

Connections

IIT Gandhinagar



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Connections is the quarterly newsletter for friends of IIT Gandhinagar

Institute News

BOG APPROVES NEW SCHEMES

At its meeting held on Dec 2, 2014, the Board of Governors approved proposals on the creation of centres in **Cognitive Science** and **Sustainable Development**. It also approved a proposal for creating the **IIT Gandhinagar Explorer's Fellowship**, which en-

ables students to undertake travel and introduce them to cultures, people, and areas of India with which they are not familiar. The board approved the creation of the IIT Gandhinagar **Innovation and Entrepreneurship Centre (IIEC)** to support the incubation and technology commercialization initiatives.

Reaching Out

Prof Sudhir K Jain, Prof Achal Mehra and **Prof Pratyush Dayal** visited IITGN well-wishers and friends in California, New York, Washington DC, and Boston, Oct 2-13, 2014. They attended a seminar on "Meeting the 21st Century Challenges in Technology Education" in Santa Clara, Oct 4, 2014 organized by IIT Gandhinagar Foundation, in association with alumni of the IITs, IIMs, IISc and BITS. Prof Jain, **Dr Satish Tripathi**, president of SUNY Buffalo and **Vivek Wadhwa**, fellow, Duke University participated in the panel moderated by **Dr Prabhu Goel**, technologist & developer. Prof Jain & Prof Dayal attended the Young Investigator Meet 2014 in Boston, USA, Oct 11-13, 2014. Prof Mehra visited Tampa, Florida for development initiatives, Oct 1-2, 2014. Prof Jain gave an inaugural lecture on the "Making

of a University" lecture series at IIT Kanpur, Nov 27, 2014. Prof Jain also gave a talk "Opportunities and challenges of building a world class IIT from the ground up: The IIT Gandhinagar Story" at IISc Bangalore, Dec 23, 2014.



Faculty News

AWARDS AND RECOGNITION

- **Prof S P Mehrotra** received the **National Metallurgist Award** (Research & Academia) for the year 2014. The Ministry of Steel, in association with the Indian Institute of Metals, recognizes outstanding contributions of metallurgists and bestows this distinction on two persons every year.
- **Prof Sharmistha Majumdar** has been awarded the **Ramalingaswami Re-entry Fellowship** by the Department of Biotechnology for a period of 5 years.
- **Prof Vimal Mishra** has been selected for the **National Environmental Science Fellowship** by the Ministry of Environment and Forest for the proposal "Implications of land cover/land use and climate changes on soil moisture variability in India."



EXCELLENCE AWARDS TO FACULTY

Dr Baldev Raj, Chairman, Board of Governors, IIT Gandhinagar addressed the students and faculty at IITGN on Dec 2, 2014 and presented Excellence Awards in various categories to faculty members. **Prof Tannistha Samanta**, (Social Sciences) received the **Excellence in Teaching** award, **Prof Sameer Dalvi** (Chemical Engineering) received the **Excellence in Research** award, and **Prof Harish P M** (Mechanical Engineering) received the **Excellence in Institution Building** award.

SPONSORED PROJECTS

- **Microstructure studies of self-assembled Cu (In_{1-x}Ga_x)Se₂ (CIGS) nanodots on ZnO thin film** sponsored by the Council of Scientific and Industrial Research. Principal investigator: **Prof Emila Panda**, Materials Science and Engineering.
- **Process efficiency and stability of autothermal reformers for diesel-based marine fuel cell systems** sponsored by Naval Materials Research Laboratory. Principal investigator: **Prof Atul Bhargav**, Mechanical Engineering.

- **Designing impact evaluations for gram varta under SW-ASTH, Bihar** sponsored by International Initiative for Impact Evaluation (3ie). Principal investigator: **Prof Malavika A Subramanyam**, Humanities & Social Sciences.
- **Meshfree implementation of cardiac electrophysiology** sponsored by Science and Engineering Research Board. Principal Investigator: **Prof Shankarjee Krishnamoorthi**, Mechanical Engineering.
- Industry sponsored project: **Natural evaporative effluent treatment** sponsored by Sagar Drugs and Pharmaceuticals Pvt Ltd. Principal investigator: **Prof Atul Bhargav**, Mechanical Engineering.
- **Human development report, Ahmedabad** sponsored by Gujarat Social Infrastructure Board. Principal investigator: **Prof Tannistha Samanta**, HSS; Co-PIs: **Prof Malavika Subramanyam** and **Prof Shivakumar Jolad**.

CONSULTANCY PROJECTS

- **Failure investigation analysis of steel chimney at Sanghi Industries Ltd, Vadodara** for Rakesh Narula & Company, Vadodara, Gujarat. Principal investigator: **Prof Gaurav Srivastava**, Civil Engineering.
- **Intel (R) Galileo course work development** for Intel Ltd. Principal investigator: **Prof Joyce Meki**, Electrical Engineering.
- **Low-cost automation system** for KONARK group of com-

panies, Mumbai. Principal investigator: **Prof N Ramakrishnan**, Mechanical Engineering.

- **Vetting of design and drawings of drainage siphons** for KTECHNOCARE. Principal investigator: **Prof Pranab Kumar Mohapatra**, Civil Engineering.
- **Climate change impact assessment for the state of Madhya Pradesh** for State Knowledge Management Centre on Climate Change, M P. Principal investigator: **Prof Vimal Mishra**, Civil Engineering.

PATENTS FILED

IITGN faculty & students have filed application for two patents. The first of these is an **Eye Tracker System** by **Prof Uttama Lahiri** (IITGN), **Dr Anirban Dutta** (INRIA, France) and **Dr Abhijit Das** (Institute of Neurosciences, Kolkata), which enables post-stroke therapy based on eye-gaze diagnosis and operant conditioning with minimal expert intervention. The second invention is a **Multi-parameter Patient Monitoring System** by **Prof Uttama Lahiri** (IITGN), **Mr Dhaval Solanki** (MTech, IITGN) and **Mr Poojan Oza** (JRF, IITGN), which enables the measurement of multiple physiological parameters of a patient non-invasively using a pulse-plethysmogram sensor and a pressure sensor. A design of a single component translucent **Street Bin** conceived by **Prof Dinesh Korjan** (IITGN) and **Mr Mahaan Ghose** (Independent Design Professional) has also been registered.

NEW FACULTY

The following faculty joined IITGN during this quarter:

Name	Designation	Discipline	PhD/Last Degree	Date of Joining
Abhay Raj Singh Gautam	Assistant Professor	Materials Science & Engineering	University of Virginia, 2009	07.10.14
Pranab Kumar Mohapatra	Professor	Civil Engineering	IIT Kanpur, 1999	24.11.14
Rachel Shalom	Visiting Faculty	Social Sciences	Recanati Business School, Israel, 2014	03.12.14
Baradhvaj Coleppa	Assistant Professor	Physics	Michigan State University, 2009	16.12.14
Raghu Echempati	Visiting Professor	Mechanical Engineering	IIT Kharagpur, 1976	17.12.14
Hamida Banu Chopra	Visiting Faculty	Social Sciences	Jamia Aligarh University, 1971	30.12.14

SCHOLAR-IN-RESIDENCE

Name	Affiliation	Date of Joining
Chandrakant Desai	Regents Professor Emeritus, Engineering Mechanics, University of Arizona	15.12.14
Nuno M Guimaraes	Professor, Department of Information Science and Technology, University Institute of Lisbon	13.10.14
Katrin Beyer	Assistant Professor, École Polytechnique Fédérale de Lausanne (EPFL), Switzerland	20.10.14
Frederick Coolidge	Professor, University of Colorado, USA	29.12.14

Activities at IITGN

FIELD TRIP

A team consisting of **Prof Amit Prashant**, **Prof Ajanta Sachan**, **Prof V N Prabhakar**, **Prof Alok Kanungo**, **Mr Michel Danino**, **Dr R S Bisht**, **Dr Vinod V**, **Dr Sandhya Mishra**, **Ms Silky Agrawal**, and **Mr Mantu Majumdar** visited Dholavira



during Dec 5-6, 2014 to carry out a preliminary ground penetrating radar survey under the aegis of Archaeological Sciences Centre, IITGN in collaboration with Archaeological Survey of India.

FACULTY & STAFF PICNIC

The annual picnic was held on Nov 16, 2014 at Gujarat Forest Research & Training Institute, Gandhinagar. Nearly 100 people, including faculty, staff and their family members joined. Plenty of outdoor and indoor fun activities for both children and adults organized by the co-ordinators **Prof Madhumita Sengupta**, **Prof Chandrakumar Appayee** and **Prof Harish P Madapusi** made the day memorable.

INTERNATIONAL CONFERENCE ON SAFETY



IITGN Safety Centre in association with Underwriters Laboratories Inc. organized the 2nd **International Conference on Safety (ICS 2014)** from Dec 2-6, 2014. A pre-conference workshop on **Process Safety Education** was conducted by **Prof Daniel Crowl** from Michigan Technological University. As part of the conference, a **Symposium on Process Safety (SPS 2014)** was also held to commemorate the

30th anniversary of the Bhopal Gas Disaster. A short course on **Design and Safety of Structures under Fire** was also conducted by **Prof Gaurav Srivastava**, **Prof Dhiman Basu**, IITGN; **Dr Venkatesh Kodur**, Michigan State University, USA; and **Dr Anthony Abu**, University of Canterbury, New Zealand, Dec 5-6, 2014. The conference was organized by **Prof Rajagopalan Srinivasan** and **Prof Chinmay Ghoroi**.



DESIGN FOR A BILLION CONFERENCE

A three-day international conference titled **Design for a Billion** was organized from Nov 7-9, 2014. Nearly 200 designers, researchers, educators, practitioners, and entrepreneurs from across the world came together at IITGN to discuss the implications and future of design for mass impact. Speakers included **Dr Klaus Krippendorff**, University of Pennsylvania, USA; **Dr Jonas Wolfgang**, Institute of Transportation Design, Germany; **Dr Jean Joseph Boillot**, Co-Chairman of the Euro-India Economic & Business Group (EIEBG); **Dr Gjoko Muratovski**, Head, Communication Design at AUT, New Zealand, **Mr Suresh Sethi**, Vice President, Whirlpool Design Asia; and **Mr Satish Gokhale**, founder of Design Directions Pvt Ltd.

INDIA KI KHOJ

The third edition of **India Ki Khoj** was organized from Dec 15-22, 2014. The eight day-long intensive programme that is held every year at IITGN provides a unique platform to promote understanding and appreciation of India. The participants comprised 10 students from California Institute of Technology (Caltech) and 13 students from IITGN. The programme included a day-trip to Bhasha, the centre for tribal languages and culture (Chhota Udaipur), a heritage walk, a visit to the Calico Museum and talks by **Urvashi Butalia**, **Nasreen Munni Kabir**, **Sanjoy Hazarika**, **Aditya Sood** among others.



LUMOS: ANOTHER STARTUP @ IITGN

Lumos is a startup with focus on building products that simplify home automation. It is founded by three electrical engineering graduates of IIT Gandhinagar - **Yash Kotak**, **Pritesh Sankhe** and **Tarkeshwar Singh**. The company is currently building smart electrical switches that can automate all electrical appliances in a home. These switches learn from user behavior and have inbuilt sensors that allow them to track ambient conditions and human presence to take accurate automation decisions.

SHORT COURSES/ WORKSHOPS/ PANELS

- A workshop on **Industrial Hazard Identification using HAZOP** by **Sri G Vishwanathan**, former Deputy General Manager, Indian Petrochemicals Corporation (now RIL), Vadodara and **Prof Rajagopalan Srinivasan**, IITGN, Oct 11-12, 2014.
- Short course on **Displacement-based Methods in Seismic Design and Assessment** by **Dr Katrin Beyer**, EPF Lausanne, Oct 20-24, 2014.
- Short course on **Development Studies** by **Dr Sandeep Pandey**, co-founder of Asha for Education, Nov 1-2, 2014.
- A workshop on **Scarred Nations: Partition in the Indian Subcontinent** was inaugurated by **Prof Sanjay Palshikar**, Hyderabad Central University with a talk on **Nation and nationalism** followed by a talk on **Witnessing partition** by **Prof Tarun Saint**, Hindu College, Nov 7, 2014.
- Short course on **The Psychology of Conservation & Sustainability** by **Dr Jolina Ruckert**, University of Washington, Nov 8-9, 2014.



- Short course on **Geotechnical Investigations for Structural Engineering** by **Prof V S Raju**, **Prof Ajanta Sachan**, and **Prof Amit Prashant**, IITGN, Nov 13-15, 2014.
- A workshop on **Foundation of Personality: When Abhishek Meets Rahul** by **Ms Sarita Shah**, Psychotherapist and behavioral trainer, Nov 15, 2014.
- An industry workshop to review the **Civil Engineering Curriculum** was held on Nov 22, 2014. It was coordinated by **Prof Amit Prashant & Prof Dhiman Basu**.
- Workshop on **Networking, Negotiation & Communication** by **Mr Ulhas Kamat**, CEO, I Create India, Nov 30, 2014.
- **Rozgar Evam Udhyaamitha Vikas Karyakram** was organized by NEEV (Nurture & Empower Entrepreneurial Ventures), an IITGN community outreach programme and I Create India, a non-profit organization; for aspiring entrepreneurs from IITGN staff and their family members, Dec 5-8, 2014.
- A two-day workshop on **Archaeometallurgy and Archaeology** was organized by the Archaeological Sciences Centre, IITGN and Archaeological Survey of India (ASI), Dec 8-9, 2014.

LECTURES

- **Basic awareness about cancer** by eminent oncologists **Dr Usha Bohra** and **Dr Vishal Choksi**, Apollo Hospitals, Ahmedabad, and **Dr Arun Shet**, St John's Hospital, Bangalore, Oct 7-12, 2014.
- **Learning and deciding from uncertain data** by **Prof R N Singh**, CSIR-National Geophysical Research Institute, Hyderabad, Oct 10, 2014.
- **Optical-matter: creating nanomaterials with light** by **Dr Uttam Manna**, The James Franck Institute, University of Chicago, Oct 27, 2014.
- **Internet freedom: Hot-button challenges** by **Dr Nikhil Moro**, scholar and teacher of digital media law, Oct 30, 2014.
- **Application of technology to develop human qualities and be a happy achiever** by **Dr Ronak Shodhan**, engaged in academic, counseling, social and philanthropic services, Oct 31, 2014.
- **Culture and psychology** by **Prof Lilavati Krishnan**, IIT Kanpur, Nov 7, 2014.
- **Telling new stories with old bones: understanding Harappan migration through archaeological bone chemistry** by **Mr Benjamin Thomas Valentine**, Dartmouth College, USA, Nov 10, 2014.
- **Risk assessment of petroleum oil storage** by **Dr Ravi Kumar Sharma**, IIT Roorkee, Nov 13, 2014.
- **Black holes in the universe** by **Prof Ranjeev Misra**, Inter University Center for Astronomy and Astrophysics (IUCAA), Pune, Nov 17, 2014.
- **Energy spectrum of buoyancy-driven turbulence** by **Prof Mahendra K Verma**, IIT Kanpur, Dec 5, 2014.
- **From powders to shapes, components and devices through powder synthesis, shape forming and assembly** by **Prof Parag Bhargava**, IIT Bombay, Dec 5, 2014.
- **Scaling relationships for mechanical behavior in nanocrystals** by **Prof Atul H Chokshi**, IISc Bangalore, Dec 12, 2014.
- **Changing role of libraries and librarians: Experience of Drexel University libraries** by **Mr Jay Bhatt**, Drexel University Libraries, USA, Dec 23, 2014.
- **The case for a holistic technical view of sustainability and impetus for better designs** by **Dr Subhas K Sikdar**, National Risk Management Research Laboratories, Cincinnati, USA, Dec 30, 2014.
- **What did the Bayesian ideal observer teach us about vibrotactile perception?** by **Dr Arindam Bhattacharjee**, University of Toronto, Dec 30, 2014.

Student and Staff Activities

AMALTHEA 2014

The 5th edition of Amalthea, the annual technical summit with the theme **Ideate and Innovate** was held from Oct 11-12, 2014. Eminent speakers at the conclave included **Dr R Chidambaram**, Principal Scientific Advisor, Government of India; **Dr Gurtej Sandhu**, Director of Advanced Technology Developments, Micron Technology Inc.; **Mr Sumit Chowdhury**, President, Reliance Jio Infocom; **Mr A S Kiran Kumar**, Director, Space Applications Centre, ISRO; **Dr Aravind Chinchure**, Chair Professor of Innovation and Entrepreneurship, Symbiosis International University, **Dr Anil Bhardwaj**, Director,



Space Physics Laboratory, ISRO; and **Dr N Ravichandran**, Professor, IIM Ahmedabad. The **Design and Innovation Expo** had active participation from some of the tech giants like **Microsoft** which showcased its Garage Initiative **Ripple**. Trendy gadgets like Google Glass, Google Cardboard, and Leap Motion were also showcased. Other prominent exhibitors included **ISRO**, **Bisko Labs**, **ITER**, **Light Logics** and **AHA 3D Printer**.

AWARDS AND RECOGNITION

- **Ankita Arora** received the **Springer Best Student Oral Presentation Award** and cash prize of Rs 20,000 at the International Conference on Polymeric Biomaterials, Bioengineering and Biodiagnostics, New Delhi, Oct 27-30, 2014.
- **Veerabhadraiah Pakallolu** received the **Best Poster Award** at the 8th Asian Photochemistry Conference, Trivandrum, Nov 9-13, 2014.

Sports News

INTER-IIT SPORTS MEET

- **Animesh Kumawat** won silver medal in 200m back-stroke, bronze medals in 100m back-stroke and 1500m freestyle at the **50th Inter-IIT Aquatic Meet**, Oct 1-4, 2014 at IIT Bombay. **Nisha Rawat** won silver medal in 50m breast-stroke and **Parth Sane** won bronze medals in 50m butterfly and 50m back-stroke.
- **Taruna Yadav** won a bronze medal in shot put (women) with a throw of 7.32m at the **50th Inter IIT Sports Meet** held from Dec 12-19, 2014 at IIT Bombay.
- **Ms Twinkle Patel** received the **Best Athlete Trophy** (women) for winning three gold medals in 100m, 200m and long jump events at the **22nd Inter-IIT Staff Sports Meet**, Dec 22-26, 2014. She set a new Inter-IIT record in long jump and 200m race. **Ms Laxmi Hirani** won silver medals in shot-put and 100m race. IITGN bagged the **Athletics Championship Trophy** (women) for outstanding overall performance.

OTHER SPORTS EVENTS

- The Men's basketball team won the gold medal in **Khel Mahakumbh** tournament, Oct 13, 2014. The team members were each awarded a cash prize of Rs 4,000. Four players of the team: **Krishan Meena**, **Manoj Kumar**, **Sanjay Meena** and **Prince Singh** have been selected to represent the Gandhinagar district team in the state-level sports tournament of Gujarat. The Girls basketball team won a bronze medal in the tournament.
- The Girls volleyball team won gold medal in Shaurya 14, the inter-college sports tournament conducted by IIM Ahmedabad on Oct 10-12, 2014.
- IITGN Girls badminton team comprising **Vaishanvi Patil** and **Swasti Medha** defeated PDP to win the DAIICT Concur-14 Singles & Doubles Championships.

