



The Union Human Resource Development (HRD) Minister Shri Prakash Javadekar unveiled the National Ranking for Higher Educational Institutes on 3 April 2017 at a press conference. The National Institutional Ranking Framework (NIRF) presented an overall and category wise ranking of top Indian Universities/ Institutes/ Colleges.

Indian Institute of Technology Guwahati was ranked at 8<sup>th</sup> position in 'OVERALL' category and 7<sup>th</sup> position in the 'ENGINEERING' category in the MHRD– NIRF Ranking 2017.

In an award ceremony held at Rashtrapati Bhawan on 10 April 2017, the Hon'ble President of India Shri Pranab Mukherjee presented awards to top-ranked institutions in the NIRF Ranking 2017 i.e. top 10 in overall category and toppers in the stream-wise categories -Engineering, Management, Universities, Colleges and Pharmacy at a ceremony held in Rashtrapati Bhawan, New Delhi. Speaking on the occasion, the Hon'ble President Shri Pranab Mukherjee said the higher education sector in India has seen massive expansion during the last two decades.

On behalf of IIT Guwahati, Prof. Gautam Biswas, Director, IIT Guwahati and Prof. Parameswar K. Iyer, Professor In-Charge, Peer Review & Institutional Ranking received the award at the function held at Rashtrapati Bhawan, New Delhi.

The methodology to evaluate and rank the universities and institutes were based on teaching and learning resources, graduation outcome, perception, outreach and inclusivity and research productivity.

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### NIRF 2017 (ENGINEERING)

Name	TLR	RPC	GO	OI	Perception
IIT Madras	91.85	92.60	83.78	77.19	81.46
IIT Bombay	91.15	94.68	83.64	69.70	84.24
IIT Kharagpur	76.03	89.23	88.02	74.11	73.43
IIT Delhi	79.63	89.47	77.45	71.41	77.24
IIT Kanpur	84.28	77.28	74.29	61.35	73.59
IIT Roorkee	72.30	74.36	88.31	70.95	43.47
<b>IIT Guwahati</b>	<b>89.29</b>	<b>59.98</b>	<b>77.08</b>	<b>80.11</b>	<b>40.95</b>
Anna University	63.62	67.63	67.99	59.71	50.21
Jadavpur University	59.42	71.38	74.96	49.76	33.82
IIT Hyderabad	82.60	36.21	71.26	73.75	29.72

### NIRF 2017 (OVERALL)

Name	TLR	RPC	GO	OI	Perception
IISc Bangalore	83.11	87.59	87.97	61.48	83.33
IIT Madras	69.49	72.60	84.02	76.75	68.70
IIT Bombay	64.68	78.14	70.07	65.80	83.44
IIT Kharagpur	55.07	70.46	85.11	72.85	64.72
IIT Delhi	55.45	68.48	65.92	68.69	69.53
JNU	62.11	33.96	98.71	82.40	47.27
IIT Kanpur	60.07	62.14	58.34	60.01	63.62
<b>IIT Guwahati</b>	<b>65.53</b>	<b>47.46</b>	<b>78.28</b>	<b>79.28</b>	<b>28.79</b>
IIT Roorkee	52.24	56.60	83.38	72.70	32.38
BHU	47.85	49.96	94.36	62.97	44.01



Standing (L to R)- Prof. Partha Pratim Chakraborty (Director, IIT Kharagpur), Dr. Pratibha Jolly (Principal, Miranda House, New Delhi), Prof. Shailesh Gandhi (Dean, IIM Ahmedabad), Prof. Devang V. Khakhar (Director, IIT Bombay), Dr. Seyed Ehtesham Hasnain, (Vice Chancellor, Jamia Hamdard University, New Delhi), Prof. M. Jagadesh Kumar (Vice Chancellor, Jawaharlal Nehru University, New Delhi), Prof. U. P. Singh (Acting Director, IIT Roorkee, Prof. Girish Chandra Tripathi (Vice Chancellor, Banaras Hindu University, Varanasi), Prof. Gautam Biswas (Director, IIT Guwahati), Prof. Indranil Manna (Director, IIT Kanpur), Prof. V. Ramgopal Rao (Director, IIT Delhi), Prof. Parameswar K. Iyer (Professor In-Charge, PRIR, IIT Guwahati)  
 Seated (L to R)- Prof. Anurag Kumar (Director, IISc), R. Subrahmanyam (Additional Secretary-TE, MHRD), Dr. Mahendra Nath Pandey (Minister of State for HRD), Shri Prakash Javadekar (Minister of HRD), Shri Pranab Mukherjee (President of India), Smt. Omata Paul (Secretary to the President of India), Mr. Kewal Kumar Sharma (Secretary-HE, MHRD), Dr. Surendra Prasad (Chairman, NBA & Implementation Core Committee, NIRF), Prof. Bhaskar Ramamurthy (Director, IIT Madras)

The 19<sup>th</sup> Convocation of IIT Guwahati was held on 23 June 2017 at the Dr. Bhupen Hazarika Auditorium of the Institute. The convocation was chaired by Dr. Rajiv I. Modi, Chairman of the Board of Governors of the Institute. The Chairman of the Senate and the Director of the Institute Prof. Gautam Biswas awarded the degrees of Bachelor of Technology (BTech), Bachelor of Design (BDes), Master of Science (MSc), Master of Technology (MTech), Master of Design (MDes) and Doctor of Philosophy (PhD) to the students who completed the requirements for these degrees.

Bharat Ratna, Prof. C. N. R. Rao, FRS, National Research Professor, Linus Pauling Research Professor & Honorary President, Jawaharlal Nehru Centre for Advanced Scientific Research, Bengaluru, graced the occasion as Chief Guest.

Prof C. N. R. Rao while delivering his convocation address urged the graduates of IIT Guwahati to be proud of the Institute and use it for the development of the country. He also stated that IIT is the only brand created by India after its Independence. He viewed that if students of IIT utilize their education in India, they will contribute in developing a great future for India. Prof. Rao said that he himself is 84 years old, and has been researching for the last 68 years in service of the country. He advised the students of IIT Guwahati to be humble, as greatness and simplicity go together.

The Director of IIT Guwahati, Prof. Gautam Biswas thanked Prof. C. N. R. Rao for accepting the invitation to be the Chief Guest of this Convocation and for kindly agreeing to deliver the Convocation Address. Prof. Biswas in his address apprised the activities and achievements of the Institute during the past year with detailed reports ranging from



Bharat Ratna, Prof. C. N. R. Rao; Dr. Rajiv I. Modi (L), Chairman, BoG, IIT Guwahati; Prof. Gautam Biswas (R), Director, IIT Guwahati, along with the Gold and Silver Medal winners at the 19<sup>th</sup> Convocation.



academic activities to research and development, from physical infrastructure development to students activities and campus placement of students

Dr. Rajiv I. Modi in his address expressed his pride and happiness to see the young budding Indians who are going to take our country to newer heights. Dr. Modi congratulated all the graduating students for all the hard work they had done thus far, learning technology, learning science, but also learning and discovering themselves as good human beings.

Altogether 1308 students – including 583 Bachelor of Technology (BTech) and 36 Bachelor of Design (BDes), 20 Master of Arts (MA), 119 Master of Science (MSc), 363 Master of Technology (MTech) and 27 Master of Design (MDes), 5 Master of Science by Research [MS (R)] and 155 Doctor of Philosophy (PhD) – received their degrees at the Convocation. Prof Rao also gave away the President of India Gold Medal to the Institute toppers among the BTech and BDes programme students and Dr Shankar Dayal Sharma gold medal to the student adjudged best in general proficiency.

Venkat Arun of Computer Science and Engineering Department was awarded the President of India Gold Medal for securing the highest Cumulative Performance Index (CPI) among all the graduating BTech and BDes students. Rajat Lohia of Computer Science and Engineering Department was awarded the Dr. Shankar Dayal Sharma Gold Medal. This medal is awarded to a graduating student adjudged to be the best in terms of general proficiency including character, conduct, and excellence in academic performance, extra-curricular activities, and social service. Fourteen students were awarded the Institute Silver Medal for securing the highest CPI in their respective departments of BTech, BDes and MSc programmes.



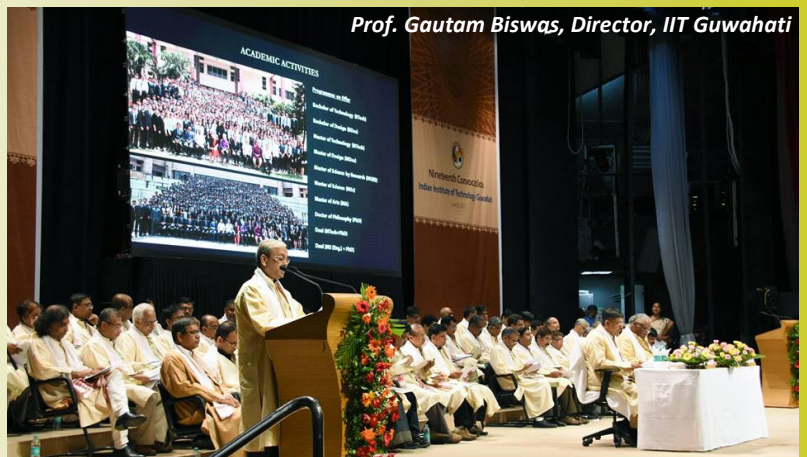
*Prof. C.N.R. Rao addressing the students, parents and guests*



*Dr. Rajiv I. Modi, Chairman, BoG, IIT Guwahati*



*Prof. C. N. R. Rao while receiving the Doctor of Science D.Sc. (Honoris Causa)*



*Prof. Gautam Biswas, Director, IIT Guwahati*



**BSBE**

Prof. Arun Goyal attended the 12<sup>th</sup> Carbohydrate Bio-engineering meeting at Universität für Bodenkultur, AudiMax Augasse 4-6 1090 Wien, Austria from 23.04.17 to 26.04.17.

Dr. Kusum Kumari Singh visited Institute for Genetics, University of Cologne, Germany as Guest Scientist from 26.06.17 to 16.07.17.

**Chemical**

Dr. Senthilmurgan Subbiah was on a Research visit at the ABB Corporate Research Centre, Vasteras, Sweden from 24.05.17 to 22.06.17 and AGH University, Karkow, Poland from 11.06.17 to 14.06.17.

Dr. R. Prasanna Venkatesh attended the 231<sup>st</sup> Electrochemical Society Meeting at New Orleans, Louisiana, USA from 28.05.17 to 01.06.17.

**Chemistry**

Dr. Debapratim Das was on Alexander von Humboldt research programme held at Jacobs University Bremen, Bremen, Germany from 14.05.17 to 09.07.17.

Dr. Dipankar Srimani attended the Humboldt Programme at RWTH Aachen University, Germany from 01.06.17 to 31.10.17.

**Civil**

Dr. L. Boeig Singh attended the International Conference on Advances in Sustainable Construction Materials & Civil Engineering Systems (ASCMCES-17) at Sharjah, United Arab Emirates from 18.04.17 to 20.04.17.

Dr. Anil Kr. Mishra attended the 16<sup>th</sup> Global Joint Seminar on Geo environmental Engineering (GEE 2017) at Seoul, South Korea from 18.05.17 to 20.05.17.

Dr. Sri Harsha Kota attended the JpGU- AGU Joint Meeting 2017 at Chiba, Japan from 20.05.17 to 25.05.17.

Prof. Arup Kumar Sarma attended the Thirteenth International Conference on Technology, Knowledge and Society at Toronto, Canada from 26.05.17 to 28.05.17.

Prof. Subhashisha Dutta was on a visit to Technical University of Munich, Germany as Visiting Professor from 07.06.17 to 24.06.17.

Dr. Budhaditya Hazra was on Erasmus Mundus EUPHRA- TES scholarship at University College Dublin, Ireland from 15.06.17 to 13.07.17.

Dr. Manish Kumar Goyal attended the Sixth International Conference on Environmental Management, Engineering, Planning and Economics (CEMEPE-2017) and SECOTOX conference at Thessaloniki, Greece from 25.06.17 to 30.06.17.

**Computer Science**

Dr. Sushanta Karmakar attended the Highlights of Algorithms 2017 at TU Berlin, Germany from 09.06.17 to 11.06.17.

**Design**

Prof. Debkumar Chakrabarty attended the 3<sup>rd</sup> World Conference on Media and Mass Communication 2017 at Kuala Lumpur, Malaysia from 20.04.17 to 22.04.17.

Prof. Debkumar Chakrabarty attended the 2<sup>nd</sup> Asian Conference on Ergonomics and Design at Nihon University, Japan from 01.06.17 to 04.06.17.

**Electronics**

Dr. Amitabh Chatterjee attended the 2017 IEEE International Reliability Physics Symposium (IRPS) at Monterey, USA from 02.04.17 to 06.04.17.

Dr. Amit Sethi was on a Research collaboration with Dr. Peter Gann at Department of Pathology, University of Illinois, Chicago, USA from 15.05.17 to 26.05.17.

**Humanities**

Dr. Pahi Saikia attended the 75<sup>th</sup> Annual MPSA Conference at Palmer House Hilton, Chicago, IL, USA from 06.04.17 to 09.04.17.

Prof. Arupjyoti Saikia attended the Environmental Justice and Sustainable Citizenship held at Duke Kunshan University, Jiangsu Province, China from 22.05.17 to 24.05.17.

Prof. Saundarjya Borbora attended the SIBR – Thammasat 2017 Bangkok Conference on Interdisciplinary Business & Economics Research at Bangkok, Thailand from 25.05.17 to 26.05.17.

### Mathematics

Prof. . Rafikul Alam visited University of Osijek, Croatia from 14.05.17 to 14.06.17 and Koc University, Istanbul, Turkey from 15.06.17 to 30.06.17 for collaborative research work.

Dr. Partha Sarathi Mandal attended the 5<sup>th</sup> International Conference on Networked Systems (NETYS 2017) at Marrakech, Morocco from 17.05.17 to 19.05.17.

Dr. Vinay Vilas Wagh was on a Research visit at the University of Passau from 22.05.17 to 02.06.17 and at the University of Siegen from 02.06.17 to 22.07.17.

### Mechanical

Dr. Amaresh Dalal attended the 7<sup>th</sup> International Symposium on Advances on Computational Heat Transfer (CHT-7) at Napoli, Italy from 28.05.17 to 01.06.17.

### Physics

Dr. Tapan Mishra was on a Research visit to discuss on problems of common interest at Institute for Theoretical Physics, Leibniz university of Hannover, Germany from 08.05.17 to 19.05.17.

Dr. Sovan Chakraborty was on a Research collaboration at Max Planck Institute for Physics (MPP), Munich, Germany from 02.06.17 to 09.07.17 and to attend Invisible Workshop in Zurich, Switzerland from 12.06.17 to 16.06.17.

Prof. Pravat Kumar Giri attended the 9<sup>th</sup> International Conference on Materials for Advanced Technologies (ICMAT 2017) for an invited talk at Suntec Singapore Convention & Exhibition Centre, Singapore from 18.06.17 to 23.06.17

### Research & Development

Mr. Sanjay Mandal visited Loughborough University, Leicestershire, UK during 1-16 April, 2017 as an academic visitor to discuss research progress of project CEE/P/PM/9.

## International Students' Day



The Alumni and External Relations Office, IIT Guwahati celebrated the International Students' Day on 2 April, 2017. IIT Guwahati has an eclectic mix of Full-Time & Exchange Students from Canada, Egypt, France, Denmark, Nigeria, Ethiopia, Uganda, Ghana, Botswana, Israel, Bangladesh, Nepal, Myanmar, Iran, Mongolia, Spain, Sweden, South Korea, Japan, UK, USA and others countries.



The Outreach Education Programme Office in association with the Department of Physics at IIT Guwahati organised a Science camp and Workshop for students of Classes IX and X during 15-16 May 2017. The objective of the workshop was to popularise science among the students and ignite the passion for a scientific temperament. Prof. Gautam Biswas, Director, IIT Guwahati was the chief patron of the event and his initiatives to the endeavour of dissemination of knowledge to the society at large is gratefully appreciated.

Science as a subject causes fear in many students and owing to this they fail to enjoy learning Science and hence remain inattentive in class. Besides, the practical aspects of science or the basics of experimental learning is not taught adequately in schools and as a result the joy of hands-on experience of various fundamental concepts that lay the foundation remain unexplored. The science camp thus aimed to address such issues and formulate ways for popularising the subject among the students. The science workshop also taught how science can be learnt in everyday life and the various career prospects of science for academic pursuits. Particularly it emphasized on the importance of asking questions to facilitate a deeper understanding of the key ideas of science.

As many as 45 students invited from schools of 13 different districts of Assam took part in the camp. The students were accompanied by 16 teachers who also actively participated in the camp. It is noteworthy that most of all these students were from Assamese Medium State Govt. Run schools.



The camp was inaugurated by Prof. Dhruva Jyoti Saikia, Vice Chancellor, Cotton College State University, Assam; Prof. Saurabh Basu, Dean of Outreach Education Programme and Prof. P. Poulouse, Head and Professor of the Department of Physics. Dr. Sidananda Sarma, the convenor of the camp, briefed on the objective and philosophy of the science camp to the participating students and teachers during the inauguration function.

The science workshop was conducted by Dr. Sidananda Sarma, Mr. Lokesh Chakravorty, Mr. Aditya Kalita, and Ms. Minakshi Chutia from the Department of Physics, IIT Guwahati. Under the guidance of the team, the students made selected science models that explain different crucial ideas in Physics. The students were taught to make these models from easily available as well as waste materials. The students carried such models back to their schools for demonstration and to share ideas with their classmates and encourage them to make such other models.

Prof. Dhruva Jyoti Saikia, also gave a popular talk titled "Light from the Universe: opportunities and challenges". Two more popular talks titled "Science for all" and "Carbon: Materials for sustainable future" were delivered by Prof. Arun Chattopadhyay, renowned scientist and academician from the Department of Chemistry, IIT Guwahati and Dr. Uday Narayan Maiti from the Department of Physics, IIT Guwahati respectively. In addition, an IIT Guwahati alumnus and the founder of Edugenie group, Mr. Dinesh Lahoti and his co-worker Ms. Anamika Paul held an exhibition of science models for the students.

While conducting the sessions of the science camp, English, Hindi and Assamese languages were used simultaneously for the convenience of the participating students. In the valedictory function, the feedback from the students and the participating teachers was extremely encouraging. They whole heartedly appreciated the initiative of IIT Guwahati and wished that such efforts should continue in the future.

To summarize, the organizers expressed of having a wonderful experience while conducting the camp and have realized the potential of the children of this region to do science and adopt it as a career that merely need a bit of guidance and hand holding which we are committed to.



## One-day Symposium on Omics Technology and Biodiversity



A one-day symposium on Omics Technology and Biodiversity was organized by Biotech Hub, Centre for the Environment on 19 June, 2017. The omics technology has got wide-spread application in biodiversity research. The symposium aimed to expose the researchers from North-east India to the recent advances in omics technology and biodiversity research. The symposium brought together more than 90 participants from different parts of Assam as well as participants from neighboring state.

## Course on Advanced Microscopy and Imaging Techniques

Course on Advance Microscopy and Imaging Techniques was jointly organized by Olympus Medical Systems India Pvt. Ltd, DSS Imagetech Pvt. Ltd and Dept. of Bioscience and Engineering, IIT Guwahati. About 20 research scholars from different departments like BSBE, Chemistry, Physics and Chemical Engg. were trained in fluorescence microscopy, image acquisition and analysis with extended hands-on sessions. Guest lectures by Dr. Balaji Jayaprakash and Dr. Deepak Nair from IISc Bangalore was also part of this workshop.





## 'Electron Microscopic Facilities' inaugurated at Central Instruments Facility

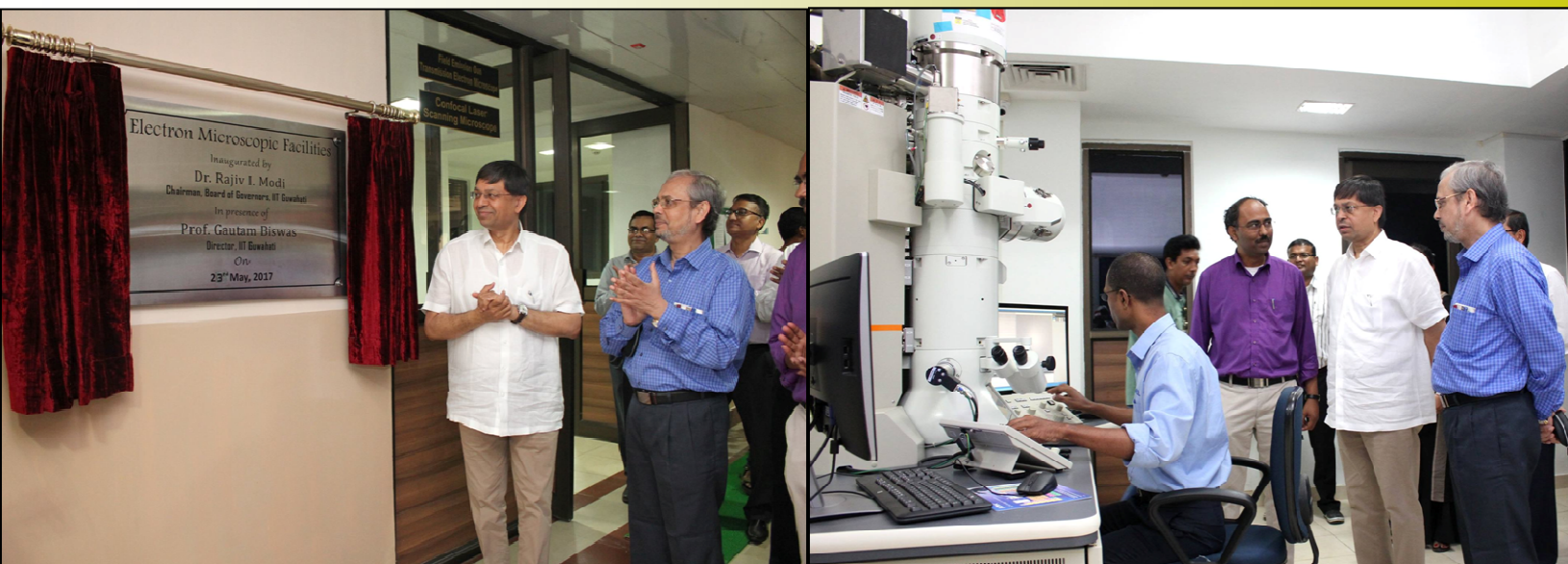
Dr. Rajiv I. Modi, Chairman, Board of Governors, IIT Guwahati, inaugurated the 'Electron Microscopic Facilities' of the Central Instruments Facility (CIF) of the Institute, which is expanded with installation of a Field Emission Transmission Electron Microscope (FETEM) and a Field Emission Scanning Electron Microscope (FESEM) at the cost of nearly Rs. 10 crores. Prof. Gautam Biswas, Director; Prof. G. Krishnamoorthy, Head, CIF; and other dignitaries were present during the inauguration function. The new 'Electron Microscopic Facilities' are available to the researchers with the inauguration. While addressing the gathering after the inauguration, Dr. Modi expressed his pleasure and said that with the installation of such cutting edge state-of-the-art analytical equipment facilities the researchers are well equipped to create knowledge and thus extend service to the society.

Prof. Gautam Biswas, Director, IIT Guwahati, in his address to the gathering said that these two high end analytical equipment are significant additions to the Institute's research facilities. These instruments would boost up the research capabilities and empower the scientists to attempt much more analytically intense problems.

The new FETEM is a JEM-2100F(HR) instrument, a make of JEOL, is basically a next generation multipurpose TEM. The JEM-2100F can achieve the highest image quality and the highest analytical performance in the 200 kV class analytical TEM with a probe size under 0.5 nm. The instrument has a point-to-point resolution of 0.23 nm with a high resolution pole piece and lattice resolution of 0.10 nm under the range of magnification 1500000x. FETEM is also equipped with the latest GATAN Ultrafast Camera and Oxford make Energy Dispersive X-ray Spectrometer with 80 mm<sup>2</sup> high performance detector for elemental analysis with a detection limit from Boron to Uranium. This is the first FETEM in the north-east India.

The new Gemini 300 FESEM is a make of Carl Zeiss, one of the leading manufacturers of microscope. Gemini 300 is a high performance instrument designed for gaining maximum information from the broadest range of sample and high flexibility in imaging, analysis, with future upgradability for any kind of in situ application. The uniqueness of this system is imaging at very high resolution (0.8 nm at 15 kV; 1.4 nm at 1 kV), very low to high accelerating voltage (0.02 to 30 kV) and very high magnification range i.e. up to 20,00,000x.

The Gemini 300 of CIF is equipped OXFORD Instruments' advanced Windowless Energy Dispersive X-ray Spectrometer (EDS) system for characterization of nano-size features. The windowless EDS is most recent technology and the this is the set-up first of it's kind in India.



**Biosciences and Bioengineering**

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**HSS**

Kausik Chaudhuri; Associate Professor, Economic Division, Leeds University Business School; Departmental lecture; “Does the Banking Sector or the Stock Market Development matter for Economic Growth?”; April 2017.

Dr. Soumya Datta; Assistant Professor, Faculty of Economics, South Asian University, New Delhi; Departmental lecture; “Can Limits of Arbitrage explain Bounded Rationality among Speculative Traders in Foreign Exchange Markets?”; April 2017.

**Mathematics**

Prof. S. Ponnusamy; Indian Statistical Institute, Chennai; Departmental lecture; “The Classical Bohr Theorem for analytic and harmonic mappings in the unit disk”; April 2017.

Prof. H. P. Sankappanavar; State University of New York, New Paltz, NY 12561, USA; “Interconnections between logic and algebra: Some glimpses into history”; April 2017.

Dr. Sanjay Kumar Singh; IISER, Bhopal; Departmental lecture; “The diagonal and the point property”; June 2017.

Prof. Chandan Singh Dalawat; Harish-Chandra research Institute, Allahabad; Departmental lecture; “Primitive extensions of local fields”; June 2017.

**Environment**

Dr. Venkata Mohan S; Principal Scientist & Shanti Swarup

Bhatnagar Awardee, CSIR-Indian Institute of Chemical Technology, Tarnaka, Hyderabad, Telangana, India; RAER 2017; “Waste Fed Biorefinery: Re-engineering Remediation for Sustainable Bioteconomy”; June 2017.

Mr. Somnath Sharma; Director, State Unit- Assam , Geological Survey of India, Guwahati, Assam; RAER 2017; “Geogenic impact of arsenic and fluoride on ground water quality”; June 2017.

Dr. Suraj Kumar Tripathy; KIIT University, Bhubaneswar, Odisha, India; RAER 2017; “Fabrication of Metal@SnO<sub>2</sub> Core-shell structure nanocomposites for detection and degradation of VOCs applications”; June 2017.

Dr. Narayan Sharma; Cotton University, Guwahati, Assam, India; RAER 2017; “Back to Nature: Why, what and when?”; June 2017.

Dr. Smarajit Ojah; Nowgong Girls’ College, Nagaon, Assam, India; RAER 2017; “Caring for the Fringe: The story of Laokhowa and Burhachapori wildlife sanctuaries of Assam”; June 2017.

Dr. Bhriгу Prasad Saikia; Environmental consultant; RAER 2017; “Up gradation of Technological Application in Wildlife Research, Assam”; June 2017.

Mrs. Madhurima Sangma; WSSCC- United Nations membership organization, Guwahati, Assam, India; RAER 2017; “Sanitation: The biggest hurdle in Sustainable Development”; June 2017.

**Government e-Market (GeM) Workshop**

Government e-Market training workshop was organized by the Stores and Purchase Section of IIT Guwahati on 23 May, 2017 at the Conference hall of the Institute. The members of the training team were Mr. Mayank Bisht, Director DGS&D, Rajesh Jain, Director DGS&D (Personal Section), Mr. Ajay Kumar, Asst. Director DGS&D, and Mr. A. K. Srivastav, OSD, IIT Roorkee. The Workshop was attended by a total of 137 members, including faculty and staff of IIT Guwahati and 7 members from North-Eastern Space Applications Centre, Shillong.

The Workshop opened with a welcome speech by the Registrar, IIT Guwahati and presentation of memento to the resource persons by the Deputy Director. There were two sessions: the first session was devoted to the talk on GeM and the second session was devoted to question and answer. As the outcome of the Workshop, the process of registration on GeM portal is being taken up by the Stores & Purchase Section of IIT Guwahati.

**BSBE**

**Title:** Recombinant hypothetical protein of Leishmania donovani: Immunobiochemical Characterization as a Potential Vaccine against Visceral Leishmaniasis

**Funding Agency:** SERB

**Principal Investigator:** Dr. Sunita Yadav; Mentor: Dr. V.K. Dubey and Dr. Manish Kumar

**Title:** Design, Synthesis and Characterization of Metal Impregnating Nano-assemblies using Peptide Model Systems; Applications in heavy metal entrapment in North-East Region

**Funding Agency:** DBT

**Principal Investigator:** Dr. Vibin Ramakrishnan

**Title:** Structural investigation of sugar ABC transporters in Mycobacterium tuberculosis and thermophiles: application to the development of drug carriers and biosensors

**Funding Agency:** DBT

**Principal Investigator:** Dr. Shankar Prasad Kanaujia

**Title:** Development of novel Akt/m TOR inhibitors for oral cancer prevention and treatment

**Funding Agency:** DBT

**Principal Investigator:** Dr. A.B. Kunnumakkara

**Title:** A comparative study of the population chronically exposed to arsenic in two different demographic regions of Eastern India: Identification of responsible genes and susceptible population

**Funding Agency:** DBT

**Principal Investigator:** Dr. A.B. Kunnumakkara

**Chemical**

**Title:** Extreme Point of Care Diagnostics on a CD

**Funding Agency:** MHRD

**Principal Investigator:** Dr. Dipankar Bandyopadhyay

**Chemistry**

**Title:** Development of ROS sensitive turn-on fluorescent probes for targeted delivery of anti-cancer compounds

**Funding Agency:** SERB

**Principal Investigator:** Dr. Krishna Pada Bhabak

**Title:** Fuel chemical synthesis via catalytic transformation of hydrocarbons using pincer-ligated complexes based on inexpensive transition metals

**Funding Agency:** CSIR

**Principal Investigator:** Dr. Akshai Kumar Alape Seetharam

**Title:** Diastereo- and Enantio-selective synthesis of oxygen, nitrogen and sulfur heterocyclic compounds

**Funding Agency:** SERB

**Principal Investigator:** Dr. A. K. Saikia

**Title:** Cancer Immunotherapy: Mechanism-Based Design of Potent Inhibitor for Indoleamine 2,3-Dioxygenase-1

**Funding Agency:** SERB

**Principal Investigator:** Dr. Debasis Manna

**Civil**

**Title:** Development of Stiffened Honeycomb Composite Structure to Safeguard against Shock and Impact Loading

**Funding Agency:** DRDO

**Principal Investigator:** Dr. Amit B. Shelke

**Title:** Compatibility Assessment of Local Aggregates for Cold Mix Process

**Funding Agency:** Om Infracon Pvt. Ltd.

**Principal Investigator:** Dr. Anjan Kumar S

**Humanities**

**Title:** Scientific analysis of pottery from selected archaeological sites of West Bengal

**Funding Agency:** CAST

**Principal Investigator:** Dr. Sukanya Sharma

**Title:** Sociolinguistic Study of Phonetic Variations among the Clans and Khels of two Southern Angami villages

**Funding Agency:** ICSSR

**Principal Investigator:** Dr. Priyankoo Sarmah

**Mechanical**

**Title:** Design, Development and Demonstration of Indigenous hydrogen storage and fuel cell system for mobile and stationary applications of 5 kW capacity

**Funding Agency:** MHRD

**Principal Investigator:** Dr. P. Muthukumar

**Title:** Development of High Temperature Thermal Energy Storage System for Solar Thermal Power Plant

**Funding Agency:** DST

**Principal Investigator:** Dr. P. Muthukumar

**Physics**

**Title:** Search for a common origin of matter antimatter asymmetry, neutrino mass and dark matter

**Funding Agency:** SERB

**Principal Investigator:** Dr. Amit Dutta Banik; Mentor: Dr. Arunansu Sil



## One day Symposium on “Recent Advancements in Environmental Research”

Centre for the Environment, Indian Institute of Technology Guwahati organized a one day symposium on “Recent Advancements in Environmental Research” on 5 June, 2017. This was the 4<sup>th</sup> edition of the event celebrated on the occasion of environment day. This symposium was organized with a view to address some of the challenging environmental issues such as environment pollution and remediation; climate change: impact and management; waste water treatment; solid waste management; environmental issues and their impact on society; environmental health and toxicology etc with special focus on NE India. Thematic experts from different parts of the country, along with young researchers, participated to present their work in the symposium. At the very onset, convener of the conference Dr. Deepmoni Deka welcomed all the delegates and briefed about the objective of the symposium and overview of the technical sessions. Honorable director of the Institute Prof. Gautam Biswas inaugurated the symposium and released the abstract book. Chief guest Shanti Swarup Bhatnagar awardee Dr. S. Venkata Mohan, of Department of Bioengineering and Environmental Sciences Lab, CSIR-IIT, Hyderabad gave the plenary lecture on “*Waste fed biorefinery: re-engineering remediation for sustainable bioteconomy*”. Head of the Centre for the Environment and Chairman of the Symposium, Prof. Vikash Kumar Dubey highlighted the current research activities of the centre.

The symposium was organized into 4 technical sessions which included 07 invited lectures, 14 oral presentations and 57 poster sessions. Around 150 participants comprising school students, research scholars and faculties from Eastern and North eastern India registered in the symposium. A conference proceeding consisting of 80 abstracts was also published and circulated among all the participants. Eminent scientist from all over India- Somnath Sarma, Director, Geological survey of India, NE region, Assam; Dr. Suraj Kr. Tripathy, KIIT University, Bhubaneswar; Mr. Amalendu Bikash Paul, Chief Engineer, PHE Assam; Ms. Madhurima Sangma, WSSCC-United Nations membership organization; Dr. Bhriгу Prasad Saikia, Ecology and EIA specialist; Dr. Samarjit Ojha, Nagaon Girls College; Dr. Narayan Sharma, Cotton College State University were some of the notable speakers in this symposium.

The symposium was funded by Department of Biotechnology and North Eastern Council, Shillong. Prof. Gopal Das was guest of honor in the valedictory function and gave away the award of certificate and cash prize to best two oral and poster presentations. The organizing secretary of the symposium Mr. Partha Protim Bakal summarized the meeting with the formal “vote of thanks” to all the dignitaries, participants and the people associated (Mr. Kaustabh Rakshit, Mr. Rajiv Gogoi and all the centre’s research scholars) in the success of the event. In a nutshell, this one day symposium was a grand success providing a platform for interaction with fellow researchers on environment based research.



**Biosciences & Bioengineering**

G. Chhabra, N. Chandra, R. Swaminathan; "Osmolytes: Key players in regulating protein aggregation"; Cellular Osmolytes: From Chaperoning Protein Folding to Clinical Perspectives; Springer Singapore; 2017; 97-119 (eBook: ISBN: 978-981-10-3707-8) (Hardcover ISBN: 978-981-10-3706-1).

**Chemical**

Prodyut Dhar, Akhilesh Kumar Paul, Arvind Gupta, Rahul Patwa, and Vimal Katiyar; "Green Biocomposites Films with Excellent Barrier Properties"; Advances Green Composites; Scrivener Publisher and John Wiley and Sons; 2017.

Tabli Ghosh, and Vimal Katiyar; "Green Composites based on Aliphatic-Aromatic Polyesters"; A Green Micro and Nanocomposites for Future; Pan Stanford Publishers; 2017.

Neha Mulchandani, Arbind Prasad, and Vimal Katiyar; "Resorbable Polymers in Bone Repair and Regeneration"; Volume 3: Resorbable Polymer Matrices for the multi-volume set entitled; Elsevier Publishers; 2017.

Kiran Kumar Gali, Purabi Bhagabati and Vimal Katiyar; "Sustainable Polymers for Food Packaging: An Introduction"; Bio-based Plastics for Food Packaging Applications; Smithers Rapra; 2017 (ISBN: 9781910242582).

Umesh Bhardwaj, Purabi Bhagabati and Vimal Katiyar; "Biobased and Biodegradable Polymers for Food Packaging: Commercial Status"; Bio-based Plastics for Food Packaging Applications; Smithers Rapra; 2017 (ISBN: 9781910242582).

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Arvind Gupta, Medha Mili, Tabli Ghosh and Vimal Katiyar; "Polylactic Acid: Potential Bio-based and Biodegradable Polymer use in Food Packaging"; Bio-based Plastics for Food Packaging Applications; Smithers Rapra; 2017 (ISBN: 9781910242582).

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Siddharth Mohan Bhasney, Prodyut Dhar and Vimal Katiyar; "Polymer Blends for Sustainable Food Packaging"; Bio-based Plastics for Food Packaging Applications; Smithers Rapra; 2017 (ISBN: 9781910242582).

Narendren Soundarajan and Vimal Katiyar; "Bio-based Biodegradable Polymers in Food Packaging: Regulations and Legislations"; Smithers Rapra; 2017 (ISBN: 9781910242582).

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Naba Kumar Kalita, Melakuu Tesfaye, Purabi Bhagabati and Vimal Katiyar; "Trends of end-of-life Options: Recycling, Reusing and Composting of Waste Food Packaging"; Bio-based Plastics for Food Packaging Applications; Smithers Rapra; 2017 (ISBN: 9781910242582).

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**Design**

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Verma I.K., Nath S., Karmakar S.; "Research in Driver-Vehicle Interaction: Indian Scenario"; Gaur G. Ray et al. (Eds): Ergonomics in Caring for People; Springer Nature Singapore Pte Ltd.; DOI: 10.1007/978-10-4980-4\_43; 978-981-10-4979-8; 2017.

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**Humanities**

S. Borbora and Gopal K. Sarma; "Agricultural Credit in Assam: A Review of Recent Trends"; Rethinking Economic Development in Northeast India; Routledge; 228-257; 2017 (ISBN: 978-1-138-03828-8).

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Rethinking Economic Development in Northeast India: The Emerging Dynamics; Routledge; 50-68; 2017 (ISBN: 978-1-138-03828-8).

Arora V and Kipgen N.; "Demand for Homeland and Kuki ethnic-nationalism"; Democratization in the Himalayas: Competing Interests, Conflict, and Negotiations; Routledge; 161-185; 2017 (ISBN: 9781138038295)

R. Shukla and S. Mallick; "Blending of practices: A study of biofuels complex in India"; Biofuels and Bioenergy; Springer; 229-239; 2017 (ISBN: 978-3-319-47257-7).

**Mechanical**

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Chilaka RCR, Hakeem Niyas, Likhendra P, Muthukumar; "Performance Investigation of Lab-Scale Sensible Heat Storage System"; Concentrated Solar Thermal Energy Technologies; Springer Nature Singapore Pte Ltd.; DOI 10.1007/978-981-10-4576-9\_16; 2018 (ISBN: 978-981-10-4575-2).

**Energy**

Pankaj Kalita, Munu Borah, Rupam Kataki, Dipti Yadav, Dipam Patowary, Rupam Patowary; "Biogas and Fuel Cell as Vehicular Fuel in India"; Sustainable Biofuels Development in India; Springer International Publishing; 87-133; 2017 (ISBN: 978-3-319-50217-5).

**Awards and Honours**

Abshar Hasan , Dept. of BSBE, received the Commonwealth Split-site fellowship 2017 from the Commonwealth Commission, UK . He will be on a One year Fellowship for research at Strathclyde University, UK.

Dr. Bhubaneswar Mandal, Dept. of Chemistry, received the Rastriya Gourav Award - 2017 from India International Friendship Society on 27 May, 2017.

Asha Yadav and Pilik Basumatary, of Centre for Energy, received the Best Poster Award at ICEOT 2017, The Neotia University, Kolkata for the Poster titled "Growth of a-Si:H and nc-Si:H thin films at high deposition rate by HWCVD technique" 19th April'2017. The award consisted of Gift voucher of Euro 250 by Springer

Bandana Khataniar, Department of HSS, received Partial financial grant to attended the 2nd Asia - the Pacific Eco-

conomic Statistics Week 2017 organized United Nations Economic and Social Commission for on May 21-26, 2017.

Nur Alom, Dept. of ME, received the 2017 Young Engineer Turbo Expo Travel Award for the paper titled "Arriving at the optimum overlap ratio for an elliptical-bladed Savonius rotor" from The American Society of Mechanical Engineers . The award consisted of cash prize of USD 2000 . He is the only recipient from India to get this



IITG Monitor ¶ Indian Institute of Technology Guwahati.

## 29<sup>th</sup> Meeting of the Indian Association for General Relativity and Gravitation (IAGRG)

The Indian Association for General Relativity and Gravitation (IAGRG) was first constituted in the year 1969 and has been active ever since in fostering general relativity related activities in the country. In particular, at the national level the IAGRG meeting is organized every two years, at various locations in the country. The Department of Physics at IIT Guwahati organized the 29th meeting of IAGRG during 18 -20 May, 2017.



The recent detection of gravitational waves from stellar mass binary black holes with the twin LIGO detectors has posed interesting questions in the field of Black Holes, Cosmology, Astrophysics and Gravity and opened a new era of gravitational wave astronomy. The theme of this meeting was "The Era of Gravitational Waves". The number of participants in the meeting was around 170 with a few international plenary speakers from abroad.

The aim of the meeting was to bring together researchers working on Gravity, Relativistic Astrophysics, Cosmology and Gravitational Waves. The meeting had plenary talks from experts in the field, parallel sessions in the form of workshops featuring developments and advances in the following areas:

- Gravitational Waves and Relativistic Astrophysics
- Cosmology
- Classical Gravity
- Quantum Gravity





## Signing of MoU between IIT Guwahati and NIAIST, Japan



On 8 May 2017 IIT Guwahati signed a MoU with the National Institute of Advanced Industrial Science and Technology, Japan (NIAIST). The immediate outcome of the MoU was the establishment of a DBT-AIST International Laboratory for Advanced Biomedicine (DAILAB) for advanced cancer research. It is only the second such laboratory to be established in India). The Alumni and External Relations office hosted the proceedings of the meeting in Board Room of IIT Guwahati.

## Signing of MoU between IIT Guwahati and Assam Don Bosco University

Indian Institute of Technology Guwahati on 20 April, 2017 signed a Memorandum of Understanding with Assam Don Bosco University.

Prof. Gautam Biswas, Director, IIT Guwahati and Prof. Manoranjan Kalita, Director, School of Technology of the University signed MoU which opens a new avenue of collaborations in various areas of Scientific and Technological developmental initiatives and research.

The MoU paved ways for students at Don Bosco University, to visit and get familiarized with latest technological equipments at IIT Guwahati and also do their summer internship at IIT Guwahati. In addition, both parties agreed to collaborate in research at various levels.



IIT Guwahati is in the process of establishing a Joint Degree Program with Gifu University, Japan. Seen here in the picture, Prof. Gautam Biswas along with delegates from Gifu University reviewing the progress of the Joint Degree Program Agreement.



The Graduate Tea Party, an annual event, was held this year on 9 April, 2017 for this year's graduating batch. Altogether around 1000 students attended the event after which the graduating batch of 2017, both Under Graduate and Post Graduate separately posed for a group photo with the Director, Deans, Associate Deans and other faculty members of the Institute.





**Inventor:** Pranab Goswami, M. Santhosh, Priyanki Das, Phurpa D. Thungon

**Title:** Graphite Paste Ink with silksericin for enhancing the conductivity and stability

**Inventor:** Mohamed Tariq Hassan; Pankaj Upadhyay

**Title:** Retractable and adjustable support for providing micro breaks to medical personnel in surgical environments

**Inventor:** Arun Chattopadhyay, Sunil Kumar Sailapu, Deepanjalee Dutta, Amaresh Kumar Sahoo, Siddhartha Sankar Ghosh

**Title:** A device with integrated methods for reverse transcription polymerase chain reaction (RT-PCR) and/or DNA/Protein array based analyses

**Inventor:** Arun Chattopadhyay, Sunil Kumar Sailapu, Deepanjalee Dutta, Amaresh Kumar Sahoo, Siddhartha Sankar Ghosh

**Title:** A device with integrated methods for reverse transcription polymerase chain reaction (RT-PCR) and/or DNA/Protein array based analyses

**Inventor:** Mitradip Bhattacharjee and Dipankar Bandyopadhyay

**Title:** A Point-of-Care Hand Tremor Detection Device

**Inventor:** P Muthukumar (ME), Gyan Sagar Sinha (RS,ME), Prof. S Kanagaraj

**Title:** Self-Aspirated Pressurized Kerosene Cooking Stove With a Porous Radiant Burner with Nanoparticles blended

**Inventor:** Saptak Rarotra, Dipankar Bandyopadhyay, Tapas K. Mandal

**Title:** Integrated MEMS-Microfluidic CO<sub>2</sub>-sequestration Device to Produce Essential Organic Products Emulating Photosynthesis

**Inventor:** S. S. Ghosh, Md. Asif Raza, Archita Ghoshal

**Title:** Cx43 based gene therapy enhances the anticancer activity of artesunate in human breast cancer cell

**Inventor:** Nilanjan Mandal, Dipankar Bandyopadhyay

**Title:** A MEMS-POCT Device for Quantitative Estimation of the Biomarker  $\alpha$ -Amylase in Human Blood Serum

**Inventor:** Arun Chattopadhyay, Sunil Kumar Sailapu, Deepanjalee Dutta, S. S. Ghosh, Anitha T Simon

**Title:** Wirelessly Operated LED Device for in vitro Photodynamic Therapy and Subsequent Monitoring of Therapeutic Success of multiple samples

**Inventor:** Vibin Ramakrishnan, Gaurav Pandey, Harshal B Nemade, Jahnu Saikia, Sajitha Sasidharan, Nitin Chaudhary

**Title:** Device for non-invasive adjuvant therapy for Alzheimer's disease using electric field

**Inventor:** Mayurketan Mukherjee, Saumya Ahlawat, Mehak Kaushal, Gargi Goswami, Debasish Das

**Title:** Novel Medium Engineering Strategy Directed towards Improved Butanol Synthesis in *Clostridium acetobutylicum* ATCC 824

## First Aid Training Camp



A First Aid Training Camp was organized for the newly recruited Junior Assistant (Hostels) at the IIT Guwahati Hospital on 9 May and 11 May 2017. Training was imparted on various aspects related to First Aid Treatment to the participants and certificate of completion were distributed among the participants on completion of the camp.



## Mathematics Training and Talent Search Programme -2017 (MTTS)

The Department of Mathematics organized a programme titled “Mathematics Training and Talent Search Programme (MTTS)” during 29 May – 24 June, 2017. Funded by the National Board for Higher Mathematics, DAE, Govt. of India, MTTS was a four-week intensive summer training programme, which has been organized since 1993 and the Department of Mathematics, IIT Guwahati has been a centre



programme for more than ten times. The objectives of the programme are to expose bright young students to the excitement of doing mathematics, to promote independent mathematical thinking, to prepare them for higher aspects of mathematics and improve the teaching methodology in the country. MTTS is one of the most effective and unparalleled training programmes which has made significant impact on mathematical scene in India.

Forty three undergraduate students drawn from different parts of the country, including many from the North-East region, took part in the training programme. The teaching methodology in MTTS is radically different from regular classrooms. All the sessions were highly interactive, students were asked to think, experiment, formulate and prove the results at every stage. Counseling sessions, thinking and writing assignments, student seminars and group discussions were some of the features of the programme. Coordinated by Prof. B. K. Sarma, the programme had Prof. S. Kumaresan, University of Hyderabad, Dr. Ajit Kumar, ICT, Mumbai and Dr. R. Lakshmi Labanya, IISER, Tirupati, as resource persons, apart from several faculty members of the Department.





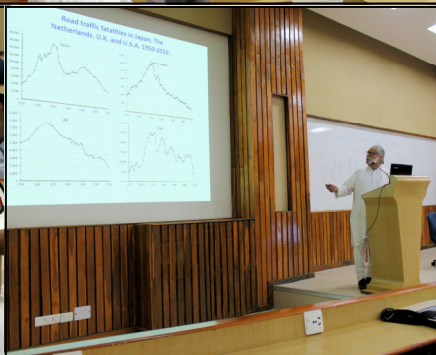
## Distinguished Lecture Series Mr. Nalin Surie, Director General, ICWA

The Alumni and External Relations Office with Department of Humanities and Social Sciences, IIT Guwahati held Distinguished Lecture series on Title **“China: An Insight and The State of Bilateral Relation”**. The speaker on the occasion was Mr. Nalin Surie, Director General, ICWA (Sapru House, New Delhi.) Nalin Surie trained as an economist and completed his Masters from the Delhi School of Economics in 1972. He joined the Indian Foreign Service in July 1973. He has served in



Indian missions in Hong Kong, Brussels, Dar-es-Salaam, Thimphu, New York (as Deputy Permanent Representative to the UN), as Ambassador in both Warsaw and Beijing and High Commissioner to the United Kingdom. At headquarters he has served both in the Department of Economic Affairs (Ministry of Finance) and the Ministry of External Affairs.

## Regional Workshop on Newly Designed Accident Data Recording and Reporting Format





## GIAN course on "Multiphysics Coupling in Energy Storage"

GIAN course on "Multiphysics Coupling in Energy Storage" was conducted during 26 - 30 June, 2017 at IIT Guwahati by Dr. Partha P. Mukherjee, Texas A&M University, College Station, USA and Dr. Amaresh Dalal, IIT Guwahati under the aegis of Global Initiatives of Academic Networks (GIAN), an initiative by Govt. of India for Higher Education. A total 43 participants including 4 faculty members attended the course. The objectives of the course include exposing the participants to the multiphysics fundamentals of the lithium-ion battery and providing them with the computational modeling and analysis basics to predict performance of Li-ion batteries.



## GIAN course on Scalable On-chip Interconnects For Many-core Systems

A one week GIAN course on Scalable On-chip Interconnects for Many-core Systems was held from 24 to 30 May, 2017 at the NKN virtual class room, IIT Guwahati.

In continuation with the evolution of processor technology, researchers have started focusing on many core processor designs with more than 100 cores on a single chip. This paradigm shift towards many core designs has resulted in a renewed interest in interconnect design due to complexity and criticality involved in the communication pattern of such massively parallel computers. Interconnects play a dominant role in shaping the power and performance profiles of many core processors. The course contents covered various aspects of many core on-chip networks, including router micro-architecture, flow-control, topology, packet scheduling, power modeling, and scaling. The course curriculum was designed for multifaceted understanding of the power, performance and scaling behavior of on-chip networks. One of the prime focus of the course was to build confidence and capability amongst the participants in understanding practical problems in NoC and their solutions through case studies and tutorial sessions there by facilitating the skills to understand research developments in this field.

A total of 73 participants from 14 different Indian states attended the course. This includes 17 faculty participants and 56 student participants. The course was live webcasted through NKN also. 38 participants graded the course by attending the course exam. The course was organized as 12 hours of lecture session, 6 hours of hands-on session and 4 hours of tutorial session. Dr. Maurizio Palesi from University of Catania and Dr. John Jose from IIT Guwahati were the



**The IITG Monitor** resource persons. Dr. Palesi is a pioneer researcher in the field of on-chip interconnection systems and has co-authored over 85 high impact journal and conference papers. He has close to 2600 citations and has an h-index of 25. His visit as a GIAN course resource person has initiated a closer association and research collaboration with IIT Guwahati and University of Catania.



## Instruction Enhancement Programme (IEP)

The IEP was held under the Special Manpower Development Program for Chip to System Design (SMDP-C2SD), Phase-III, an integrated program, initiated by Ministry Of Electronics & Information Technology (MeitY), Govt. of India. It focuses on developing manpower in the field of VLSI and also stresses on making of working prototypes of System on Chip using FPGA/ASIC ICs designed in the due course of the program. SMDP-C2SD aims at strengthening the research base in VLSI Design and introducing the culture of System on Chip design in the technical institutions across the country through collaborative efforts of Resource Centers (RC) and Participating Institutions (PI).

IIT Guwahati is one of the Resource Centre under this program. The other participating institutions associated with IIT Guwahati are NIT Agartala, NIT Arunachal Pradesh, NIT Manipur, NIT Meghalaya, NIT Mizoram, NIT Nagaland. VLSI design laboratories with advanced EDA tools have been set up to be used by Resource Centers and the Participating Institutions. It provides several resources for the use of students, staffs and faculties. The EDA tools and information are being used in the various courses taught during the course of Post-graduate and Research Programs.

The objective of the programme was to build an air quality monitoring system based on FPGA/ASIC platform which will detect the presence of CO, CO<sub>2</sub>, NO<sub>2</sub> gases along with temperature and humidity of the ambience around it covering an area of 100 meter square. It is intended to be deployed in various parts of the north-eastern region of the country.



## Invited Lectures delivered by Faculty members of IIT Guwahati in India and Abroad

### Biosciences & Bioengineering

Prof. Rakhi Chaturvedi; "In Vitro Anther Cultures of *Camellia assamica* (Masters) for Haploid Plant Production and Possibilities of Accumulation of Catechins, Caffeine and Theophylline in them"; Society of In vitro Biology (SIVB), Springer; Raleigh, North Carolina, USA; June, 2017.

Prof. Pranab Goswami; "Biofuel cell"; Refresher course on "Nano Science & Nano Technology"; UGC Human Resource Development Center, Gauhati University, Guwahati; March – April, 2017.

Dr. Anil M. Limaye; "Recent Advances in Biostatistics"; NIPER Guwahati; Guwahati Biotech Park; June 2017.

Dr. Vibin Ramakrishnan; "Symmetry-Directed Self-Organization in Peptide Nano-assemblies"; Refresher course on "Nano Science & Nano Technology"; UGC Human Resource Development Center, Gauhati University, Guwahati; March – April, 2017.

Dr. Navin Gupta; "Multivariate Methods for fusion of Multimodal Imaging and Genetic Datasets in Schizophrenia"; Dept of EEE, IIT Guwahati; March 2017.

Prof. U. Bora; "The era of genome editing"; Department of Animal Biotechnology, College of Veterinary Science, Assam Agricultural University, Khanapara, Guwahati; May – June 2017.

### Mathematics

Prof. S. Natesan; "Faculty Development Programme-

2017"; KIIT University, Bhubaneswar; June 2017.

Rafikul Alam; "Linearizations of rational matrix functions"; University of Zagreb, Zagreb, Croatia; May 2017.

Rafikul Alam; "Fiedler companion pencils for rational matrix functions"; J. J. Strossmayer University of Osijek, Croatia; June 2017.

### CSE

Dr. A. Sarkar; "Optimal Scheduling of Real-time Tasks using Supervisory Control Theory of Discrete Event Systems"; ACMU, ISI Kolkata; 2017.

Dr. A. Sarkar; "Performance Validation in Real-Time Cyber-Physical Systems"; NIT, Meghalaya; May, 2017.

### Design

Dr. Pankaj Upadhyay Supradip Das; "Ideation tools for New Product Development"; Confederation of Indian Industries, for Industrial Design Conclave 2017; IIT Hyderabad; June 2017.

### Physics

Dr. Bosanta R Boruah; "Wavefront sensing of light beams using a programmable array of gratings"; Gauhati University; June 2017.

### NDRF show on earthquake

The NDRF (National Disaster Response Force) the skilled force designated to respond for any man-made or natural disaster, imparted a lecture-cum-demo at the Institute on 22 April 2017 to spread awareness about the preventive and mitigation measures against disaster like earthquake.

Lecture-cum-demo were imparted on the following areas:

- Safe areas of a house to take shelter
- Triangle of Life
- Do's and don't of earthquake mitigation
- How NDRF responds and how we can help in getting ourselves rescued from a damage and trapped building
- Building assessment and safety after an earthquake
- Disaster kit

### World Health Day

World Health Day was celebrated at the IIT Guwahati Hospital on 7 April 2017. The theme for this year was "Depression: Let's Talk". The Dean IPM and Registrar of this institute were invited on this occasion. Certificates were distributed to participants of first-aid training camp conducted for employees and students in association with Red Cross Society.

### Workshop on e-procurement

The Institute organized an "one day workshop on e-procurement" on 14 June 2017. Ms. Kabita Roy, Technical Director, National Informatics Centre, Assam State Unit delivered the plenary talk.



## Inauguration of DAILAB at IIT Guwahati and the Symposium on "Hope from Herbs: Research-based Care and Cure Potentials"



DBT-AIST International Laboratory for Advanced Biomedicine (DAILAB), a new research laboratory jointly established by Department of Biotechnology, Govt. of India and National Institute of Advanced Industrial Science and Technology (AIST). Both IIT Guwahati and AIST, Japan signed a memorandum of understanding (MOU) to start collaborative research at International standard. The MoU was signed in the presence of Dr. T. Madan Mohan, Senior Advisor, Department of Biotechnology (DBT), Govt. of India; Prof. Gautam Biswas, Director, IIT Guwahati; Dr. Ohmiya Yoshihiro, Director, Biomedical Research Institute (BMRI), AIST, Japan; Dr. Tomohiro Tamura, Director, Bioproduction Research Institute, AIST, Japan; Dr. Hiroshi Yoshino, Director, The University of Tokyo, India office, New Delhi; Dr. Yuji Nishikawa, Japan Science and Technology; Dr. Sunil Kaul and Dr. Renu Wadhwa, BMRI, AIST, Japan and Dr. Ajai Kumar Kunnumakara, Associate Professor, Department of Biosciences and Bioengineering and Coordinator, DAILAB, IIT Guwahati.

In connection with the inauguration of DAILAB, IIT Guwahati and AIST Japan jointly conducted an Indo Japan symposium on "*Hope from Herbs: Research based Care and Cure Potentials*" where many scientists from IIT Guwahati and AIST, Japan exchanged their ideas and discussed about future collaborations in advanced biomedical research. The symposium covered various topics of basic and translational research discussing various topics such as mortalin and cancer, CRISPCut, production of flavonoids, carotenoids, terpenoids from various sources, protein aggregates as delivery vehicles, bioimaging techniques etc. This symposium was a strong initiative to discuss and start more collaborations on the potential of natural products in prevention and treatment of various chronic diseases.





## 'Connecting People to Nature'

'Connecting People to Nature', the theme of World Environment Day 2017, implores people to get outdoors and into nature, to appreciate its beauty and its importance, and to take forward the call to protect the Earth that we share. This year's theme invites people to think about how we are part of nature and how intimately we depend on it. It challenges us to find fun and exciting ways to experience and cherish this vital relationship.

Centre for the Environment, IIT Guwahati came forward to celebrate this important day with an objective of discussing and spreading awareness about challenging environmental issues in the recent times like climate change, pollution, through a one day Symposium on "Recent Advancements in Environmental Research".

The conference invited abstracts of research papers in the following themes: Environment Pollution and Remediation; Environmental Biotechnology; Environmental issues: Problems & solutions; Climate Change: Impact and Management; Environmental Impact on Society; Environmental health and Toxicology.

The Horticultural Wing of the Engineering Section also organized a plantation drive, with active participation of the IITG community, across the campus. Some of the glimpses of the plantation drive are shown below.



Plantation drive by the campus children





## Glimpses of Cultural Celebrations at IIT Guwahati

We are in a place where technology strides along side tradition, where we take pride and joy in each others culture, where we live, learn and try to emulate the fundamentals upon which our great nation was built upon. Glimpses below are that of Rongali Bihu Celebrations, which included residents of IIT Guwahati campus marching in their traditional attire and immersed in Rabindra Jayanti Celebrations.



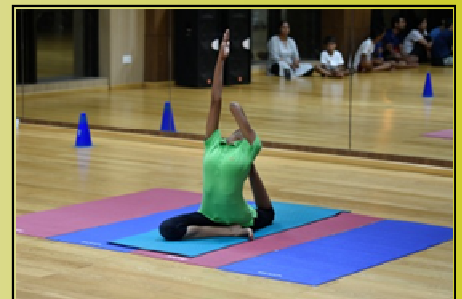




An intensive yoga training camp was organized from 29 May to 20 June 2017 on common yoga protocols prescribed by ministry. The average attendance of the campus dwellers was very high during the camp. In the camp, a group of 27 students were specially trained for a special yogasana demonstration program, that was presented on the 21 June 2017.

Prior to the main function a poster display and yogasana competition was organized on 20 June 2017, where 33 members took part. Prizes and certificates were awarded to the winners and all the participants were also provided participation certificate.

The main celebration was held at the lawn tennis courts. The Director, Dean SA, Associate Dean SA, Registrar, Chairman Sports and special Invitee Mr. Chandra Goswami graced the function as Guests.



At the outset of the main function a Saatriya dance was presented by the students under the guidance of artist-in-residence followed by talk by Mr. P. C. Goswami on the topic Yoga- the way of life. The programme ended with mass yoga practice with "SANKALPA" since it is believed that learning by doing is the easiest way to make it a habit of practicing Yoga.





**Dr. Sudarshan K. Kenettinkara**  
Assistant Professor  
Mathematics



**Dr. Debabrata Sikdar**  
Assistant Professor  
EEE



**Dr. Satyam Agarwal**  
Assistant Professor  
EEE



**Dr. Arup Kumar Nandy**  
Assistant Professor  
Mechanical Engineering



**Dr. Chandan Pal**  
Assistant Professor  
Mathematics



**Mr. Nikhileswar Baruah**  
Visiting Faculty  
Design



**Dr. Nelson Muthu**  
Assistant Professor  
Mechanical Engineering



**Dr. Ribhu**  
Assistant Professor  
EEE



**Dr. Shyamanta M Hazarika**  
Professor  
Mechanical Engineering



**Dr. Selvaraju Narayanasamy**  
Assistant Professor  
Biosciences & Bioengineering



**Dr. Souptick Chanda**  
Assistant Professor  
Biosciences & Bioengineering



**Dr. Vasundhara Jairath**  
Assistant Professor  
Humanities & Social Sciences



**Ms. Namrata Naomi Rynjah**  
Students' Counsellor



**Ms. Pallabita Barooah  
Chowdhury**  
Students' Counsellor



**Mr. Sourabh Dev Tiwari**  
Junior Assistant (Hostel)



**Mr. Ratan Medhi**  
Junior Technician  
Mechanical Engineering



**Mr. Gakul Das**  
Junior Technician  
Mechanical Engineering



**Mr. Gwmchar Baro**  
Junior Technician  
Mechanical Engineering



**Mr. Dulu Moni Das**  
Junior Technician  
Mechanical Engineering



**Mr. Sontush Gogoi**  
Junior Technician  
Mechanical Engineering



**Mr. Goutam Gogoi**  
Junior Technician  
Mechanical Engineering



**Mr. Ganesh Nath**  
Junior Technician  
Mechanical Engineering



**Mr. Anand Swarup S.**  
Jr. Tech. Superintendent  
Nanotechnology



**Mr. Saiful Alam**  
Jr. Tech. Superintendent  
Chemical Engineering



**Mr. Chintu Barman**  
Visiting Physiotherapist



**Dr. Surojit Majumdar**  
Medical Officer



**Dr. Pallabi Sarmah**  
Medical Officer

## Obituary

A noted educationist, economist, litterateur and quizmaster Prof. Dilip Kumar Barua passed away on 27 April 2017 after a brief illness.

An alumnus of the Delhi School of Economics, Prof. Dilip Kumar Barua had joined as a faculty member in the Cotton college's Economics Department in 1966. Prof. Barua became the Principal of Cotton College in 2000 and retired as Principal of Haflong College in 2001.

Prof. Barua had also served as Joint Director of Assam Administrative College from 1989 to 1992 and was also a member of the Assam Plan-



Prof. Barua had also served as Joint Director of Assam Administrative College from 1989 to 1992 and was also a member of the Assam Planning Board and the second State Finance Commission (2001-2006).

At the time of his sad demise Prof. Barua was a sitting member of the Finance Committee of IIT Guwahati. Prof. Barua was initially invited as a member of Finance Committee for the period of two years from 16 September 2014 to 15 September 2016. He was re-nominated to the Finance Committee of the Institute for a term of another two years starting from 16 September 2016.

To pray for his departed soul, a condolence meeting was held at the Main Foyer of the Administrative Building of IIT Guwahati on 28 April 2017.

**THE IITG MONITOR**, the quarterly Newsletter of Indian Institute of Technology Guwahati is published by the Peer Review and Institutional Ranking office, IIT Guwahati, Guwahati 781039. Materials for Publication in the Newsletter may be sent to the Peer Review and Institutional Ranking office by 15th of every month (Email: [newsletter@iitg.ernet.in](mailto:newsletter@iitg.ernet.in), Phone +91-361-2584000).