold pressurised circulating fluidised bed unit", *International Journal of Heat and Mass Transfer*, 60, 531-541, 2013

A. Ranjan, S. Khanna and V. S. Moholkar, "Feasibility of rice straw as alternate substrate for biobutanol production", *Applied Energy*, 103, 32-38, 2013

P. Kalita, M. Clifford, K. Kalita, P. Mahanta and U. K. Saha, "Characterisation and analysis of thermal response of rice husk for gasification applications", *Journal of Renewable and Sustainable Energy*, 5, 013-119, 2013

H. A. Choudhury and V. S. Moholkar, "An optimisation study of fischer-tropsch synthesis using commercial cobalt catalyst", *International Journal of Scientific Engineering and Technology*, 2 (1), 31-39, 2013

S. Khanna, S. Chakma and V. S. Moholkar, "Phase diagrams for dual frequency sonic processors using organic liquid medium", *Chemical Engineering Science*, 2013 (DOI: 10.1016/j.ces.2013.02.016)

S. Khanna, A. Goyal and V. S. Moholkar, "Mechanistic Investigation of ultrasonic enhancement of glycerol bioconversion by immobilised *Clostridium pasteurianum* on silica support", *Biotechnology and Bioengineering*, 2013 (DOI: 10.1002/bit.24839)

Nanotechnology

K. Mondal, P. Kumar and D. Bandyopadhyay, "Electric field induced instabilities of thin leaky bilayers: Pathways to unique morphologies and miniaturisation", *The Journal of Chemical Physics*, 138, 024705, 2013

A. Hens, K. Mondal and D. Bandyopadhyay, "Self-organised pathways to nanopatterns exploiting the instabilities of ultrathin confined bilayers", *Physical Review E*, 87 (2), 022405, 2013

R. Khandelia, A. Jaiswal, S. S. Ghosh, and A. Chattopadhyay, "Gold nanoparticle-protein agglomerates as versatile nanocarriers for drug delivery", *Small*, 2013 (DOI: 10.1002/sml.201203095)

Books/Book Chapter

Biotechnology

H. Upadhyaya, L. Sahoo and S. K. Panda, "Molecular physiology of osmotic stress in plants", *Molecular Stress Physiology of Plants*, Eds. G.R. Rout and A.B. Das, Springer India, 2013 (ISBN: 9788132208068)

Electronics and Electrical Engineering

M. K. Bhuyan and T. Malathi, "Review of the application of matrix

information theory in video surveillance", *Matrix Information Geometry*, Ed. Frank Nielsen, Rajendra Bhatia, Springer Berlin Heidelberg, 293-251, 2013 (ISBN: 9783642302312)

Humanities and Social Sciences

A. Barua, "Mobile phone and the philosophy of discourse", *Philosophy of Cultures: A Contemporary Understanding*, Eds. Vanlalnghak and L. Lenka, pp. 73-80, 2013

Mechanical Engineering

M. Ravi Sankar, J. Ramkumar and V. K. Jain, "Abrasive flow finishing for micromanufacturing", *Micromanufacturing Processes*, Ed. V. K. Jain, CRC Press, Taylor and Francis, 2013 (ISBN: 9781439852903)

V. K. Jain, Ajay Sidpara, M. R. Sankar and M. Das, "Micromanufacturing: An introduction", *Micromanufacturing Processes*, Ed. V. K. Jain, CRC Press, Taylor and Francis, 2013 (ISBN: 9781439852903)

Republic Day Celebrated

The 64th Republic Day of India was celebrated on 26 January 2013 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, IIT Guwahati Akshara School and children of the campus. Prof. Gautam Barua felicitated the medal winners of the Inter-IIT Students and Staff

meets held at IIT Roorkee. Retiring Institute employee Shri Mohesh Chandra Kalita was also felicitated. Employees and students of the Institute and residents of the campus were present throughout the function.



Awards and Honours



Dr. Biman B. Mandal, Assistant Professor, Biotechnology received MAHE Award 2012 given by Society for Biomaterials and Artificial Organs (India) for Best Scientist Presentation at BIND-12 International Conference held at IISC, Bangalore, India.

Prof. Arun Chattopadhyay, Chemistry, received the first Young Career Award in Nano Science and Technology (2013), instituted by the Nanomission of the Department of Science and Technology, Govt. of India. The award was presented



Prof. Arun Chattopadhyay receiving the Young Career Award from Prof. C. N. R. Rao, Chairman, Nano Mission Council, Govt. of India

in Nano India–2013, held at NIIST, Thiruvananthapuram, on 19 February 2013.

Dr. Subhas Chandra Pan, Assistant Professor, Chemistry, has been selected (as head) for the Max Planck Partner group at the Indian Partner Institution programme for the year 2013-2016 and will receive 20,000 euros per annum from MPI and equivalent amount in rupees from DST.

Dr. T. V. Bharat, Assistant Professor, Civil Engineering, received INSPIRE (Innovation in Science Pursuit for Inspired Research) Faculty award, DST, worth Rs. 35 lakhs for conducting research on "Infiltration and drainage studies for designing efficient retention ponds in low per-capita water available regions".

Dr. Manish Kumar Goyal, Assistant Professor, Civil Engineering, has been awarded prestigious JSPS (Japan Society for the Promotion of Science) fellowship award, 2013 to pursue research at University of Tokyo, Tokyo, Japan.

Dr. Manas Kamal Bhuyan, Assistant Professor, Electronics and Electrical Engineering received the National Award for "Best Applied Research/Technological Innovation" by Government

of India from the Honorable President of India, Shri Pranab Mukherjee, at Vigyan Bhawan, New Delhi on 6 February 2013.



Dr. Manas Kamal Bhuyan receiving the award from the Honourable President of India, Shri Pranab Mukherjee

Dr. P. Muthukumar, Associate Professor, Mechanical Engineering, won Young Engineer Award -2012, from Senior Engineers Forum of Greater Guwahati.

Four student teams of Department of Design have won best design awards in Rich Interactive Narrative competition sponsored by Microsoft Research. The teams comprise of Minal Jain, Mannu Amrit, Anvay Meshram, Ranju Ravindran, Ishpreet Batra, Raina Agarwal, Nishtha Mehrotra, Himanshu Seth, Anjali, Yuva Raj, Jatin Bajaj. The students will visit Microsoft Research India and present their design in TechVista event.

A group of students of IIT Guwahati has won silver for their project 'Chemically triggered release of molecular cargo encapsulated within the DNA icosahedron' in Biomolecular Design (BIOMOD) 2012 held at Wyss Institute, Harvard University. The team comprised of Shaunak Kar, Harsha, Bharath (BTech, Biotechnology), S. Anand (BTech, Chemical Science and Technology), Bharath Srikanth (BTech, Chemical Engineering) and Anusuya Banerjee (National Centre for Biological Sciences in Bangalore, Karnataka). Dr. Yamuna Krishnan at NCBS mentored the team.

Mr. Somasekhar Bondalapati, research student, Department of Chemistry, received the first prize of Eli Lilly Outstanding Thesis Awards 2012. The award consists of USD 1500 and a Lilly Plaque. He worked under the guidance of Prof. Anil K. Saikia, Department of Chemistry.

Ms. Swati Khanna, research student, Centre for Energy, has been awarded post doctorate fellowship for one year, starting from March 2013, in the Department of Chemical Engineering, University of Massachusetts, Amherst, USA.

Mr. Sourav Prasad, MTech student, Biotechnology, has won first prize for best oral presentation in the 'Young Researcher's Conference (YRC) 2013' organised by Institute of Chemical Technology (ICT) Mumbai. Moreover his MTech project work has received best project award in the same conference.

Guest Lecture/Seminar

Biotechnology

Dr. Varsha Pardesi, National Chemical Laboratory, Pune gave a lecture on 'Understanding flax (*Linum usitatissimum* L.) seed biology: An unique source of functional foods' on 21 January 2013.

Humanities and Social Sciences

Prof. Ranjit Dev Goswami, Department of English, Gauhati University, delivered a lecture on Visions and Revisions: Aspects of Social History of Nineteenth Century Assam on 18 January 2013.



Daniel Bender, University of Toronto, delivered a lecture on Teaching and Studying Animals and Foods on 24 January 2013

Caroline R. Wiltshire, Department of Linguistics, University of Florida, Gainesville delivered a lecture on Aspects of Indian English on 15 February 2013

Yogendra Yadav delivered a lecture on Politics as Yuga-Dharma on 25 February 2013.

Dr. Jayeeta Sharma, Assistant Professor of History, University of Toronto delivered a lecture on Gardens and Frontiers: From Assam to the Eastern Himalayas on 15 February 2013.

Prof. C. Matthew Snipp, Professor of Sociology, Stanford University, USA delivered a lecture on The Colonial Legacy of Race and Ethnicity in the United States on 22 March 2013.

Mathematics

Prof. Biswa Nath Datta, Northern Illinois University, USA, gave a speech on Computational and Optimisation Methods for Quadratic Inverse Eigenvalue Problems in Vibration: Linking Mathematics to Industry on 11 January 2013.

Prof. Kapil Ahuja, Max Planck Institute for Dynamics of Complex Technical Systems, Germany, gave a speech on 'Recycling Krylov Subspaces and Preconditioners' on 17 January 2013.

Mr. Sutanu Roy, Georg-August Universitat, Germany, gave a lecture on 'On canonical commutation relation' on 19 March 2013.

Physics

Dr. Ian Nugent, a Humboldt fellow with III. Physikalisches Institut B, Germany presented a talk on the 'Higgs Searches at LHC, CERN' during 18-24 January 2013.

Prof. Sandip K. Chakrabarti, S. N. Bose National Centre for Basic Sciences, Kolkata gave lecture on 'Chemical Evolution of the Universe and Origin of Life' on 12 March 2013.

Prof. Takashi Nakajima, Kyoto University, Japan, delivered a talk entitled 'Nonlinear optics by fs / ps/ ns laser pulses' on 14 March 2013.

Annual Lecture Series of the Department of Humanities and Social Sciences

Third Lecture

Prof. Nayanjot Lahiri, University of Delhi, delivered a lecture on 'The Indus Civilization: The Story of its Discovery' on 7 January 2013.

Fourth Lecture

Prof. A. R. Venkatachalapathy, Madras Institute of Development Studies, Chennai delivered a lecture on 'Not By Bread Alone! Three Moments in the History of Food in Tamilnadu' on 7 February 2013.

Fifth Lecture

Prof. V. K. Kool of SUNY-IT, Utica, NY, delivered a lecture on 'The Cinderella of Psychology: Self-control—Its Implications for Violence at Work and Technology' on 28 February 2013.

Sixth Lecture

Prof. Hiren Gohain, retired Professor, Department of English, Gauhati University, and prominent thinker, delivered the final lecture of the Annual Lecture Series on 26 March 2013. The title of his lecture was 'The Meaning of Development'.



Prof. Hiren Gohain delivering his lecture

New Research Projects

Biotechnology

Title: Molecular cloning and functional characterisation of cowpea drought responsive transcription factor gene DREB2A; **Sponsor:** DBT; **Duration:** 3 years; **Principal Investigator:** L. Sahoo

Chemical Engineering

Title: CO₂-capture by CO₂-selective thin-film composite polymeric membrane containing amine carrier; **Sponsor:** DST; **Duration:** 3 years; **Principal Investigator:** Bishnupada Mandal

Title: Development of degradable polymer based food packaging 'Green-PACK'; **Sponsor:** DST; **Duration:** 3 years; **Principal Investigator:** Vimal Katiyar

Chemistry

Title: Self-assembled stimuli responsive peptide based polymeric soft-materials using cucurbituril; **Sponsor:** DST; **Duration:** 3 years; **Principal Investigator:** Debapratim Das

Civil Engineering

Title: Micro-aerobic process of sulfate reduction to elemental sulfur; **Sponsor:** CSIR; **Duration:** 3 years; **Principal Investigator:** P. K. Ghosh

Title: Bio-processing of Phumdi weeds of Loktak Lake, Manipur through composting; **Sponsor:** CSIR; **Duration:** 3 Years; **Principal Investigator:** Ajay Kalamdhad

Mechanical Engineering

Title: Analysis of supercritical natural circulation loops with water and carbon dioxide as working medium; **Sponsor:** DST;

Duration: 3 years; **Principal Investigator:** Dipankar Narayan Basu

Title: Modelling and active control of SMA actuators; **Sponsor:** DST; **Duration:** 3 years; **Principal Investigator:** Atanu Banerjee

Physics

Title: Fe doped In₂O₃ thin films: Growth optimisation and investigation of electrical transport, magnetic and optical properties for spintronics applications; **Sponsor:** CSIR; **Duration:** 3 years; **Principal Investigator:** S. Ravi

Training Programme on Energy Technologies and Waste Utilisation

A two day training programme on 'Energy Technologies and Waste Utilisation' was organised by the Centre for Energy for the forest ranger trainees of Central Academy for State Forest Service, Ministry of Environment and Forests during 21-22 February 2013 at IIT Guwahati.

Training on Application Development on Windows 8

Microsoft India in association with the Department of Computer Science and Engineering conducted a one-day training programme 'Microsoft Windows 8 AppFest 2013' for the students on application development on Windows 8 platform on 26 February 2013. The training programme was attended by about 180 students from IIT Guwahati and six other technical institutes around Guwahati.



Brahmaputra Boys' Hostel with a capacity of 1000 single bedded rooms

Alcheringa 2013

Alcheringa, the annual cultural festival of IIT Guwahati, was held from 31 January – 3 February this year. Alcheringa is now regarded as a much anticipated students' cultural event of the North-East where thousands of students across the country take part in various youth oriented



competitions, workshops, seminars and informal events. The performances of musicians and performing artistes of repute are the real crowd puller.

Meaning 'dreamtime', Alcheringa has grown into a big cultural event attracting participation from over 150 colleges and a footfall in excess of thirty thousand. In the past Alcheringa has featured some exhilarating performances from some of the biggest names in the entertainment industry, namely Sonu Niigaam, Shaan, Strings, KK, Euphoria, Parikrama, The Raghu Dixit Project, Shankar Ehsaan Loy, Javed Ali, Anoushka Shankar, the Swiss



folk metal band Eluveitie, Orphaned Land – Israeli progressive metal band, etc.

Alcheringa 2013 was inaugurated with a performance by Indian Jazz Suites –an amalgamation of western and eastern classical dance forms.

The four day scintillating event witnessed programmes like Electric Heels—dance competition, Theatrix—drama competition, Crossfade—DJ competition, scratch painting show by Apuraj Borah, the Guinness Book record holder from Assam, Rock-o-Phonix—rock song competition, Raga High—Indian song competition, Sunburn Campus—a DJ performance, rock performance by Thermal and a Quarter—an Indian rock band, and Frantic Jack—an Irish rock band.

There was also a dance proshow, 'The Knocking Within' by Anikai Dance Theater of Boston, USA, whose dance was inspired by research into the science and anthropology



of dreams and sleep.

On the last day, well known Hindi playback singer Mohit Chauhan performed before a large and appreciative crowd.

Apart from these, some of the notable programmes during the festival were street painting, personality contest Mr. and Miss Alcheringa, quiz, etc.



PhDs Completed During January–March 2013

Department/Centre	No. of Students
Biotechnology	1
Chemistry	4
Civil Engineering	3
Computer Science and Engineering	1
Electronics and Electrical Engineering	2
Humanities and Social Sciences	1
Mechanical Engineering	1
Physics	4
Centre for Energy	1
Centre for Nanotechnology	1
Total	19

Students Joining January 2013 PhD Programmes

Department/Centre	No. of students
Biotechnology	8
Chemical Engineering	7
Chemistry	3
Civil Engineering	8
Computer Science and Engineering	1
Design	1
Electronics and Electrical Engineering	18
Humanities and Social Sciences	7
Mathematics	6
Mechanical Engineering	5
Physics	3
Centre for Energy	2
Centre for Nanotechnology	3
Centre for the Environment	1
Total	73

New Joinings



Kingsuk Mahata
Asst. Professor
Chemistry



Prabu Vairakannu
Asst. Professor
Chemical Engineering



Sandipan Dandapat
Asst. Professor
Computer Science and
Engineering



Prasad Bokil
Asst. Professor
Design

Memoranda of Understanding



Prof. Aly Nazmy (4R) and Md. Irshad Jamaldeen (3R), Abu Dhabi University along with IIT Officials

IIT Guwahati has signed MoUs on the areas of faculty and student exchange and collaborative research with Abu Dhabi University on 29 January 2013; and Faculty of Engineering, Victoria University of Wellington on 31 January 2013. Presently the Institute has 36 active MoUs with various educational and research institutes across the globe.