

Connections

IIT Gandhinagar



Connections is the quarterly newsletter for friends of IIT Gandhinagar

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April - June 2013

Institute News

IIT Gandhinagar Wins Best Innovation Award 2013

IIT Gandhinagar won the World Education Award 2013 for innovations in its BTech Programme at the World Education Summit in New Delhi, April 23, 2013 organized annually by the All India Council for Technical Education, Elets Technomedia, National Council for Education Research and Training (NCERT), and United Nations Educational Scientific and Cultural Organization (UNESCO). Prof Achal Mehra, dean, strategic planning and special initiatives, represented the institute at the award



ceremony. The award was presented by Mr Mantriprasad Naithani, minister, school education, adult education, Sanskrit education, Government of Uttarakhand; Mr Shahid Ali Khan, minister of minority welfare and IT, Government of Bihar; and Lt Boris Jelovšek, minister plenipotentiary, Republic of Slovenia.

Faculty News

Awards and Recognition



Ramanujan Fellowship awarded to Prof Sivapriya Kirubakaran

Prof Sivapriya Kirubakaran has been awarded the Ramanujan Fellowship, sponsored by the Department of Science & Technology, Government of India. The fellowship includes Rs 75,000 per month and Rs 5 lakhs per year as a research grant for a period of 5 years. The Ramanujan fellowship is meant to encourage brilliant scientists and engineers from all over the world to take up scientific research positions in India.

New Zealand Earthquake Society Honors IIT Gandhinagar Director

The New Zealand Society for Earthquake Engineering (NZSEE) has inducted Director Sudhir K Jain as a life member for his "exceptional services to society" in recognition of his work in the field of earthquake engineering in India and abroad. He is the first Indian to receive this honour. The recognition was conferred on Prof Jain at the NZSEE 2013 Technical Conference in New Zealand on April 27, 2013.

Professional Activities

Prof Barun Majumder's research essay on Singularity Free Rainbow Universe received an Honorable Mention in the Gravity Research Foundation 2013 essay competition.

Support for the Institute

Major UL Grant for Safety Initiatives at IITGN

IIT Gandhinagar has received a five-year grant from Underwriters Laboratories Inc (UL) to develop safety initiatives at the Institute. The grant will support undergraduate and post-graduate research projects for students of IIT Gandhinagar. IITGN will also use the grant to set up a fire engineering laboratory and other fire safety research and education initiatives. Underwriters Laboratories Inc (UL), USA is a not-for-profit product safety testing and certification organization. Under the five-year grant, IITGN will collaborate with UL on major safety initiatives.



Reaching out

- Prof Sudhir K Jain, director, IITGN, was the Keynote Speaker at the 2013 New Zealand Society for Earthquake Engineering Conference where he delivered a talk on Earthquake Engineering in the Modern World, Wellington, New Zealand, April 26-28, 2013. He also delivered public lectures on Historical Developments in India Towards Seismic Safety and the Road Ahead in Auckland, April 30, 2013.
- Prof Jain participated in the UL Council meeting in Chicago during May 6-8, 2013. He also met with Pan IIT alumni in Chicago. Prof Jain also delivered a talk The IIT Gandhinagar Story: Innovations in Forming a New IIT to the Pan IIT Alumni of the Greater Washington DC Region, May 13, 2013.
- Prof Jain gave a speech on Top to Bottom: The Role of IITs in Meeting India's Societal Needs at the Indian Consulate General in New York, May 15, 2013.
- Prof Jain visited a number of universities in USA and New Zealand and delivered talks on IITGN with the primary aim of creating awareness and recruiting faculty. The universities include University of Illinois at Urbana Champaign, University of Chicago, University of Maryland, Princeton University, Columbia University, University of Auckland, and University of Canterbury in Christchurch.

Sponsored Projects

- ▲ **Experimental & Theoretical Investigations of Polymerization-Grade Ethylene Synthesis**, sponsored by SERB. Principal Investigator: **Prof Sudhanshu Sharma**, Chemistry.
- ▲ **Characterization of Rotational Seismic Excitation**, sponsored by DST. Principal Investigator: **Prof Dhiman Basu**, Civil Engineering.
- ▲ **Statistical Learning of Category Information: A Neuroimaging Investigation**, sponsored by Cognitive Science Research Initiative of DST. Principal Investigator: **Prof Krishna Prasad**, Computer Science and Engineering.
- ▲ **Intelligent Virtual Reality Based Gaze-Sensitive Social Communication System for Children with Autism Spectrum Disorder**, sponsored by Cognitive Science Research Initiative of DST. Principal Investigator: **Prof Uttama Lahiri**, Electrical Engineering.
- ▲ **Molecular-Scale Membrane Curvature Generation in Protein-Lipid Systems: Electrostatics and Hyperphobicity**, sponsored by DST. Principal Investigator: **Prof Abhijit Mishra**, Materials Sci-

ence & Engineering.

- ▲ **Delayed Reconstruction of Unknown Inputs of Dynamical Systems**, sponsored by DST. Principal Investigator: **Prof Harish P M**, Mechanical Engineering.
- ▲ **Development of Low Cost Intelligent Headphones for Improving Social Interactions of Children with Autism Spectrum Disorders**, sponsored by DST. Principal Investigator: **Prof Nithin V George**, Electrical Engineering.
- ▲ **Data Driven Control Loop Performance Assessment & Diagnosis Tool: Implementation in Waste Water Treatment System**, sponsored by DST. Principal Investigator: **Prof Babji Srinivasan**, Chemical & Electrical Engineering.

Consultancy Projects

- ▲ At its special meeting on May 28, 2013, the Board of Governors of IIT Gandhinagar considered a request from the Government of Gujarat for IITGN to provide assistance and guidance for the newly established university **Institute of Infrastructure, Technology, Research and Management (IITRAM)** in Ahmedabad. The Board advised the

Institute to accept this assignment as a Consultancy Project. **Prof Sudhir K Jain** is the Principal Investigator and **Prof S P Mehrotra** the Convenor and Nodal Officer of IITGN for IITRAM Cell.

- ▲ **Identification of an Optimal Disinfectant for the Preservation of RO Purified Water for "Sarvajal" Piramal Waters Private Limited**. Principal Investigator: **Prof Sharad Gupta**, Biological Engineering.
- ▲ **Improving the Present Hydraulic System for Peass Industrial Engineering Pvt Ltd**. Principal Investigator: **Prof N Ramakrishnan**, Mechanical Engineering.
- ▲ **Household Context and Health Care Utilization Among Older Adults in India: A Multi-Method Analysis** has been selected for funding by the United Nations Population Fund. Principal Investigator: **Prof Tannistha Samanta**, Social Sciences.

Scholars-in-Residence

The following faculty served as scholars-in-Residence:

Prof Bijoy Boruah, Professor, Humanities, IIT Delhi; and **Mr Brian Brophy**, Director, Theater Arts, Caltech, USA.

New Faculty

The following faculty joined IITGN during this quarter:

Name	Designation	Discipline	PhD/Last Degree	Date of Joining
Bhaskar Bhatt	Assistant Professor	Design	PGDPD, Nat'l Institute of Design, 2003	16.05.13
Kaliappan Gopalan	Visiting Professor	Electrical Engineering	University of Akron, USA, 1983	20.05.13
Shanmuganathan Raman	Assistant Professor	Electrical Engineering	IIT Bombay, 2011	20.05.13
Gaurav Srivastava	Assistant Professor	Civil Engineering	University of Minnesota, 2011	29.05.13
Vikrant Jain	Associate Professor	Earth Sciences	IIT Kanpur, 2001	14.06.13

Activities at IITGN



India Ki Khoj: An Inter-Institutional Interaction

The second edition of India Ki Khoj was organized during June 19-27, 2013. Fifteen students from California Institute of Technology (Caltech) and IITGN were introduced to a vast range of themes, including Indian mythology, arts and crafts, classical music, popular culture, religion, philosophy, architecture, civilization, politics, and business. The programme was inaugurated by **Prof Roop Rekha Verma**, former Vice Chancellor of Lucknow University, as well

as a philosopher, writer and social activist. It was coordinated by **Prof Rita Kothari** and **Prof Jaison Manjaly**.

Short Courses/ Workshops/ Seminars



- ▲ IITGN hosted the DST's Programme Advisory Committee (PAC) meeting for Mechanical Engineering and Robotics during April 19-20, 2013. The event was organized by **Prof Abhijit Mukherjee** and **Prof Harish P M**.

- ▲ A short course on **Computational Meth-**



Computational Methods in Engineering using MATLAB

ods in Engineering using MATLAB was organized by **Prof Nitin Padhiyar**, May 14-18, 2013. It was attended by 30 members.

- ▲ A two-day **Chemistry Research Meet** was held during May 24-25, 2013. The meet was organized by faculty and students of Chemistry & Biological Engineering. Eminent speakers from AstraZeneca, Bangalore and National Center for Biological Sciences, Bangalore, discussed processes in drug discovery and therapeutics. The meet

was attended by about 100 participants from more than 10 institutes in Gujarat.

Lectures

- ▲ **An overview of Process Modeling and Simulation** by Prof M Chidambaram, IIT Madras, April 1, 2013.
- ▲ **Microelectro Mechanical Sensors** by Prof Navakant Bhat, IISc Bangalore, April 1, 2013.
- ▲ **Aspects of Rational Thinking** by Prof Bijoy Boruah, IIT Delhi, April 2-3, 2013.
- ▲ **Truth and Beauty: Demystifying "The God Particle"** by Prof Rishikesh Vaidya, BITS-Pilani, April 4, 2013.
- ▲ **Liquefied Natural Gas (LNG) Technology** by Mr Sham Sunder, ex-technical director of Petronet LNG limited, and Principal Consultant, business development (IOC), April 6, 2013.
- ▲ **Antarctica Expedition** by Mr Arun P Sathe, retired Scientific Officer, Bhabha Atomic Research Centre, April 8, 2013.
- ▲ **Directional Data on Smooth Manifolds: Many Challenges and Some Solutions** by Prof Ashis Sengupta, Indian Statistical Institute, Kolkata, April 8, 2013.
- ▲ **Social Orientation of Sanskrit Literature** by Dr Siddharth Wakankar, scholar of Sanskrit literature, formerly with Oriental Institute, Baroda, April 9, 2013.
- ▲ **Fifty-five Years of Computing in India** by Prof V Rajaraman, (Padma Bhushan recipient) Indian Institute of Science, Bangalore, April 12, 2013.
- ▲ **Climate Variability and the Population Dynamics of Infectious Diseases in Changing Human Landscapes** by Prof Mercedes Pascual, University of Michigan, April 12, 2013.
- ▲ **Confined Masonry: Key Concepts and Earthquake Performance** by Dr Svetlana Brzev, British Columbia Institute of Technology Vancouver April 22, 2013.
- ▲ **A Vyas for Every Age** by Ms Amruta Patil, writer & painter, June 19, 2013.
- ▲ **Bureaucracy and Politics in India** by Mr KJ Alphons Kannanthanam, bureaucrat turned politician, June 20, 2013.
- ▲ **Ahmedabad and its Architecture** by Prof Neelkanth Chhaya, CEPT, Ahmedabad, June 21, 2013.
- ▲ **Caste in Indian Society** by Dr A F Mathew, IIM Kozhikode, June 23, 2013.
- ▲ **India and Matters of Sexuality** by Mr

Parmesh Shahani, Godrej Industries, June 23, 2013.

- ▲ **Crafts of India** by Ms Meera Goradia, director at KHAMIR, institution of craft and heritage sustenance, June 24, 2013.
- ▲ **Heritage Films and Discussion** by Ms Avni Varia, founder, Aadhar, June 26, 2013.
- ▲ **Brand India** by Mr Santosh Desai, MD and CEO of Future Brands, June 27, 2013.



Roddam Narasimha Distinguished Lecture Series

The Biomass to Biofuels Pipeline: An Engineering Paradigm for National Security and a Sustainable Carbon Economy was delivered by Dr Maureen McCann, director of the Energy Center, Purdue University, USA, April 16, 2013.

Student and Staff Activities

Achievements

- ▲ Rounak Mehta and Akshay Randad, 2nd year mechanical engineering students, have been selected for the **GE Foundation Scholar Leaders Program** to receive a scholarship amount of \$2,250 each for the next two years. They participated in the **Energize to Innovate** workshop organized by the GE Foundation at the Jack F Welch Technology Centre, Bangalore during June 9-12, 2013.



A Randad

R Mehta



- ▲ Three teams comprising Balaji Venkatesh, Hoosein Safdari, Smit Soni, Nishank Jain, Sunil Nair, Anuj Topiwala, Shashank Agarwal, Suyash Patkar and Aryan Kumar were judged 'meritorious' in the **2013 Mathematical Contest in Modeling (MCM)**, which recently

declared its results. One of the three other teams from IITGN comprising Akshay Jain, Nakul Nuwal and Prateek Nyati, received an 'honourable mention' while two teams other, comprising of Saksham Kohli, Nitesh Udhani, Mohit Sharma, Yash Goyal, Shashank Tyagi, and Shivanshu Arora, received recognition for 'successful participation.' The MCM is organized by the Consortium for Mathematics and Its Applications (COMAP), a US-based non-profit organization.

- ▲ **Ankita Arora**, research scholar, Material Science & Engineering; won the award for **Best Poster** in Chemistry Symposium: **Advances in Drug Discovery - Bench to Bedside** organized jointly by Department of Chemistry & Biological Engineering of IITGN, May 24-25, 2013.
- ▲ **Payel C Mukherjee**, research scholar, Humanities (co-author: Prof Arnapurna Rath) won the **Best Paper Presenter** award for the paper **Cloaks and Coverings: Sartorial Carnival in Goopy Gyne Bagha Byne and Harry Potter and the Sorcerer's Stone** at the International Conference on Literature to Cin-

ema: Appropriation, Adaptation, Adulteration, at NIT Durgapur during June 1-3, 2013.

- ▲ **Ms Jasbir Thadani** has been awarded the **Counselor of the Year** award by the Psychology Department of the Gujarat Law Society on June 16, 2013; where she is associated as a visiting faculty.

Summer Internship 2013

During the summer of 2013, nearly 148 undergraduate IITGN students did their internships in universities, research institutes, PSUs and various industries. Out of these, six students went to research institutions such as BARC, DRDO, Nuclear Training Center, Rawatbhata, and Research Center Imarat, Hyderabad; eight students went to Indian academic institutes like IIM Ahmedabad and IIT Bombay; 27 students interned at foreign universities such as Caltech, Duke University, Syracuse University, Washington University and University of Notre Dame; while 107 students spent their summers in industries such as Adani Power, Arvind Mills, DASS Oil Field, GAIL, HMT, HPCL, L & T, ONGC, TATA Motors, Reliance Industries, National Instruments and Texas Instruments.

Students Placement

In the second year of placements for the outgoing batch, the organizations that offered campus placements include Ricoh Innovations, National Instruments, ONGC, GNFC, GSFC, Honda, Volvo-Eicher, Grasims, Flipkart, Timetooth, Infosys, Cognizant, Texas Instruments, and DRDO among others. Of the 66 undergraduates who sought placements, 60 students were successful in securing placement of their liking.

VGEC IITGN Club Series

As part of the VGEC IITGN Club series for first year VGEC students, Prof Bhaskar Datta gave a session on Making Presentations in the Age of Power Point, April 28, 2013.

Researchers' Ferret Confab '13

The second edition of Refeco was organized on April 6, 2013, by research scholars of IITGN. It was open to the entire IITGN student community and included participation from PRL, Ahmedabad. Prof Ajanta Sachan, Prof Rosa Maria Perez, and Prof Sudhanshu Sharma adjudged the oral and poster presentations. Vinay Dwivedi, mechanical engineering and Payel C Mukherjee, humanities received the first position in oral presentation; Pritish Sankhe, electrical engineering received first position in poster presentation. Sumitava Mukherjee and Sherin Sabu, both of social sciences secured the second position in oral presentation and poster presentation, respectively.

Avant Garde 2013

Avant Garde 2013, a visual imagery conference cum workshop on photography

and cinematography was held on April 7, 2013. More than 100 participants from colleges like IIM Ahmedabad, PDPU, CEPT, NID, NIFT, besides IITGN interacted with Dr Deepak John Mathew, NID; Mr Shiv Ahuja, professional music photographer; and Mr Kevin Antao, a freelancer. The event was organized by Bhaskarjyoti Das, Pankaj Gautam, and Shreyans Nahar.

Mechanism Mock-Up Display

The batch of 2010 Mechanical Engineering students held a Gadget/Mechanism Mock-Up Display Open House on April 16, 2013, displaying the gadgets they built as part of Kinematics and Dynamics of Machines Lab. The aim of this exercise was to identify a task that could be simplified by a mechanism followed by designing and building a workable model for the mechanism. Fifty students worked in 17 groups on gadgets like: Bush Cutter Machine, Seed Sowing Machine, Multi-Pin Stapler, Hanging Table, Mechanical Drain Cleaner, Multi-Purpose Furniture, among others.



Abhivyakti: The Story Writing Competition

The competition witnessed 15 interesting and creative entries from both students and staff on a variety of themes. The stories were reviewed by a panel of professors. The story Everything, I do! by Shubham Ranka of 4th year, electrical engineering was adjudged the best entry.

UDAAN

UDAAN - the formal dinner night was held on April 5, 2013 to bid adieu to the graduating batch of 2009 and the pioneer MTech batch. The event was attended by nearly 330 members, including faculty, staff and students. Shashank Pandey and Shashank Sheohare, from the outgoing batch shared their thoughts and experiences. Gourav Dubey's performance was widely applauded. The event was organized by Nitai Bajaj, Mayank Jhalaria, and team.

Life Skill Series

Leadership Skills by Ms Rashmi Datt was held during April 6-7, 2013. All 120 students of the first year batch participated in these sessions.

Roof Top Garden

Sushant Kumar Suman, senior undergraduate in chemical engineering, created a Roof Top Garden at one of the terraces of the institute. The key features of the project are to create a garden: which exerts less pressure on the roof compared to conventional roof top gardens, doesn't require any solid construction, does not hinder regular rainwater seepage, is easy to install as well as dismantle, and economical.

Student Body Election

The following students were declared elected on April 9, 2013 as office bearers for the academic year 2013-14:

General Secretary	: Vibhav Katre
Sports Secretary	: Suryakiran
Academic Secretary	: Pranav Bagaria
Cultural Secretary	: Eepsit Tiwari
Technical Secretary	: Shreyans Nahar

The elections were held under the guidance of Prof Nithin George.

Other Events

- ▲ A 6 week Speaking Circle lead by Dr Dilip Soni, intended to facilitate public speaking skills of students, was held from Feb 23-April 6, 2013. Seventeen students participated in the sessions coordinated by Prof Sharmita Lahiri.
- ▲ A Sitar-Tabla-Workshop was held on April 7, 2013 which introduced the participants to sitar, tabla, raga and tala followed by a short performance by Prof Srinivas Reddy and Mr Rajiv Bhatt. Over 30 members attended the event.

Sports News

IITGN Annual Sports Awards for Academic Session 2012-2013

The following awards were given in different categories on the basis of the performance of students in the academic year 2012-13:

Best Player of the Year	: Shivani Rani
Best Upcoming Player of the Year	: Animesh Kumawat
Badminton Open (Singles)	: Pranshul Saini
Badminton Open (Doubles)	: Niral Parikh and Deepak Sagar
Chess Open	: Chetas Joshi, Pratik Thackar and Parag Chitnis
Inter-Departmental Championship (Boys)	: Chemical Engineering
Inter-Departmental Championship (Girls)	: Electrical Engineering



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fostering a culture of free inquiry, innovation and excellence. We invite you to join us in this initial historic phase in the life of the Institute and in its development into a world-class university.

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IITGN places great emphasis on globalization and diversity. Almost a third of IITGN students have study abroad or other overseas experience in the form of overseas educational or internship opportunities.



IITGN's innovative undergraduate curriculum won the World Education Award 2013 for innovation in engineering education at the World Education Summit. To promote critical thinking and an appreciation of the interdisciplinary character of knowledge, students take almost 20% of their coursework in the liberal arts.

IITGN has created centres of excellence in Design and Innovation, Safety, Bioengineering and Archeology with the generous support of individual and corporate supporters, such as Ricoh Company, Underwriters Laboratories, and the Gujarat Government. Endowed faculty chairs and research fellowships have enabled the institute to recruit exceptional faculty from the world's finest institutions. They enable the institute to recruit and reward talent by offering top-up compensation of nearly 25 percent of the regular faculty salary. Vibrant visiting faculty programmes contribute to diversity and globalisation of the IITGN curriculum.

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