

The IITG Monitor

The Quarterly Newsletter

National Workshop on NEMS/MEMS and Theranostic Devices (NWNTD -2015)

A National Workshop on NEMS/ MEMS and Theranostic Devices was organised by the Centre for Nanotechnology on 16-17 March, 2015. The workshop was targeted to improve the academic awareness on the micro/nanoelectronic fabrication and characterization in the NE region of the country.

There were 4 special lectures by distinguished researchers from industry and academia.

Prof. Ramgopal Rao, IIT Bombay, spoke on "An Integrated Approach for Future Nanoscale



Volume: VI, Issue: I



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Devices", Prof. Enakshi Bhattacharya, IIT Madras, spoke about "BioMEMS/NEMS activity at their institute", Dr. Aroop Kumar Dutta, ExCel Matrix Biological Devices Pvt. Ltd., talked on "Commercialization of technologies from institutions for healthcare applications" and Dr. T. Rajkumar, Cancer Institute (WIA), Chennai spoke about "Targeting The EWS-FLI1 Fusion Protein".

About sixty participants, comprising of senior research scholars and junior faculty members from Eastern and North eastern India, attended the workshop. Hands on training for modelling software (Ansys and Coventorware) was provided to the attendees. Demonstration of sophisticated instruments, at CIF, like XRD, FESEM, TEM, VSM, AFM, Raman, Ellipsometer, NMR, ESR and GCMS were done to the participants.

Conference/ Seminar Abroad

Dr. Rajib Bhattacharjya, Associate Professor, Dept. of CE, attended the “International Conference on THA 2015” held at Bangkok, Thailand from 28.01.15 to 30.01.15.

Dr. Nagarjuna Nallam, Assistant Professor, Dept. of EEE, attended the “Radio Wireless Week” held at San Diego, CA, USA from 25.01.15 to 28.01.15.

Dr. Manas Kamal Bhuyan, Associate Professor, Dept. of EEE, attended “The second International Conference on Electrical, Electronic, Computer Engineering and their Applications (EECEA 2015)” held at Manila, Philippines.

Dr. Pahi Saikia, Assistant Professor, Dept. of HSS, attended the “Association for Asian Studies (AAS)” held at Chicago, USA from 26.03.15 to 29.03.15 and delivered a talk at Emory University, Atlanta, USA held on 30.03.15.

Dr. Kalpesh Kapoor, Associate Professor, Dept. of Maths, attended the “9th International Conference on Language and Automata Theory and Application” held at Nice, France from 02.03.15 to 06.03.15.

Dr. Bipul Bhuyan, Associate Professor, Dept. of Physics, attended the “6th Asian Forum for Accelerators and Detectors (AFAD 2015)” held at Hsinchu, Taiwan from 26.01.15 to 28.01.15.

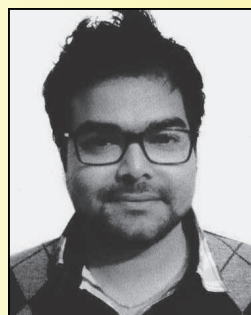
New Joinings



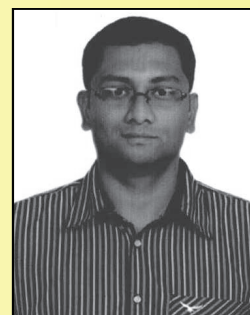
Mr. Supradip Das
Assistant Professor
Design



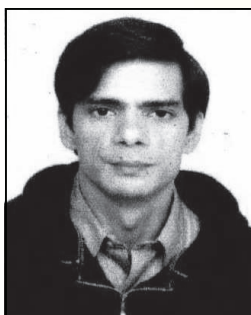
Dr. Urmi R. Salve
Assistant Professor
Design



Mr. Swaroop Roy
Assistant Professor
Design



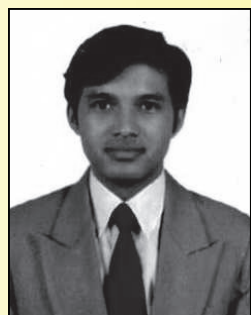
Dr. Anjan Kumar
Siddagangaiah
Assistant Professor
Civil Engineering



Dr. Bhaskar Kumar
Assistant Professor
Mechanical Engineering



Dr. Aynur Ünal
Visiting Professor
Mechanical Engineering



Dr. Kalyan Raidongia
Assistant Professor
Chemistry



Dr. Dipankar Sri-
mani
Assistant Professor
Chemistry

The 66th Republic Day of India was celebrated on 26 January 2015 in the Institute campus. Prof. Gautam Biswas, the Director of the Institute, hoisted the tricolour and addressed the gathering. This was followed by colourful cultural programmes presented by the students of the Institute, Akshara School and children of the campus.

In picture right, on the 66th Republic Day, Director, IIT Guwahati felicitating senior most Cleaner of the outsourced agency of the Institute.



DSIR Workshop on Industrial Research in Development of Biopharmaceuticals

A one day workshop on “Industrial Research in Development of Biopharmaceuticals” was organized by Professor Kannan Pakshirajan, Department of Biosciences & Bioengineering, IIT Guwahati, on 3rd March, 2015. The workshop was sponsored by Consultancy Development Centre (CDC), Department of Scientific & Industrial Research (DSIR), Ministry of Science & Technology, Govt. of India. A total of 30 participants from industry and academic institutions actively took part in this workshop. Prof. Vikash Kumar Dubey and Dr. Vishal Trivedi, Department of Biosciences & Bioengineering, IIT Guwahati, Mr. S. K. Sharma, Head Business Development, CDC, DSIR, Mr. Rajesh Kumar, Scientist, DSIR, and Mr. Akash Bhavsar, Co-founder & Managing Director - SkyQuest Technology Group, Member on Business Advisory Council, UN ESCAP & on the Board of Management of Technology Innovation International (TII), were the speakers for the event. The Workshop discussed about mechanisms of creating and supporting an ecosystem for innovation/industrial research and explored ways and means for nurturing industrial research in Biopharmaceuticals in the country. The workshop was highly successful in providing insightful information to Research scientists, Scholars, Academicians, Research institutions, Entrepreneurs, Government institutions related to various initiatives taken by DSIR and the Government for industrial research and innovation support to individual innovators as well as institutions. The workshop helped participants (various stakeholders) to be aware of industry need, status and means of gathering further assistance in research and develop competitive edge. The workshop was significant in providing industry exposure for bio-tech entrepreneurship development, thereby fostering innovation in the country.



Ashutosh Gupta, Dept. of BSBE received 2nd best poster award for his work on “Improved bioethanol production from mixed pretreated leafy biomass of bamboo (*Bambusa dendrocalamus*) involving saccharification by recombinant enzymes from *Clostridium thermocellum* at “Frontier Energy Research with Industry Academia Partnership (FERIAP, 2015)”, a workshop organized during March 20-21, 2015 at Center for Energy, IIT Guwahati, Assam.

Ms Anuma Singh, Dept. of BSBE received Best Poster Award in the Session “Validation of Traditional Knowledge on Herbal Medicines” for her poster titled “Characterization of bioactive karanjin from seeds of Karanj” during International Conference on “Medicinal Plants and Herbal Drugs for Human” Chennai, from Jan 29-31, 2015.

Mr. Manishehar Kumar, Dept. of BSBE received Best Poster Award to in “Advances in Polymer Science & Technology (APST-2015) National conference”, IASST, Guwahati, India, March 13, 2015.

Mr. Samit Kumar Gupta, Dept. of Physics, got the Best OSA (Optical Society of America) Poster Prize Award in “International Conference on Optics and Photonics” held at University of Calcutta during February 20-22, 2015. The prize included a cash prize of Rs. 30,000/-.

Ms. Shuchi Singh, Center for Energy was selected for International Travel Fellowship grant by Department of Biotechnology (DBT), Government of India, to attend “International conference on Sustainable Energy and Environmental Sciences (SEES-2015)” during February 9-10, 2015 at Singapore.

Surya Singh, Center for Energy received Joint 1st Prize, for presenting a paper entitled “Study on Electrocatalysts for electrochemical reduction of CO₂ to value added products” on the occasion of “Research Scholars Day - 2015” organized by Centre for the Environment, IIT Guwahati, Assam on Jan. 19, 2015.

Patent

Inventor: Dr. Vibin Ramakrishnan, Ms. Sajitha S., Dr. Nitin Chaudhary, Mr. Gaurav Pandey; **Title:** Crystalline Di-Histidine Nanostructures; March 09, 2015 (243/KOL/2015).

Inventor: Dr. Vibin Ramakrishnan, Mr. Prakash Kishore Hazam, Dr. Nitin Chaudhary, Dr. Vishal Trivedi, Mr. Gaurav Jerath; **Title:** Antimicrobial Peptides; March 26, 2015 (333/KOL/2015).

Bhaskar Das, Centre for the Environment, received Joint 1st Prize on “Research Scholar Day 2015”, IIT Guwahati.

Isha Vishan, Centre for the Environment, received 2nd prize on “Research Scholar Day 2015”, IIT Guwahati.

D. Narendra Naik, Centre for the Environment, received 3rd prize on “Research Scholar Day 2015”, IIT Guwahati for paper entitled “Production, purification and characterization of Epothilone B from isolated *Sorangium cellulosum* strains”.

Ravi K. Biroju, Centre for Nanotechnology, received the best Poster Award in “International Conference on Nanoscience and Technology (ICONSAT-2014)”, Institute of Nanoscience and Technology (INST), Punjab University, Mohali, March 23-25, 2014.

Ravi K. Biroju, Centre for the Environment, received the Certificate of Excellence (1st prize) for the Paper Presentations (MST), “Reflux2015”, The annual Chemical Engineering Symposium, Organized by Department of Chemical Engineering, IIT Guwahati, India, March 27-29, 2015.

WORKSHOP ON FLOW CYTOMETRY DATA ANALYSIS

A two day long workshop on Flow Cytometry Data Analysis was jointly organized by IIT Guwahati & Bio-rad India Ltd. at Dept of BSBE IITG from January 24-25 2015. Dr. Hemant Agarwal, Director-Flow Cytometry Solutions Pvt. Ltd dealt with various topics both in basics and applied field and gave greater insight about ‘How to analyze various data sets obtained using flow cytometry’. There was an overwhelming response and participation from scholars/ scientist/ researchers from different Institutions and University from NE. Forty nine registered participants attended 2 days of workshop divided in 5 sessions to ensure a holistic learning i.e., theoretical session and lab demonstration.

Inventor: Dr. Nitin Chaudhary, Ms. Karabi Saikia, Ms. Durga Sravani Yalavarthi, Dr. Vibin Ramakrishnan; **Title:** Antimicrobial Short Peptides; March 30, 2015 (353/KOL/2015).

Inventor: Gaurav Trivedi, Kalpesh Kapoor and Sameer Pawanekar; **Title:** A Nonlinear Analytical Method and System for Hypergraph Partitioning; Mar. 27, 2015 (347/KOL/2015).

IITG-ABB-ONGC WORKSHOP ON ENHANCED OIL RECOVERY, INTEGRATED OPERATIONS AND SAFETY



Dr. Senthilmurugan S

The two day workshop was inaugurated by Prof. Gautam Biswas, Director, IIT Guwahati wherein he emphasized the importance of energy, Oil & Gas sector and the need for industry and academia to come together to find innovative solutions through technology and joint research. Mr. Giandomenico Testi, CTO of ABB India welcomed the delegates and highlighted the merits of collaboration among the three players, viz., the Oil & Gas Companies, Solution Provider like ABB and the Academic Institutes. He also urged the participants to freely bring out various challenges and trends they see in making the lives of operators better and economical. Subsequently, Dr. Venkateswaran Narayanan, Head, Competency Development from ABB India, set the context of the workshop by providing a brief talk on Automation Perspectives in Oil & Gas industry – The Power of Integration.

On the second day two sessions were conducted, viz., Integrated Operations & Safety in the morning and Enhanced Oil Recovery in the afternoon. Several topics

and ideas were brought out by various participants and discussed during the panel discussion of each session. These discussions were very exciting and challenging and brought in the perspectives from all the three stakeholders.

There were around sixty registered participants in the workshop including experts from ABB, ONGC, OIL, IOCL, NRL and academia IIT Guwahati, IIT Kharagpur, IIT Delhi, UPES, IRS.



Mr. Giandomenico Testi with Prof. G Biswas

Mr. Giandomenico Testi thanked all the participants for their active involvement in the workshop. He also assured that ABB is interested to pursue some of the topics in collaborative mode with other stakeholders. Dr. Senthilmurugan, one of the convener in his concluding remarks thanked the speakers and also ONGC officials and management for their participation and making the event memorable and successful.



IITG-KIT JOINT SYMPOSIUM ON BIO-BASED MATERIALS



The Centre of Excellence for Sustainable Polymers, Department of Chemical Engineering, Indian Institute of Technology Guwahati, in association with the Department of Biobased Materials Science, Kyoto Institute of Technology (KIT), Japan, organized the **IITG-KIT Joint Symposium on Bio-based Materials** on 20 January, 2015. The symposium featured keynote lectures by Prof. Yoshiharu Kimura, KIT Japan, a renowned figure in the field of biodegradable polymers and bio-based materials, and by Prof. Pranab Goswami, Head, Centre for Energy, IIT Guwahati. The day-long event featured several talks by faculty members of IIT Guwahati and KIT Japan on a variety of topics such as polylactides and copolymers, silk biomaterials, molecular simulation of polymers, enzymatic biofuel cell etc. The Joint Symposium promoted extensive discussion and exchange of ideas among the delegates attending the event. More than Ten professors, industry professionals including students participated from Japan. Dr. Vimal Katiyar, Associate Professor, Department of Chemical Engineering was the coordinator from IIT Guwahati and Prof. Shinichi Sakurai, Department of Biobased Materials Science was the coordinator from KIT Japan.



Night view of the Academic Complex

SECOND SYMPOSIUM ON ADVANCES IN SUSTAINABLE POLYMERS (ASP-15)

The Centre of Excellence for Sustainable Polymers, Department of Chemical Engineering, IIT Guwahati organised the second symposium on **Advances in Sustainable Polymers (ASP-15)** during 21-22 January, 2015. Prof. Ashok Misra, Chairman-India, Intellectual Ventures and former Director, IIT Bombay, was the chief guest for the inauguration of the symposium. The aim of ASP-15 was to disseminate knowledge on sustainable polymers and emphasize the need to



adopt sustainable polymers and related technologies to ensure environmental sustainability. The second edition of the symposium served as a platform for eminent researchers from across the globe to share recent state-of-the-art advances in the area of sustainable polymers. ASP-15 featured several keynote and invited lectures by distinguished researchers and scientists on a wide range of topics related to sustainable polymers such as biopolymer extraction, synthesis, characterization, processing, rheology, bionanocomposites and their applications. The symposium was attended by renowned scientists and scholars from fourteen countries including Europe, USA, Canada, Japan, South Africa, Australia having longstanding association with the field of sustainable polymers. In addition to the several oral presentation sessions, the symposium also featured poster sessions which provided the opportunity for research scholars working in the field of sustainable polymers to present their research work and interact with leading researchers in their field. This symposium was supported by the Department of Chemicals and Petrochemicals, Government of India, Department of Science and Technology (GOI) and Department of Biotechnology (GOI).

Dr. Vimal Katiyar, Associate Professor, Department of Chemical Engineering was the convener of the symposium. Dr. G. Pugazhenthii, Associate Professor, Dr. Vaibhav Goud, Associate Professor, and Dr. Amit Kumar, Assistant Professor, all belonging to the Department of Chemical Engineering, were co-conveners of ASP-15.



BSBE

Dr. Sudhakaran Prabhakaran, Postdoctoral Research Fellow, Department of Systems Biology, Harvard Medical School, Boston, MA, USA; 'Complex Regulation of Cellular Proteome'; January 8, 2015.

Prof. Amitabha Chattopadhyay, Center for Cellular and Molecular Biology (CCMB), Hyderabad, India; '(I) Interaction of Membrane Cholesterol with G-Protein- Coupled recep-tors: Novel Insights In Health and Disease; (II) Organization and Dynamics of Membranes and Proteins using the Wavelength-Selective Fluorescence Approach'; January 16, 2015.

Dr. Yogeshwer Shukla, Proteomics Laboratory, Indian Institute of Toxicology Research, Lucknow; 'Cancer: Causes and Prevention'; February 4, 2015.

Dr. Munindra Baruah, Head and neck cancer, NECH, Guwahati; 'HPV and Cancer'; February 5, 2015.

Mr. Sumantho Basu, BD Biosciences, Kolkata; '(I) Basics of Flow cytometry; (II) Clinical applications of FACS and Data analysis'; February 5, 2015.

Dr. Madhumita Roy- Senior Scientist, Chittaranjan National Cancer Institute, Kolkata; 'Arsenic and Cancer'; February 6, 2015.

Dr. Alok C. Bharti, Institute of Cytology & Preventive Oncology, ICMR, Noida; 'Human Papillomavirus and Cervical Cancer: Molecular Biology at the fulcrum of Disease Diagnostics and Emerging Therapeutics'; February 6, 2015.

Dr. Rupinder Singh, Bio-Rad Laboratories, New Delhi; 'PCR and its applications in Cancer research'; February 6, 2015.

Dr. Rajesh Saha, Bio-Rad Laboratories, Kolkata; 'Western Blot and its applications in Cancer research'; February 6, 2015.

Mr. Hrudaya S. Chaporkar, ThermoScientific, Kolkata; '(I) Working principle of Spectrophotometer, (II) Introduction to the latest technologies of cancer research'; February 7, 2015.

Visitors/Invited Lectures/Seminars

Prof. Anupam Chatterjee, Department of Biotechnology & Bioinformatics, North Eastern Hill University, Meghalaya; 'Techniques and approaches used in raw betelnut induced carcinogenesis'; February 8, 2015.

Dr. Pawan Sharma, Healthcare, NER-BPMC (DBT), New Delhi; 'DBT Programmes in North Eastern Region (DBT-in-NER)'; February 8, 2015.

Dr. Jibon Kotoky, Biological & Chemical Sciences, Division of Life Sciences & Chairman CIF, Institute of Advanced Study in Science & Technology (IASST), Guwahati; 'Drug, its Development from Natural Sources : An Overview'; February 8, 2015.

Prof. Punit Kaur, Department of Biophysics, AIIMS, New Delhi; 'Structural Insights into the mechanism of action of proteins secreted during late lactation'; February 20, 2015.

CHEMISTRY

Prof. Yukihiro Shimoi, Chief Senior Researcher, Nano-system Research Institute (NRI), National Institute of Advanced Industrial Science and Technology (AIST), Japan; 'Theoretical aspects of conjugated polymers and their application to various optoelectronic devices'; January 12-15, 2015.

Prof. Vaidhyanathan Ramamurthy, University of Miami, USA; 'Science and Scientist or "What I should have learned"'; March 30, 2015.

CIVIL

Prof. Partha Chakroborty, IIT Kanpur; 'Optimization in Traffic Engineering'; February 23, 2015.

Prof. K. V. Krishna Rao, IIT Bombay; 'Sustainable Urban Transportation Planning'; February 23, 2015.

Dr. S. Velmurugan, CRRI-CSIR New Delhi; 'Road Safety Audit', February 23, 2015.

Dr. Devesh, Tiwari, CRRI-CSIR New Delhi; 'Pavement Management and Evaluation'; February 23, 2015.

CSE

Prof. Atal Chaudhuri, Jadavpur University, Kolkata; 'Digital Fountain (Departmental Research Talk)'; January 6, 2015.

Paramartha Dutta, Visvabharati University Santiniketan; 'Temporal Characterization of Mobile Adhoc Network Environment'; January 6, 2015.

Dr. Sandip Rakshit, Dean, School of Computing Sciences, KAZIRANGA University, Jorhat, Assam; 'Handwritten Text Analytics (HTA)-For Health Care Domain'; January 20, 2015.

MATHS

Dr. Devraj Basu, University of Strathclyde Business School, Glasgow, United Kingdom; 'Mean Variance Analysis with Conditioning Information'; January 16, 2015.

Dr. Buddhadeb Sau, Jadavpur University, West Bengal; Semidefinite Programming and its application to localization of WSN; February 13, 2015.

Prof. Martin Kreuzer, University of Passau, Germany; Border Bases and Their Applications; February 13, 2015.

Prof. Shobha Madan, IIT Kanpur; The Kekeya maximal function and Spherical Summation; February 19, 2015.

MECHANICAL

Prof. Prashant P., IIT Bombay; 'Welding & Sheet Metal Forming'; March 16, 2015.

Mr. Muneesh Narain, WS / Ador Fontech Ltd., 'Thermal Coating'; March 19, 2015.

Prof. N. R. Mana, IIT Kharagpur; 'Thermo-mechanical tensioning in welding structure'; March 19, 2015.

PHYSICS

Prof. K. Sridhar, TIFR, Mumbai; 'Exploring the Warped Bulk with Kaluza-Klein gluons'; February 9, 2015.

Prof. Anand Kulkarni, Michigan Technological University, USA; 'Optical Absorption in Nanostructures for

Photovoltaic Applications'; February 26, 2015.

ENVIRONMENT

Dr. P. Kalita, Tezpur University, Tezpur; 'Power Industry and health Hazards; Issues related to Energy, Sustainability and the Environment'; February 9, 2015.

Dr. K.K. Sharma, AAU, Khanapara, Guwahati; 'Impact of Environmental Degradation on large wild mammals with special reference to the Elephants and its mitigation'; February 9, 2015.

Dr. P. Sharma, Gauhati University, Guwahati; 'Effect of Fluoride and some Heavy Metals; Metal toxicity with special reference to Arsenic'; February 10, 2015.

Dr. D. Thakuria, ICAR, Shillong; 'Metagenomics Survey for Community Ecology and Eco-system processes: Restoration Ecology perspectives; Plant microbe interactions for habitat adaptive fitness against environmental stresses'; February 11, 2015.

Dr. S. Baruah, Don Bosco University, Guwahati; 'Diagnosing Environmental Health; Nanotechnology for Environmental Remediation'; February 12, 2015.

Dr. U. Sarmah, ASTEC, Guwahati; 'GIS in Environmental Health'; February 13, 2015.

Dr. R.K. Barman, ASTEC, Guwahati; 'IPR- Environmental Health'; February 13, 2015.

Dr. S. Deka, IASST, Boragaon, Guwahati; 'Impact of oil pollution on rice field soil of upper Assam and its control'; February 13, 2015.

Dr. N. S. Sharma, Boragaon, Guwahati; 'Effects of Nanoparticles on swelling properties of polymer gels and polymer based sensor for the detection of nitroaromatic pollutants'; February 13, 2015.

Dr. P.J. Raju, Andhra Pradesh State Sericulture Research and Development Institute (APSSRDI); 'Transgenic Silkworm'; March 11, 2015.

New Research Projects

BSBE

Title: Development of transgenic cowpea for insect resistance through RNA interference technology.

Funding Agency: DBT.

Principal Investigator: Dr. L. Sahoo.

CHEMICAL

Title: Wetting transition of dynamic liquid droplets on structured surface.

Funding Agency: IITG.

Principal Investigator: Dr. Partho Sarathi Goohpattader.

Title: Inertial focusing of particle and droplets in micro-channels.

Funding Agency: IITG.

Principal Investigator: Dr. Raghvendra Gupta.

Title: Experimental investigations on thermo syphon flow and heat transfer achieved by supercritical fluid.

Funding Agency: IITG.

Principal Investigator: Dr. R. Anandalakshmi.

CHEMISTRY

Title: Comparison of the conformational preferences of backbone constrained gamma amino acid residue gabapentin and unconstrained gamma 4[®] amino acids.

Funding Agency: IITG.

Principal Investigator: Dr. Sunanda Chatterjee.

CIVIL

Title: Reduction in drying shrinkage of mix formed foam concrete using shrinkage reducing admixtures.

Funding Agency: IITG.

Principal Investigator: Dr. G. Indu Siva Ranjani.

COMPUTER SCIENCE

Title: Tradeoffs in Reachability and Shortest path Algorithms.

Funding Agency: DAE.

Principal Investigator: Dr. R. Inkulu.

Title: A system for litter monitoring and control using non-intrusive sensors and off-the-shelf robotic platforms.

Funding Agency: IITG.

Principal Investigator: Dr. Rashmi Dutta Baruah.

EEE

Title: Characterization & modelling of a Schottky diode in a standard CMOS process.

Funding Agency: IITG.

Principal Investigator: Dr. Nagarjuna Nallam.

Title: Modulation strategies for gate control signal generation of switched boost inverter.

Funding Agency: IITG.

Principal Investigator: Dr. Ravindranath Adda.

Title: Optimum power electronic converter for efficient integration of variable DC and variable AC power sources.

Funding Agency: IITG.

Principal Investigator: Dr. Shabari Nath.

HUMANITIES

Title: Memory, consciousness and the storytelling self: An interdisciplinary research in literature, cognitive psychology and philosophy of mind.

Funding Agency: IITG.

Principal Investigator: Dr. Avishek Parui.

Title: George Matthan and the construction of modern self in 19th century Travancore.

Funding Agency: IITG.

Principal Investigator: Dr. John Thomas.

PHYSICS

Title: Plasmonic metamaterials based terahertz guided wave devices.

Funding Agency: SERB.

Principal Investigator: Dr. Gagan Kumar.

ENERGY

Title: Development of comprehensive interactive well monitoring software tool for drilling supervisors

Funding Agency: ONGC

Principal Investigator: Dr. Senthilmurugan

Frontier Energy Research with Industry Academia Partnership

The industry academia collaboration can support knowledge transfer activities and help to orient research programmes towards needs of the society. This workshop was an attempt for providing a platform for researchers, academicians, industrialists and entrepreneurs to exchange knowledge and ideas for innovative research in the field of energy and to identify the scope for involvement of industrial and R&D organizations on frontier technology oriented interdisciplinary research with academic institutions by identifying future research priorities and supportive academic programmes



for developing human resource. The thematic areas of the workshop were biomass and bioenergy, petroleum and coal energy, fuel cell technology and solar/wind energy, energy efficiency and storage, and human resource development for industrial and R&D sectors. The target participants

were scientists, academicians, entrepreneurs and trainees from industry, academia institutes, R&D organizations and self-employed groups and NGOs.

The workshop was attended by 84 registered participants. A total of 33 abstracts were shortlisted for the poster presentation session and to be included in the published Workshop Proceedings. The poster presentation session was judged by the distinguished Guest Speakers and the top three posters were awarded.

The list of guest speakers included Prof. S.P. Sukhatme, Professor Emeritus, Former Director, IIT Bombay; Prof. G. Biswas, Director, IIT Guwahati; Prof. M. Clarke, Asst. Pro Vice Chancellor (International) Asia, Professor of Environme-



-ntal Change, Faculty of Social Sciences, University of Nottingham, UK; Dr. Santanu Dasgupta, Vice President, Head of Biology, Reliance Technology Group, Reliance Industries Ltd.; Mr. G. Patowary, Executive Director, Planning, NEEPCO, Shillong, and many other eminent personalities.





IIT Guwahati in association with Indian Geotechnical Society (IGS) Guwahati Chapter (NE), organized “UKIERI Workshop on Seismic Requalification of Pile Supported Structures” during 7-9 January 2015 at IIT Guwahati. The workshop was organized as part of the ongoing UKIERI (UK-India Education & Research Initiative) project with IIT Guwahati (India) and Universities of Bristol and Surrey (UK) as the leading partner institutions. Other collaborators of the workshop are NIDM (National Institute of Disaster Management, Ministry of Home Affairs) and IIT Bombay. A total of 110 delegates (academicians, practitioners/professionals and students) participated in the workshop. Prof. D. N. Buragohain, Former Director of IITG and Emeritus Professor of Department of Civil Engg., IITG inaugurated the workshop. Dr. A. Murali Krishna, IIT Guwahati and Prof. Subhamoy Bhattacharya, University of Bristol & Surrey were the coordinators of the workshop.

The UKIERI project aims to develop a methodology to re-examine the safety of the existing piles foundations and retaining walls in the light of recent research findings (hopefully better and refined) and of course taking on board the lessons learned from recent earthquake experiences. The workshop was conducted on the main theme of Seismic Requalification of Pile Supported Structures aiming to inform the participants about various aspects of seismic requalification along with the latest international practices on pile foundations and their design in seismic areas. The workshop helped in providing the concepts for assessing the hazard associated with various important structures and planning for efficient disaster mitigation.



The workshop delivered 17 talks on diverse topics related to the project theme, covering: ingredients for seismic requalification procedure, latest understandings of piles and retaining walls behavior under seismic conditions, approaches for strengthening and retrofitting, and construction practices. The talks were delivered by various experts from IIT Guwahati, IIT Bombay, IIT Madras, IIT Delhi, IIT Roorkee, IIT Bhubaneshwar, NIT Jaipur, NIT Agartala and couple of industry experts. Long discussions were held among the participants discussing the challenges in seismic requalification procedures.

Symposium cum Workshop on “Advances in Computational Biology and Computer Aided Drug Design”



(L-R) Prof. V. K. Dubey, Prof. Gautam Biswas, Prof. B Jayram and Dr. R. Tamuli

A three-day Symposium cum Workshop on ‘Advances in Computational Biology and Computer Aided Drug Design’ was organised by the Department of Biosciences and Bioengineering, Indian Institute of Technology Guwahati, during 24-26 June, 2015. Eighty students and faculty members of various institutes participated in the workshop. IIT Guwahati Director, Prof. Gautam Biswas, presided over the inauguration function and Prof. B. Jayram, IIT Delhi was the Chief guest.

The Symposium cum Workshop served as a platform for discussion on recent advances in Computational Biology and Computer Aided Drug Design. The workshop was designed to provide the theoretical background as well as a hands-on approach to Molecular Docking and Virtual screening. The workshop also covered the use of different software and focused on lead identification and optimization.

Prof. Vikash Kumar Dubey, Prof. V. V. Dasu and Dr. Ranjan Tamuli were organizing secretaries of the event.





The Annual Technical Symposium of Department of Mechanical Engineering, Siesmech started from 20 March, 2015. The three day symposium hosted several mind enriching events.

The event was inaugurated by Keynote speaker Dr. Baldev Raj and Director Prof. Gautam Biswas, which was followed by the Inaugural Lecture by Dr. Baldev Raj. Padma Shree Awardee, Dr. Baldev Raj, Director of National Institute of Advanced Studies, Bangalore is also a distinguished scientist and former Director of the Indira Gandhi Centre for Atomic Research in Kalapakkam.

Siesmech 2015 included Lecture Series; Industrial Development Problem,; Workshops; various Competitions such as Quiz On, PhotoMech, Vision; Pradarshini: the exhibition module and GaonChalo: a social initiative started by the students of IIT Guwahati to spread social awareness and education in villages around Guwahati.



On 21 and 22 March '15, the pan IIT alumni affairs meet was held in IIT Guwahati. It witnessed participation from IIT-Kanpur, IIT-Delhi, IIT-Bombay, IIT-Kharagpur, IIT-Madras, and IIT-Guwahati. The meet included Deans of Alumni Relations, Institutes' Staff and Student Representatives of various IITs.

The meet was meant to improve the relation of Alumni and their Alma_Mater for all the IITs. Several out of the box points were discussed and will be implemented by the institutes. The meet fostered a sense of brotherhood among all the students, which will go a long way, reflecting that ultimately it is not your institute you work for rather as a representative of this Premier Tech Brand of India.

The meeting ended on a highly positive note, with all being gifted with a neck tie having the Logo of IIT-G engraved to serve as a souvenir. It was promised to keep up the hard work being done by the students for the benefit of the Junta. SAIL team from IIT-G, being the youngest, learned the maximum on how to tackle the problems being faced.



The street light installation initiative undertaken by Team Techniche is a small step in the attempt to eradicate the darkness that dwells around . Undertaken as a part of the initiative PRAGATI - Growth for Everyone, Team Techniche gathered on 7 March 2015 for installing street lights in the area around Lathiya Bagicha which otherwise remains pitch dark at night. This initiative will ensure security and safety at night time in that area and make the streets more functional. And the message that the team wishes to convey is 'Let there be light'.



The students of IIT Guwahati launched Pragati, their teaching programme, on 26 January, 2015. They have taken up two schools where groups of students have been volunteering as teachers twice a week – Friday second half and Saturday. The IIT students have taken up two schools under Pragati, these being Lathiya Bagicha Primary School and the Mo-maikata Garh LP School, the latter situated in the next village called Mariapatti. The volunteers are helping the children with simple arithmetic, handwriting, grammar, sentences, drawing and stories apart from talking to them about health, hygiene, cleanliness and sanitation.



Alcheringa is by far the largest cultural festival of North-East India and since its inception has entered its 19th edition. In a short span of nineteen year, Alcheringa has grown exponentially and enjoys a mammoth footfall of over 60,000 and participation from over 300 colleges across India.

Every year, Alcheringa has a theme; this year the theme was “Magnum Opus”. It seeks to explore the varieties of art and culture from various ages, and concludes how each of the phases of art are different, but equally beautiful – each a Magnum Opus on its own. It is these masterpieces that have taken the human race forward, and it is these masterpieces that Alcheringa celebrates this year.

The major highlights of the fest were its pro-nites. The four nights each correspond to a different genre: Saaz – The Classical Night, Blitzkreig – The EDM Night, Crescendo – The Bollywood Night, Juggernaut – The Professional Band Night.

Ustad Shujaat Khan, one of the most notable North Indian classical musicians of his generation, played at the opening night of the festival on 29 January. Along with Shujaat Hussain Khan of the Imdadkhani Gharana, made the audience wonder how one can play such soulful and heavenly music.

International DJs ‘Dzeko and Torres’ rocked the stage of Sunburn on 30th January with an opening act by the Indian DJ Zaeden.

In Crescendo 2015, Alcheringa bought one of the biggest names ever in the Indi-pop genre to Guwahati. With chart-busting numbers such as 'Na Tum Jaano Na Hum', 'Hairat', 'O Sanam' and 'Ek Pal Ka Jeena', Lucky Ali swayed the crowd his way with his absorbing and soulful Music on the night of 31 January.



The last day saw frenzy-inducing concert by the Australian extreme progressive metal band , Ne Obliviscaris, Haute Couture , Mr n Ms Alcher , Flamenco and Rocko finals among other amazing events.

Major additions to Alcheringa this year were Anime Con India – a celebration of the extremely trending Japanese-inspired anime culture, Model United Nations – that simulates actual councils of the United Nations, The North East Social Entrepreneurial Summit – to provide a platform for social entrepreneurs to share and discuss ideas that affect the North-Eastern states & The Quiz Fest, attracting notable quizmasters such as Major Chandrakant Nair.



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