IIT Guwahati, the sixth member of the IIT fraternity, has entered the coveted list of the top 100 best young universities of the world under 50 years. The Times Higher Education 100 under 50 university rankings which was announced on May 2014 ranked IIT Guwahati at 87th. IIT Guwahati is India’s first and only entry into this ranking. The ranking analysed 800 new-breed universities from 29 countries, including the US and the UK. The Institute congratulates all the students, faculty members and non-teaching employees for this epoch making success.


Mr. Phil Baty, editor of Times Higher Education Rankings said, “...it is cause for optimism that the Indian Institute of Technology Guwahati, breaks into the top 100.”

IIT Guwahati also ranked 74th in the top 100 Universities of Asia published by The Times Higher Education (THE) magazine in June 2014.
The National Conference on Sustainable Development of Environmental Systems (NCOSDOES 2014) was organised at IIT Guwahati during 20-21 June 2014. The main objective of the conference was to discuss and spread awareness about challenging environmental issues in the recent times like climate change and global warming, environmental pollution, solid waste management, urbanisation and many more. Thematic experts from different parts of the country along with young researchers participated to present their work in the conference. The technical schedule included invited talks, oral and poster presentations. Prof. O. P. Singh, NEHU, Shillong, Dr. C. S. Srinivasan, ex-Joint Director, Coffee Board, Dr. Bharti Singh, Institute of Management Technology, Uttar Pradesh, Dr. Mou Mukherjee Das, Aliah University, Kolkata and Mr. Sanjeev Dhanashetti, GKN Aerospace India were some of the invited speakers. Around 100 participants registered in the conference. An abstract book consisting of around 80 research papers was also published and circulated among all the participants. Prof. Gopal Das, Head, Centre for the Environment, IIT Guwahati chaired the conference while Dr. Deepmoni Deka, Technical Officer, Gr-I, Centre for the Environment, was the convener.

Annual Symposium on Solid Waste Management

‘RECYCLE 2014—Turning Waste into Resources’, the 2nd annual symposium on solid waste management was organised by Association of Civil Engineers, Department of Civil Engineering on 6 April 2014. The theme of the symposium was Waste Management which included—a) collection and recycling of solid wastes, b) treatment and disposal of solid wastes and c) E-waste and medical waste management. The symposium consisted of guest lectures, oral presentation and poster presentation. Mr. David Allen Douglass, Resident Project Manager, The Louis Berger Group, Inc., USA delivered a lecture on ‘Landfill Design’. The students from various institutions including IIT Guwahati, Tezpur University, Assam Engineering College, RIST Meghalaya presented papers and posters, and also participated actively in the symposium. Dr. Ajay Kalamdhad, Assistant Professor, Department of Civil Engineering was the convener of the symposium.
A four-week mathematics summer training camp titled Mathematics Training and Talent Search (MTTS) Programme was organised by the Department of Mathematics during 23 June – 19 July 2014. The programme was funded by the National Board for Higher Mathematics, DAE, Govt. of India. Thirty seven undergraduate students drawn from all parts of the country took part in the programme and went through rigorous training in basic mathematics. The resource persons for the programme were active mathematicians with a commitment to teaching and are from leading national institutions. Dr. K. V. Krishna, Associate Professor, Department of Mathematics was the coordinator of the programme.
STC on Advanced Techniques in Cellular and Molecular Biology

A short-term training course on ‘Advanced Techniques in Cellular and Molecular Biology’ was organised by the Department of Biotechnology, IIT Guwahati, during 24–26 June 2014. The training course was funded by the DBT Programme Support Project at IIT Guwahati. The course was designed to offer research scholars a platform to learn various modern tools of molecular and cellular biology that are now regularly used in advanced research laboratories. There were lectures followed by extensive hands-on laboratory sessions on fundamental aspects of Flow Cytometry, Quantitative PCR, MALDI and Surface Plasmon Resonance based Biosensor. Research scholars of various universities and research institutes throughout the country attended this short-term course. Prof. Gautam Biswas, Director, IIT Guwahati, inaugurated the course. Prof. Debi Prasad Sarkar, Delhi University, Prof. Siddhartha Sankar Ghosh, IIT Guwahati, Dr. Debasis Manna, IIT Guwahati and other experts from industry delivered talks on various advanced tools of cell and molecular biology. Dr. Biplab Bose, Associate Professor, Department of Biotechnology, was the convener of the short-term course.

Postgraduate Level Training Programme on Differential Equations

A three-week long postgraduate level training programme on Differential Equations was organised by the Department of Mathematics during 2-21 June 2014. The aim of the training programme was to impart advanced knowledge in theory and numerics of differential equations at the postgraduate level. Distinguished resource persons from IITs, IISc, JNTU, Hyderabad and SAU, Delhi delivered lectures in this workshop. This programme saw the enthusiastic participation of 49 participants from different institutions across the country. It was sponsored by the Department of Science and Technology, Govt. of India through National Programme on Differential Equations: Theory, Computation and Applications (NPDE-TCA), IIT Bombay. The workshop was coordinated by Prof. Rajen K. Sinha, Dr. Bhupen Deka, Assistant Professor, Department of Mathematics, from IIT Guwahati and Dr. S. Baskar and Dr. S. Ganesh from IIT Bombay.
RuTAG-NE Initiated Technology Transfer

RuTAG-NE in collaboration with Assam Mahila Samata Society, Guwahati has successfully field tested a low cost supari cutting tool developed under the leadership of Prof. S. K. Kakoty, Coordinator, RuTAG-NE, IIT Guwahati. Local artisans from Goalpara district of Assam involved in supari business found it suitable for use. The productivity of the technology is four times higher than the existing tool.

RuTAG-NE is working for development of a solar aerator for fish farmers of North Eastern region under the supervision of Prof. A. K. Das, Department of Design. The first part of the technology was successfully tested and is under process for further improvement to make it more user friendly.

MoU with GIFU University, Japan

Prof. S. Nonomura, Prof. M. Koketsu and Prof. U. Yoshihiko, a team from GIFU University Japan visited Centre for Energy on 21 April 2014 for collaboration in terms of faculty-student exchange and joint research projects.

A Memorandum of Understanding (MoU) was also signed between Indian Institute of Technology Guwahati and the Faculty of Engineering, GIFU University, Japan, on faculty and student exchanges.

Dr. Fumiaki Suzuki, Executive Director, Vice-President (Academic Globalisation), GIFU University, Japan, Prof. S. C. Mishra, Dean, Alumni Affairs and External Relations, and Prof. Pinakeswar Mahanta, Mechanical Engineering after signing the MoU.
Publications (Research Journal/Book/Book Chapter)

Biotechnology


S. Morla, A. K. Tiwari, V. Joshi and S. Kumar, ‘Complete genome sequence of a Newcastle disease virus isolate from an outbreak from Northern part of India’, *Genome Announcements*, 2 (2), 2014

Chemistry


Civil Engineering


Computer Science and Engineering

Design


Electronics and Electrical Engineering


Humanities and Social Sciences


Mathematics


S. Das and S. N. Bora, ‘Reflection of oblique ocean water waves by a vertical rectangular porous structure placed on an elevated horizontal bottom’, *Ocean Engineering*, 82, 135-143, 2014


M. Hassan and S. N. Bora, ‘Hydrodynamic coefficients in surge for a radiating hollow cylinder placed above a coaxial cylinder at finite ocean depth’, *Journal of Marine Science and Technology*, 2014 (DOI: 10.1007/s00773-014-0280-3)

Mechanical Engineering


H. Niyas, L. Prasad and P. Muthukumar, ‘Performance investigation of high-temperature sensible heat thermal energy storage system during charging and discharging processes’, *Clean Technologies and Environmental Policy*, 2014 (DOI: 10.1007/s10098-014-0807-7)


P. A. Kadam, S. Panda, ‘Nonlinear analysis of an imperfect...

**Physics**

B. Pathak and B. R. Boruah, ‘Improved wavefront reconstruction algorithm for Shack–Hartmann type wavefront sensors,’ *Journal of Optics*, 16 (5), 2014 (The paper was selected as the Journal of Optics paper of the week during 18-25 April 2014)


**Centre for Energy**


**Centre for the Environment**


S. Singh, C. Mukherjee and A. Verma, ‘Development of catalytic activity protocol for electrochemical reduction of carbon dioxide to value added products’, *Clean Technologies and Environmental Policy*, 2014 (DOI: 10.1007/s10098-014-0796-6)

**Centre for Nanotechnology**


**Book Chapter**


**New Research Projects**

**Chemical Engineering**

**Title:** Experimental characterisation of carbon steel corrosion in oil and gas industries by electrochemical impedance spectroscopy  
**Funding Agency:** DST-SERB  
**Principal Investigator:** Dr. R. Prasanna Venkatesh

**Title:** Studies on coalbed methane integrated underground coal gasification in Indian coals in the context of greenhouse gas emission control  
**Funding Agency:** DST-SERB  
**Principal Investigator:** Dr. V. Prabu
## Guest Lecture / Invited talk / Seminar

<table>
<thead>
<tr>
<th>Speaker</th>
<th>Topic of Lecture/Seminar</th>
<th>Date</th>
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<tbody>
<tr>
<td><strong>Civil Engineering</strong></td>
<td></td>
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</tbody>
</table>
| ![Image](image1.jpg) Prof. Damodar Maity  
Department of Civil Engineering  
IIT Kharagpur | Recent Trends in Seismic Analysis of Concrete Gravity Dams | 9 June 2014 |
| **Centre for Energy** | | |
| Dr. Ranjit S. Patil  
Department of Mechanical Engineering  
BITS Pilani, Goa Campus | Characteristics of Flow in Fluidised Bed and Microtubes | 26 June 2014 |
| **Mathematics** | | |
| Dr. Ananthnarayan Hariharan  
Department of Mathematics  
IIT Bombay | Tales of a Local Algebraist | 1 April 2014 |
| ![Image](image2.jpg) Prof. John C. Meakin  
Department of Mathematics,  
University of Nebraska-Lincoln | Inverse Monoids and Immersions of 2-complexes | 21 April 2014 |
| ![Image](image3.jpg) Prof. C. S. Rajan  
Department of Mathematics  
TIFR, Mumbai | Local Global Principle – An Introduction | 17 May 2014 |
| ![Image](image4.jpg) Prof. Phoolan Prasad  
Department of Mathematics  
Indian Institute of Science, Bangalore | Question of Equivalence of Huygens’ and Fermat’s Methods of Wavefront Construction | 2 June 2014 |
| ![Image](image5.jpg) Prof. V. Muruganandam  
NISER, Bhubaneswar | Harish-Chandra—Part of His Mathematical Profile | 27 June 2014 |
New Joinings

Dr. R. Anandalakshmi
Assistant Professor
Chemical Engineering

Dr. G. Indu Siva Ranjani
Assistant Professor
Civil Engineering

Dr. Abhishek Kumar
Assistant Professor
Civil Engineering

Dr. Rashmi Dutta Baruah
Assistant Professor
Computer Science and
Engineering

Ms. Charu Monga
Assistant Professor
Design

Mr. Abhishek Singh
Visiting Assistant Professor
Design

Dr. Swati Pal
Assistant Professor
Design

Ms. Nanki Nath
Assistant Professor
Design

Mr. Pankaj Upadhyay
Assistant Professor
Design

Dr. Ravindranath Adda
Assistant Professor
Electronics and Electrical
Engineering

Dr. Nagarjuna Nallam
Assistant Professor
Electronics and Electrical
Engineering

Dr. Shabari Nath
Assistant Professor
Electronics and Electrical
Engineering

Dr. Ngamjahao Kipgen
Assistant Professor
Humanities and Social Sciences

Dr. John Thomas
Assistant Professor
Humanities and Social Sciences
Achievement/Awards/Felicitation

Dr. Manish Kumar Goyal, Assistant Professor, Civil Engineering, has been awarded prestigious Erasmus Mundus Interweave Award, 2014 to deliver lectures and research at Aristotle University of Thessaloniki, Thessaloniki, Greece.

Dr. R. S. Kshetrimayum, Associate Professor, Department of Electronics and Electrical Engineering, was selected Fellow of Institution of Electronics and Telecommunication Engineers (IETE), India.

Prof. S. C. Mishra, Department of Mechanical Engineering, was chosen as the Chair Professor of Indian National Academy of Engineering for the period 1 April 2014 to 31 March 2016.

Dr. P. Muthukumar, Associate Professor, Department of Mechanical Engineering, delivered an invited talk at Clean Energy Research Centre, University of South Florida.

Dr. Mamilla Ravi Sankar, Assistant Professor, Department of Mechanical Engineering, received IEI Young Engineers Award 2014-2015 in the area of Production Engineering.

Prof. Debkumar Chakraborti, Department of Design, chaired a session on Industrial Safety at the First Asian Conference on Ergonomics and Design (ACED 2014) held in May 2014, at Jeju, South Korea.

Student Achievement

Mr. V. Sudharsan Varma, research scholar, Civil Engineering, won best poster award for the paper entitled ‘Evaluation of bioavailability of heavy metals and nutrients during agitated pile composting of green phumdi’ (Co-authors: S. K. Pankaj, W. R. Singh, J. Singh, A. S. Kalamdhad) published in the Proceedings of National Conference on Sustainable Development of Environmental System (NCOSDOES-2014), 20-21 June 2014, Centre for the Environment, IIT Guwahati. He is a research student of Dr. A. S. Kalamdhad, Assistant Professor, Civil Engineering.
PhDs Completed During April–June 2014

<table>
<thead>
<tr>
<th>Department/Centre</th>
<th>No. of Students</th>
</tr>
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<tbody>
<tr>
<td>Biotechnology</td>
<td>14</td>
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<tr>
<td>Chemical Engineering</td>
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<tr>
<td>Chemistry</td>
<td>6</td>
</tr>
<tr>
<td>Civil Engineering</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total** 42

A team of 19 students of IIT Guwahati visited Japan during 16–24 June 2014 under the JENESYS (Japan-East Asia Network of Exchange for Students and Youths) programme. The JENESYS programme is a project advanced by the Japanese government from the standpoint of providing a sound foundation for strong solidarity within Asia through large-scale youth exchange. Started in 2007, the programme has been carrying out exchange programmes aimed at promoting mutual understanding and friendly relations among the nations.