IIT Gandhinagar

Connections



Connections is the quarterly newsletter for friends of IIT Gandhinagar

2013-2014, Volume VI, Issue I July - Sept 2013

Institute News



Second Convocation Ceremony

The second convocation of the Institute was held on Aug 11, 2013 in which a total of 114 students comprising 104 BTech and 10 MTech students were conferred degrees. **Dr Anil Kakodkar**, former Chairman of the Atomic Energy Commission and current Homi Bhabha Chair Professor, was the chief guest at the event. In his convocation speech Dr Kakodkar emphasized the fact that technology was changing the lives of the people faster than one had imagined. **Dr Baldev Raj**, president of the Indian National Academic Engineering (INAE), and chairman of

IITGN BoG presided over the event. The President's Gold Medal in BTech and MTech programmes were awarded respectively to Shruti Jain and Shivani Rani. Other awards included: Institute Gold Medal, BTech (Rohit Chouksey, Shruti Jain, and Vipul Goyal), Institute Gold Medal, MTech (Shivani Rani and

Vivek Rasikbhai Popat), Institute Silver Medal (Mohak Patel, Shalinee Kavadiya, and Narendranath Balasubramoni), Director's Gold Medal (Tarkeshwar Singh), Director's Silver Medal (Mohak Patel, Gupta Adit Sunil, and Aditi Dighe), Outstanding Innovation (Gupta Adit Sunil), Outstanding Social Service (Monica Yadav), Integrity and Exemplary Human Qualities (Aditi Dighe), Outstanding Research (Susmitha Purnima Kotu), Overall Outstanding Performance in Sports (Shivani Rani), Outstanding Performance in Aquatics (Vrushiket Patil), Outstanding Performance

in Indoor Sports (Joshi Chetas Divyeshkumar), Outstanding Performance in Arts and Culture (Shrankhla Narya), Pioneer Batch Award for Outstanding Leadership (Shashank Pandey), Best Performance in the core-courses in Engineering Graphics, and Manufacturing and Workshop Practice (Jainil Pankaj Parekh), Best Performance in core-courses of Mathematics (Subhash Kunche), Best Performance in core-courses in Physics and Chemistry (Vipul Goyal), Best Performance in core-courses in Humanities and Social Sciences (Shruti Jain), and Best Overall Performance in Humanities and Social Sciences Subjects (Monica Yadav).



Foundation Programme 2013



The five-week Foundation Programme that strives to nurture every new batch of undergraduate students in a holistic manner and actively engage them with the five central themes of creativity, values and ethics, teamwork, social awareness and physical fitness was conducted during July 22-Aug 24, 2013. The inaugural address was delivered by **Dr V S Raju**, former director, IIT Delhi. Students also participated in a street cleaning drive, local demographic data collection exercise, tree planting at the new campus and the filming of Gandhi Katha. This edition of the foundation programme was organized by **Prof Kabeer Jasuja**, **Prof Sivapriya Kirubakaran** and **Prof Srinivas Reddy**.

Distinguished Visitors

Mr Kanwal Rekhi, entrepreneur and one of the most successful IITians in the USA, visited the institute on Sep 20, 2013 and interacted with the IITGN community members. He is a board member on the IIT Bombay Her-



itage Fund (IITBHF), and also founded the Kanwal Rekhi School of Information Technology at IIT Bombay and a Computer Science Hall at Michigan Technological University. He was the first Indo-American Founder & CEO to take a venture-backed company public on the NASDAQ, co-founded and built TiE into the largest global network of Indian entrepreneurs, and co-founded Inventus, a leading India-US venture franchise.

Support for the Institute

Support by Mr Avi Nash



Mr Avi Nash has made a significant contribution to IITGN to support fellowships for faculty and for other innovative student and ac-

ademic initiatives. Mr Nash is a former partner of Goldman Sachs, where he headed the Global Chemical Industry Group. He has advised many of the world's leading chemical companies on strategy, acquisitions and corporate finance. He is a Director of Sigma-Aldrich Corporation and serves as a Trustee of several educational and charitable organizations. He earned an MBA from Northwestern University, an MS from Syracuse University and a BTech from IIT Bombay.

Reaching out

Prof Sudhir K Jain, director was part of an Indian delegation organized by MHRD to Helsinki, Finland, for developing collaborations

between Indian institutions and Finnish universities. He visited Aalto and Helsinki universities and met the leadership of government and universities, Sep 23-25, 2013. **Prof Jain, Prof G K Sharma** and **Prof Bhaskar Datta** participated in the **Young Investigators Meet** (YIM), Sep 27-29, 2013 in Cambridge, MA to recruit faculty and later Prof Sharma and Prof Datta also visited Northeastern and Boston University to explore student and faculty exchanges and collaborations.

Faculty News







Prof George Prof Mukhopadhyay

Prof Mehrotra

Awards and Recognition

- ▲ Prof Nithin V George won the INSPIRE (Innovation in Science Pursuit for Inspired Research) Faculty Award for the year 2013. The award is given by Department of Science and Technology, Government of India and the research that the award supports will focus on the design and development of a low cost binaural hearing aid.
- ▲ Prof Jyoti Mukhopadhyay was felicitated by the Indian Institute of Metals Baroda Chapter on Sep 8, 2013 in recognition of his outstanding selfless contribution and meritorious service to the Metallurgical society.
- ▲ Prof S P Mehrotra delivered the prestigious Brahma Prakash Memorial Lecture at Indira Gandhi Centre for Atomic Research, Kalpakkam, Tamil Nadu, Sep 21, 2013. The lecture is organized annually by the Indian Institute of Metals.

Sponsored Projects

Synthesizing single-atom thick inorganic nanosheets isomorphous to graphene by developing chemical exfoliation strategies for layered boronbased materials, sponsored by Department of Science and Technology. Principal investigator: Prof Kabeer Jasuja, Chemical Engineering.

- Measurement to management (M2M): Improved water use efficiency and agricultural productivity through experimental sensor network, sponsored by Media Lab Asia, Ministry of Communications & Information Technology, Government of India. Principal investigator: Prof Vimal Mishra, Civil Engineering.
- Aptamer-magnetic nanoparticle constructs for multiplexed detection of food-borne pathogens, sponsored by the Department of Science and Technology. Principal investigator: Prof Bhaskar Datta, Chemistry.
- CO₂ reforming of methane to generate Syngas using nanostructured doped oxides and nanoporous aluminosilicates sponsored by the Department of Science and Technology. Principal investigator: Prof Sudhanshu Sharma, Chemistry.
- ► Dry coating of nano-additives for energy efficient cement clinkerization sponsored by the Department of Science and Technology. Principal investigator: Prof Chinmay Ghoroi, Chemical Engineering.
- ▲ Dynamics of self-sustained chemomechanical oscillations of active polymer gels sponsored by the Department of Science and Technology. Principal investigator: Prof Pratyush Dayal, Chemical Engineering.
- Investigation of object motion categories in dynamic natural scenes and their applications sponsored by the Department of Science and Technology. Principal investigator: Prof Shanmuganathan Raman, Electrical Engineering.

Consultancy Projects

- Applicability of Intel Atom processor for low-power computing systems and embedded applications for Intel Higher Education Programme. Principal investigator: **Prof Joycee Mekie**, Electrical Engineering.
- A Peer view of design basis report for construction of bridges on freight corridor between Kanpur and Khurja for Dedicated Freight Corridor Corporation of India Ltd (DFCCIL) Principal investigator: Prof Sudhir K Jain, Civil Engineering.
- A Productivity assessment & enhancement for ACME Air Equipments Pvt Ltd, Gujarat Industrial Development Corporation. Principal investigator: Prof N Ramakrishnan, Mechanical Engineering.
- *Discharge estimation in the flood affected area along National Highway 59 for Essel Infra Projects Ltd. Principal investigator: Prof Vikrant Jain, Earth Sciences. Co-PI: Dr Vimal Singh.
- ▲ Flood and waterlogging hazard risk and vulnerability analysis of Mahanadi Delta, Odisha for United Nations Development Programme (NISER Bhubaneswar). Principal investigator: Prof Vikrant Jain, Earth Sciences.

Distinguished Scholar-in-Residence



Prof Rajmohan Gandhi, Research Professor, Center for South Asian & Middle Eastern Studies, University of Illinois at Urbana-Champaign.

New Faculty

The following faculty joined IITGN during this quarter:

Name	Designation	Discipline	PhD/Last Degree	Date of Joining
Emmanuel Deriat	Visiting Professor	Mechanical Engineering	University Paris 6, 1988	02.07.13
Siddharth Wakankar	Visiting Professor	Humanities	M S University Baroda, 1995	04.07.13
Mohan Joshi	Visiting Professor	Mathematics	Purdue University, 1973	09.07.13
Prakash Dandekar	Visiting Professor	Electrical Engineering	MTech, IIT Bombay, 1975	26.07.13
Surjeet Kour	Assistant Professor	Mathematics	IIT Kanpur, 2012	02.08.13
Rajagopalan Srinivasan	Professor	Chemical Engineering	Purdue University, 1998	30.08.13

Activities at IITGN

Felicitation Ceremony



Prof K V V Murthy completed 50 glorious years of teaching on Sep 16, 2013. A felicitation ceremony was organized to mark this

momentous occasion. Prof Murthy shared several anecdotes from his past experiences and other colleagues who have known him over several decades spoke glowingly about his passion for teaching and his humility.



Meeting of Gravity Theorists

IIT Gandhinagar hosted the Field Theoretic Aspects of Gravity (FTAG-2013) meeting during Sep 5-8, 2013. Some of India's eminent scientists from leading research and academic institutes attended the event. The focus of this year's FTAG meeting was on various issues related to classical and quantum nature of gravitation, black hole physics, gravitational waves and cosmology. A public lecture on State of the art of detection of gravitational waves - one of the most exciting predictions of Einstein's general relativity was delivered by Prof Bala Iyer, chairman, IndIGO consortium on Sep 6, 2013. The event was coordinated by Prof Anand Sengupta, Prof Sudipta Sarkar and Prof Barun Majumder.



TARJUMA: Festival of Translators

The two-day festival organized during July 25-26, 2013 brought together eminent translators of South Asian literature who work on a broad range of Indian languages and genres. Publishing houses such as Oxford University Press, Penguin, and Orient Blackswan released some of their translation titles during the festival. The event was organized by **Prof Rita Kothari**, **Prof Srinivas Reddy**, and **Pooja Thomas**, a doctoral student.

Summer Camp 2013

The summer camp held during July 16-26, 2013 was designed to expose the IITGN community to a variety of creative activities such as film-making, neuromarketing, Hindustani classical music and animation. The summer camp was coordinated by **Prof Bhaskar Datta** and **Prof Bhaskar Bhatt**. Nearly 50 participants comprising students, staff and faculty participated in the events.

Short Courses/Workshops/Panels

- A 3-day workshop on Research Methods in Population Studies, June 12-14, 2013 was organized by Prof Tannistha Samanta (convener), Prof Amy DeSantis, Prof Malavika Subramanyam, and Prof Shivakumar Jolad. The event was attended by 15 external participants as well as IITGN students. External speakers included Dr Suman Bhattacharjea, director of Research, ASER (Assessment Survey Evaluation Research, New Delhi); and Dr Smriti Pahwa, head, Social Sector Unit, ASER.
- A workshop on Society, Culture, and Public Health in India, under the auspices of the Center for Biomedical Engineering at IITGN, July 19-23, 2013. Inaugurated by Shri P K Taneja, Commissioner of Health, Medical Services and Medical Education and ex-officio Principal Secretary & Commissioner (Public Health & Family Welfare), the workshop was attended by about twelve delegates from the School of Public Health at SUNY Albany. The event was organized by Prof Malavika Subramanyam.
- A one-day **Brainstorming Workshop** was also organized on July 29, 2013 in which IITGN faculty interested in biomedical engineering and eminent researchers from NUS, Singapore; RMIT, Australia; University of Columbia, USA; IIT Kharagpur and IIT Bombay participated.
- A short course on Globalization and Work Cultures by Mr Anoop Tandon, business director, Praxair India, during Sep 7-8, 2013, was attended by 17 students.

Lectures

- Application of smooth exterior scaling methods to calculate the high harmonic generation spectra by Prof Ashish Gupta, IIT Guwahati, July 10, 2013.
- Crystallographic texture, microtexture and stresses: glimpses of research activities from IIT Bombay by Prof Indradev Samajdar, IIT Bombay, July 12, 2013.
- *Understanding the world's greatest structures by Prof V S Raju, former director of IIT Delhi, July 23, 2013.
- A Solar PV module lifetime and degradation science of PV power plants: modules and micro-inverters by Prof Roger French, Case Western Reserve University, USA, Aug 6, 2013.
- ▲ Tracing the growth of iron technology in ancient India by Prof Vibha Tripathi, archaeometallurgist, Aug 7, 2013.
- Digital microfluidic biochips: towards functional diversity, more than Moore, and cyber-physical integration by Prof Krishnendu Chakrabarty, Duke University, Aug 12, 2013.

- ▲ Towards an understanding of class conflict in Gujarat by Ms Smriti Upadhyay, graduate student, Johns Hopkins University, Aug 16, 2013.
- Sustainable infrastructure and environment: a tentative framework for integrative research and education by Dr Shaleen Jain, University of Maine, USA, Aug 21, 2013.
- Fatigue behavior of steels and superalloys by Prof Bhanu Sankara Rao, Steel Chair Professor, Government of India and Head, Mechanical Metallurgy Division, Indira Gandhi Centre for Atomic Research (IGCAR), Kalpakkam, Aug 23, 2013.
- A Decompositions of even degree regular graphs and multigraphs into small trees by Prof Shailesh Tipnis, Illinois State University, Aug 26, 2013.
- ▲ India Bioscience (IBS), an initiative to promote research and education in the life sciences in India, by Dr Swetha Suresh, associate director, India Bioscience, Aug 26, 2013.
- N-Confused hexaphyrins: novel NIR ligands that coordinate bis-metals by Prof H Furuta, Kyushu University, Fukuoka, Japan, Sep 4, 2013.
- A Using enzymes nature's own catalysts for chemical transformation by Prof Anju Chadha, IIT Madras, Sep 5, 2013.
- Lecture on the book Knowledge and human liberation: towards planetary realizations by Prof Ananta Giri, Madras Institute of Development Studies, Chennai, Sep 6, 2013.
- ▲ What ails the Indian reform story? by Dr Indira Rajaraman, senior RBI economist, scholar and columnist, Sep 12, 2013.
- ▲ Ethical values and issues in higher education and Thin film deposition techniques by Prof K L Chopra, former Director IIT Kharagpur, Sep 17-18, 2013.
- A Should I stay, should I go? Reverse migration of India-born scientists and engineers by Dr Meghna Sabharwal, University of Texas at Dallas, Sep 18, 2013.
- Arjun's problem by Prof B N Patnaik, retired professor of English and Linguistics, IIT Kanpur, Sep 20, 2013.
- A Chip package interaction in 3D ICs by Dr Vinay Kumar Dasarapu, Synopsis, Sep 20, 2013.
- Neutron-anti-neutron oscillation and project-X by Prof Utpal Sarkar, PRL Ahmedabad, Sep 23, 2013.

Physiotherapy Centre

A physiotherapy centre with a wide range of exercise therapy equipment has been started at the institute with **Dr Arvind Chauhan** (BPhysio) available at the centre for two hours every day.

Student and Staff Activities

UL-IITGN Electric Vehicle Project



The project is the continuation of the UL Engineering Challenge which was organized by Underwriters Laboratories Inc. The team comprising BTech 3rd year students **Akash Keshav Singh**, **Harsh Gupta**, **Kimaya Kale**, **Madan Taldevkar**, **Prathamesh Bhat**, **Preet Shah**, **Rounak Mehta** and **Vaibhav Gandhi** have converted a CNG-operated 4-stroke auto-rickshaw in to a battery-operated vehicle by making minimal changes to the existing structure. The students are guided by **Prof Atul Bhargav** and **Prof Chinmay Ghoroi** from IITGN, and **Dr**

Amey Karnik, Research Engineer at Ford Motors USA.

Field Trin to Kudasan Water Treatment Plant

A group of 20 MTech and PhD students visited the water treatment plant at Gandhinagar on Sep 7, 2013. The plant with a capacity of 30 MLD provides clean water to approximately 1 lac people. The plant uses Conductive Polymer Solid Capacitors, a more effective coagulant than alum. The trip was facilitated by **Mr D G Kalaria**, executive engineer, Gujarat Jalsewa Training Institute (GJTI), Gandhinagar, **Mr B B Patel**, chief engineer and director of GJTI and **Mr Paresh Bhai Sheth**, design engineer. The trip was organized by **Prof Indrajit Ghosh** and **Shivani Rani**, research assistant.

Independence Day Celebrations

The 67th Independence Day celebrations on Aug 15, 2013 began with the flag hoisting ceremony by the Director, **Prof Sudhir K Jain**. On this occasion 118 students who featured



on the Dean's List 2012-13 (semester II) by securing an SPI of 8.5 or more, were felicitated. A panel debate was also organized on the topic **Should Indian state leaders decide national policies?** The programme concluded with a drama titled **Cultural Shock** presented by Abhinaya, the drama club of IITGN.

Life Skill Series

A session on Exam anxiety: do not let it take a toll was conducted by Ms Jasbirkaur Thadhani, Sep 14, 2013. Thirty students participated in the session coordinated by **Prof Sharmita Lahiri**.

Sports News

Intra-College Cricket Tournament

An intra-college cricket tournament was organized during Aug 24-28, 2013. A total of 20 eight-member teams participated in the fiveday event. The Rebels (Abhishek Singh, Dhruv Pancholi, Chetan Choudary, Milan Singh, Rahul Khandait, Krishan Meena, Manoj Kumar, and Himanshu Yadav) defeated SRH by 1 run. Shashank Tyagi was adjudged the best batsman of the tournament and Chetan Choudary was declared the best bowler of the tournament. The event was coor-

dinated by **Suryakiran** (Sports Secretary), **Sujay J S** (Cricket Secretary), **Thrinath Reddy** and **Santhosh Chowhan**.

Intra-College Sports Tournament

A total of around 150 students (BTech, MSc, MTech and PhD), faculty and staff members participated in games like cricket, volleyball, badminton and table tennis during Aug 26 - Sep 9, 2013. In cricket and volleyball, the BTech team defeated the team of staff and faculty. **Deepak Samal** won the **badminton**



tournament, while **Tapan Shah** won the table tennis competition. The event was coordinated by **Suryakiran** (Sports Secretary) and **Wasim Khan**, senior undergraduate.

Giving to IIT Gandhinagar

IIT GANDHINAGAR RELIES ON THE SUSTAINED GENEROSITY OF ITS FRIENDS FOR SUPPORT OF MANY OF ITS EXCITING AND INNOVATIVE INITIATIVES.

IITGN partners share our dream and vision of excellence. The institute has developed a reputation for thinking outside traditional disciplinary boundaries, experimenting with various facets of education and research and

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 its pursuit of developing into a world-class university.

For more information on giving to IIT Gandhinagar, please see donate.iitgn.ac.in

Donations are 100% tax deductible in India. Donations to the IIT Gandhinagar Foundation in the US are 100% tax deductible in the USA.

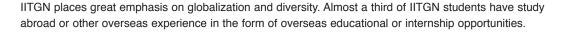
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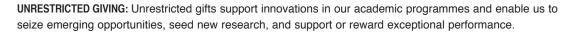
IITGN's innovative undergraduate curriculum won the World Education Award 2013 for innovation in engineering education at the World Education Summit. To promote critical thinking and an appreciation of the interdisciplinary character of knowledge, students take almost 20% of their coursework in the liberal 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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EVERY CONTRIBUTION, SMALL OR LARGE, AIDS OUR ENDEAVOUR TO PURSUE EXCELLENCE. JOIN US ON OUR JOURNEY TO A WORLD CLASS INSTITUTION.

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- · Endowed faculty chairs or research fellowships to recruit and retain the world's leading faculty members;
- · Excellence awards to reward exceptional performance by faculty and staff;
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- Pioneer PhD scholars programme to support doctoral students;
- · Overseas research experience fund for PhD students and young faculty;
- · Merit scholarships for undergraduate students.

SPECIAL GIFTS: We also welcome special gifts in targeted focus areas, which often serve to jumpstart new programs and initiatives at the college. Contact: deansp@iitgn.ac.in

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