

# Connections

IIT Gandhinagar



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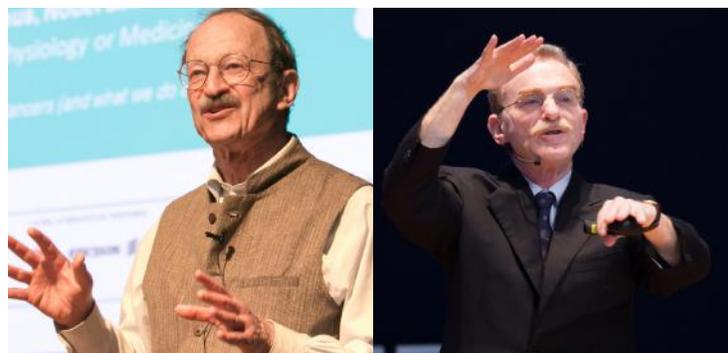
Connections is the quarterly newsletter for friends of IIT Gandhinagar

## Institute Activities



### PADMA SHRI AWARD TO IITGN FACULTY

Prof Michel Danino was conferred with Padma Shri, one of the highest civilian awards of the nation. He was awarded for his contributions towards Literature and Education. Professor Danino has been a Guest Professor at IITGN since 2011, where he has been teaching courses which give a broad panorama of the Indian culture and civilization. He played a key role in establishing the Centre for Archaeological Sciences at IITGN.



### VISIT OF THE NOBEL LAUREATES

Two Nobel Laureates in Physiology and Medicine Prof Randy Schekman of University of California (Berkeley) and Prof Harold Varmus of Weill Cornell Medicine (Cornell University) visited IITGN on Jan 11, 2017 and delivered public talks on How cells exports Proteins and How cells becomes cancer (and what we do about it) in the campus auditorium respectively.

## Support for the Institute

### JASUBHAI ENDOWMENT FUND

A large endowment fund has been established at the Institute in honour of Mr Jasubhai Shah, a visionary, entrepreneur, philanthropist, and patron of the arts and sciences. The endowment will support excellence in education and research, and also support Jasubhai Memorial Chair. Main auditorium in the campus has been named as Jasubhai Memorial Auditorium and the ceremony took place on Feb 10, 2017. Mr B Narayan, Group President, Reliance Industries Ltd was the Chief Guest on this occasion. Mr Maulik Jasubhai delivered the address on behalf of Jasubhai group and family. The Minister of Railways, Shri Suresh Prabhu sent a video message recounting the memory of Mr Jasubhai Shah. Members of the Indian National Youth Orchestra performed during the evening.



### BAKSHIRAMBHAI S GELOT CHAIR

Shri Gordhanbhai B Gelot has set up a faculty chair in honour of his late father Shri Bakshirambhai S Gelot. Based in Mumbai, Shri Gordhanbhai runs a small scale industry in Umargam (south Gujarat). His father was a self-made successful farmer but deprived of receiving any formal education. He recognized the importance of education and gave the best possible education to his children. The chair is meant to recognize and reward academic excellence.



### PORTUGUESE MINISTER VISITS IITGN

Two distinguished visitors from Portugal, Prof Manuel V Heitor, Minister for Science, Technology and Higher Education & Prof Antonio M Cunha, Rector, University of Minho (and President, Portuguese Universities Rector's Council) visited IITGN on Jan 10, 2017. The minister's visit was aimed at strengthening the scientific and technological cooperation between the universities in Portugal and IITGN. The Portuguese delegates and IITGN faculty members discussed joint researches, exchange of faculty and students and possibilities of promoting collaborative research projects.

## Faculty News

### AWARDS & RECOGNITION

- **Prof Nithin V George**, Electrical Engineering has been awarded Indo-Australia Early & Mid-Career Researchers Fellowship by Indian National Science Academy (INSA) for conducting advanced research on the project entitled “Design and Implementation of acoustic beam forming systems in digital hearing aids” at the Curtin University, Australia.
- **Prof Naran Pindoriya** has been awarded IEEE Power & Energy Society (PES) Gujarat chapter Outstanding Engineer award (with experience less than 15 years) to recognize his research contributions in power systems and smart distribution grid.
- **Prof Atul Dixit** has been invited to be part of the Editorial Board Members of the Journal of the Ramanujan Mathematical Society.
- **Prof Kabeer Jasuja** has been invited to be part of the Editorial Board Members of The Scientific Reports Journal from the Nature Publishing Group.

### CONSULTANCY PROJECTS

- Assessment of Soil Investigation Report for Dholera International Airport Site for Dholera International Airport Company. Principal Investigator: **Prof Amit Prashant**, Civil Engineering.
- Development of algorithm for concentration/pressure/temperature measurement of gas using wavelength modulation spectroscopy for Defense Bioengineering and Electromedical Laboratory. Principal Investigator: **Prof Arup Lal Chakraborty**, Electrical Engineering.
- Design of Methanol Fuel Processor for Fuel Cell System Applications for Thermax Ltd. Principal

Investigator: **Prof Atul Bhargav**, Mechanical Engineering.

- Remedial Measures at Critical Patches on Gosikhurd Right and Left Bank Canals of Gosikhurd National Project for Vidarbha Irrigation Development Corporation. Principal Investigator: **Prof Amit Prashant**, Civil Engineering.
- Deepening of the Existing Lake at Ahwa, Dang (Gujarat) for Government of Gujarat. Principal Investigator: **Prof Vimal Mishra**, Civil Engineering.
- Knowledge building on analysis of plates for Epsilon Engineering Pvt. Ltd. Principal Investigator: **Prof Gaurav Srivastava**, Civil Engineering.
- Seismic studies for Anjar to Mundra Pipeline Project (AMPL) of M/s GSPL for L&T Gulf Pvt. Ltd. Principal Investigator: **Prof Sudhir K Jain**, Civil Engineering.

### SPONSORED PROJECTS

- Non-convex Optimization Techniques for Large Scale Machine Learning Problems sponsored by Science and Engineering Research Board (SERB). Principal Investigator: **Prof Dinesh Garg**, Computer Science and Engineering.
- Fabricating TiO<sub>2</sub>-based chemically stable, cost-effective transparent conducting oxide with industrial grade optoelectronic properties: Demonstrating its application in thin film solar cell sponsored by Science and Engineering Research Board (SERB). Principal Investigator: **Prof Emila Panda**, Material Science and Engineering.
- Nanostructured conducting metal oxides for the electroreduction of CO<sub>2</sub> to make useful products sponsored by Science and Engineering Research Board (SERB). Principal Investigator: **Prof Sudhanshu Sharma**, Chemistry.
- Real-time concentration measurement of methane, water vapour, carbon dioxide and carbon monoxide in ethanol autothermal sponsored by Science and Engineering Research

Board (SERB). Principal Investigator: **Prof Arup Lal Chakraborty**, Electrical Engineering.

- High Impact Weather Events in EurAsia Selected, Simulated and Storified (HIWAVES3) sponsored by Ministry of Earth Science (MoES). Principal Investigator: **Prof Vimal Mishra**, Civil Engineering.
- Mechanism of kinesin-3 base cargo transport, regulation and their implication in neurodegenerative diseases sponsored by Department of Biotechnology. Principal Investigator: **Prof Virupakshi Soppina**, Biological Engineering.
- A Survey of Aspects of British Policies towards School Education in Assam, in the Nineteenth and Early Twentieth Centuries sponsored by Indian Council of Historical Research (ICHR). Principal Investigator: **Prof Madhumita Sengupta**, Humanities and Social Sciences.
- Development of Cardiovascular Disease and Diabetes Risk Assessment model for Diverse Ethnic Indian Population sponsored by Department of Biotechnology (DBT). Principal Investigator: **Prof Malavika Subramanyam**, Humanities and Social Sciences.
- Data-Driven Intelligent Energy Management for Environmentally Sustainable Energy Access sponsored by Department of Science & Technology – UK-India Education and Research Initiative (UKIERI). Principal Investigator: **Prof Naran Pindoriya**, Electrical Engineering.
- Smart Integrated Campus Energy Monitoring and Management System sponsored by Science and Engineering Research Board (SERB). Principal Investigator: **Prof Naran Pindoriya**, Electrical Engineering.
- Development of a novel wearable cable-driven exoskeleton for robotic neurorehabilitation sponsored by Science and Engineering Research Board (SERB). Principal Investigator: **Prof Vineet Vashista**, Mechanical Engineering.

### NEW FACULTY

The following faculty members joined IITGN during this quarter:

Name	Designation	Discipline	PhD/Last degree	Date of joining
K Chelva Kumar	Visiting Professor	Mechanical Engineering	California Institute of Technology	03.01.17
Rajmohan Gandhi	Visiting Research Professor	Humanities and Social Sciences	University of Calgary, Canada, 1997	11.01.17
Kamana Porwal	Assistant Professor	Mathematics	IISc Bangalore	11.02.17

### SCHOLAR-IN-RESIDENCE

Marjorie Greene	Earthquake Engineering Research Institute, USA	21.02-17
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## Activities at IITGN

### SEMINAR: ENIGMA OF NATURE/ ENIGMA OF THE NON-HUMAN

The discipline of Humanities and Social Sciences in association with the Balvant Parekh Centre for General Semantics, organized a seminar on the **Enigma of Nature/ Enigma of the Non-Human** during Jan 27 – 28, 2017. **Prof Nikolas Kompridis**, Research Professor in Philosophy and Political Thought, and Director, Institute of Social Justice, Australian Catholic University, delivered the keynote address on **The Enigma of Agency: Human and Non-Human**. The seminar was coordinated by **Prof Arnapurna Rath**, Humanities and Social Sciences.



### INTERNATIONAL SAFETY CONFERENCE

The Safety Center organized the 3<sup>rd</sup> International Safety Conference during Jan 3 - 6, 2017. The Conference also featured a symposium on **Process Safety** during Jan 3 - 4, 2016 and a symposium on **Structures under Fire** during Jan 5 - 6, 2017. The conference was coordinated by **Prof Chinmay Ghoroi**, Chemical Engineering.

### INTERNATIONAL CONFERENCE ON CHANGING LANDSCAPE SCIENCE & TECHNOLOGY LIBRARIES (CLSTL)

IITGN organized a conference on **Changing Landscape of Science & Technology Libraries** from Mar 2 - 4, 2017. The aim of the conference was to bring together library professionals and

researchers to exchange innovative ideas to understand how Science & Technology (S&T) libraries are transforming in the midst of rapid technology developments. The conference was coordinated by **Dr T S Kumbar**, Librarian.

## RESEARCH OPPORTUNITIES IN COMPUTER SCIENCE (ROCS)

The discipline of Computer Science and Engineering organized a one-day workshop on **Research Opportunities in Computer Science** on Feb 24, 2017. The program featured talks from the faculty of the CSE discipline highlighting major research trends in various areas of computer science and engineering. The workshop was organized by **Prof Manu Awasthi** and **Prof Neeldhara Misra**, Computer Science and Engineering.

## EVENT ON SOCIAL JUSTICE

A session on **Songs of Protest** was organised on Mar 21 2017. **Mr Shambhaji Bhagat**, and his group of the revolutionary artist and dalit activists performed 'protest music' on the issues of social justice pertaining to caste and class in contemporary India.

## IITGN'S SMART WALKING STICK

A smart walking stick developed by **Prof Uttama Lahiri**, along with her team members was selected for display at the Rashtrapati Bhavan in New Delhi on Mar 9, 2017. The walking stick called *SWASTI* prevents phenomena (freezing of gait) frequently faced by patients of Parkinson's disease. Team members included BTech student **G Sai Rama Krishna**, MTech student **Megh Patel** and designer at IITGN **Franklin Kristi**.

## SANJEEVANI CAMP

IITGN organized **Sanjeevani – Health Camp** on Jan 28, 2017. Around 750 people from nearby villages with the help of a dedicated team of 7 doctors, their assistants and 20 medical volunteers from MS University, Vadodara and IIPH Gandhinagar participated in the camp. Sanjeevani health camp was organized by Nyasa team in collaboration with US-based Desai Foundation. The camp was inaugurated by **Mr Pankaj Kumar**, Principal Secretary of Health & Family Welfare Department, Govt. of Gujarat.

## ANNUAL PICNIC 2017

IITGN hosted the ninth faculty and staff picnic at Aranya Udhyan, Gandhinagar on Feb 12, 2017. It was a day full of games, musical performances, a bird-identifying walk in the jungle, visit to Sabarmati river bank and an interesting crossword competition. The picnic was organized by **Prof Manu Awasthi** and **Prof Kaustubh Rane**.



## SEMINAR ON CAMPUS DEVELOPMENT

A **Campus Development Seminar** was organised on Feb 01, 2017. The event was an opportunity to pause after the first set of constructions and reflect back on successes and learnings before we plunge into next set of constructions. Architects, CPWD and Works engineers, peer reviewers, other consultants, faculty and staff, and well-wishers who contributed at various stages of the project were invited. Campus Development Awards were distributed by **Prof Sudhir K Jain** and **Shri Abhai Sinha** (Director General, CPWD). **Mr Chinmay Ajnadkar** (IITGN Alumnus); **Ms Jagruti Ben** (Teacher for Construction Workers' Children); **Mr Dinesh Borse** (IITGN Student); **Ar Dhara Mehta Dalal** (Architect with Mitimitra Consultants); **Mr Chandrakant Mehta** (Relcon Subconsultant); **Mr A L Patel** (CPWD); **Mr Nilesh Paseriya** (HEC Infra Project); **Ms Shantu Pindoriya** (Organic Farm Coordinator); **Mr Gaurav Shukla** (IITGN); **Mr K R Singh** (CPWD); **Mr Nand Lal Vishwakarma** (IITGN) and **Mr P H Yadav** (Horticulture) received awards for extraordinary contributions.

## THE TEACHER WORKSHOP

IITGN conducted four workshops for High School Science and Mathematics teachers from Gujarat Government schools in the period of Jan-Mar 2017, sponsored by Rashtriya Madhyamik Shiksha Abhiyan (RMSA). Through hand-on approaches, teachers learned the basics of science and maths which helped to make learning joyous and experiential. The goal of the workshop trigger interest in the subject and make a difference in the classrooms.

## IITGN BIRD CENSUS

IITGN participated in the **Campus Bird Count** on Feb 18, 2017. It was a coordinated effort to document the birdlife in multiple campuses across India. This is the first time IITGN took part in this initiative. **Mr S Sivakumar** and **Mr Ramjee Nagarajan** from Centre for Environment Education and Sundarvan Nature Discovery Centre were the resource persons during this event.

## SPICMACAY MUSIC CONCERT

**Spicmacay** music concert was performed by **Ustad Bundu Khan** on Feb 24, 2017. He is one of the best singers of a traditional folk singing group of Sarangiya Langas.

## REPUBLIC DAY CELEBRATIONS

The 68<sup>th</sup> Republic Day celebrations on Jan 26, 2017 began with flag hoisting by **Prof Sudhir K Jain**. The



**Staff Excellence Awards** were presented to **Ramesh Parmar**, Plumber; **Arika Patel**, Junior Accountant; **Nitin Shukla**, Junior Technical Superintendent; **Jithesh VK**, Junior Superintendent; **Viral Y Shah**, Junior Superintendent; **Ram Babu Bhagat**, Assistant Registrar; **Yashwant Singh Chouhan**, Manager Hospitality; **Deepa Patel**, Manager Housekeeping; **Devendrasinh Dahyaji Zala**, Service Provider. Faculty Excellence Awards were given to **Dr Bhaskar Datta**, Excellence in Teaching Award; **Dr Uttama Lahiri**, Excellence in Research Award; **Dr Naran Pindoriya**, Excellence in Institution Building Award. Also, to honour and recognize students' excellent academic performance in Semester 1 (2016-17), selected students were awarded during **Dean's list** Felicitation ceremony. The book **Tuesdays with Morrie** by Mitch Albom was given to students.



## SAP SOCIAL SABBATICAL AT IITGN

In February 2017, three global consultants from SAP - **Mr Brian Diehl** (USA), **Dr Martin Engel** (Germany) and **Ms Luciana Coen** (Brazil) provided consulting services to the NEEV program at IITGN. NEEV is a community outreach program of IITGN to promote entrepreneurship and skill development at the grass roots level. The visiting team was part of the SAP Social Sabbatical program wherein select top employees of SAP from all over the world spend about a month working with local NGOs. During the programme, the NEEV's activities were reviewed and strategy was developed to maximize the social impact of NEEV within IITGN as well as the surrounding communities. **Mr Deepak Bhagat** (an alumnus of IIT Kanpur) introduced IITGN to SAP. From IITGN, **Mr Nirmal Jha** (Advisor, Industry Partnerships) and **Ms Soumya Harish** (Coordinator, NEEV) coordinated the programme resulting in discussions, learning and intellectual exchanges, all while adapting to different working styles and cultural background.

## SHORT COURSES

- Geopolitics of change: Transitions in the 21st century by **Dr Olivier Lavinal**, Globe SAS, Dec 30, 2016 – Jan 5, 2017.
- Systemic approach in Satellite Photogrammetry by **Dr Pradeep K Srivastava**, Jan 16-21 2017.
- Sleep, Dreams, and Dream Interpretation by **Prof Frederik**

## LECTURES

- Leadership and Literature, Challenges of higher education and innovation in India Education, Building Social Sciences with Human and Artificial agents by **Prof Shyam Sunder**, Yale School of Management, Jan 1-4, 2017.
- An Insight into Spontaneously Ordered and Engineered Ferroelectric Domain Pattern by **Dr Amit Kumar**, Queen's University Belfast, UK, Jan 9, 2017.
- Save the Tiger and maybe also the Rudra Veena by **Dr Kiran Seth**, founder of SPICMACAY, Jan 9, 2017.
- Self-assembly of  $\pi$ -Gelators on Carbon Allotropes by **Prof A Ajayaghosh**, Director NIIST Trivandrum, Jan 10, 2017.
- Junctions of two dimensional Dirac materials by **Prof Krishnendu Sengupta**, Indian Association of Cultivation of Science, Jan 12, 2017.
- Photonic Integrated Circuits by **Dr T Srinivas**, IISc Bangalore, Jan 12, 2017.
- Global Opportunities for Indian Institutes and entrepreneurs by **Dr Gururaj "Desh" Deshpande**, Jan 13, 2017.
- Women's movement in India by **Dr Ela Ramesh Bhatt**, from SEWA, Jan 17, 2017.
- Nashamukt Bharat by **Ms Medha Patkar**, Jan 23, 2017.
- Advances in Frame Theory: Optimal Frames for Erasers by **Prof Ram N Mohapatra**, University of Central Florida, Feb 3, 2017.

**Coolidge**, University of Colorado, Jan 20 – 22, 2017.

- Issues in Social Cognition by **Dr Lilavati Krishnan**, National Academy of Psychology, Mar 5 -11, 2017.
- Science, Experience, Social theory by **Dr Sundar Sarukkai**, National Institute of Advanced Studies, Bangalore, Mar 11 – 12, 2017.
- Sustainable Groundwater Management with
- Proteins therapeutics: present and future potential by **Dr Sridevi Kambhampati**, Vice President, Intas Biopharma, Ahmedabad, Feb 7, 2017.
- What prevents negative energy from violating causality? by **Dr Aron Wall**, Institute of Advanced Study, Princeton, Feb 10, 2017.
- Water, Complexity and Public Policy by **Prof R J Wasson**, Institute of Water Policy, National University of Singapore, Feb 28, 2017.
- Solvable Primitive Extensions by **Prof Chandan S Dalawat**, HRI Allahabad, Mar 3, 2017.
- Action For India: Scaling Social Impact by Leveraging Technology by **Mr Sanjay Kadaveru**, Founder & President of Action For India (AFI), Mar 6, 2017.
- Spacecraft attitude control and the fiber bundle structure of the gimbal-spacecraft system by **Dr Arjun Narayanan**, Scientist, ISRO, VSSC, Thiruvananthapuram, Mar 7, 2017.
- Quantum Chaos and Stochastic Webs in a quantum-mechanical kick system by **Dr Martin Engel**, SAP SE, Germany, Mar 8, 2017.
- NSF-NHERI Wall of Wind experimental facility focusing on resilience of structures to hurricane multi-hazards by **Prof Arindam Chowdhury**, Florida International University, Mar 14, 2017.
- The Changing Position of the Researcher and Research Participants: Implications for the Ethics of Fieldwork by **Dr Jyothsna Latha Belliappa**, Mar 15, 2017.

special emphasis on Managed Aquifer Recharge by **Prof Ratan Jain**, Gujarat Water Resources Development Corporation, Mar 10 - 18, 2017.

- Evolutionary Dynamics by **Dr Supreet Saini**, IIT Bombay, Mar 18 – 19, 2017.
- Course on Writing by **Prof Atul Singh**, University of California, Berkeley, Mar 24 – 26, 2017.
- Use of radio pulsar data to understand basic physics by **Dr Manjari Bagchi**, Institute of Mathematical Sciences, Chennai, Mar 15, 2017.
- Micro/Nano-engineering of material surfaces for tissue engineering and regenerative medicine by **Dr Ketul Popoat**, Colorado State University, USA, Mar 15, 2017.
- Seismic behavior of SC wall piers under in-plane and out-of-plane loadings by Prof Andrew Whittaker, University at Buffalo (UB), Mar 22, 2017.
- India's Naval contribution during WW I & II by **Commodore Odakkal Johnson**, University of Mumbai, Mar 22, 2017.
- Confession of an accidental entrepreneur by **Dr Pravin Bhagwat**, Mojo Networks, Mar 27, 2017.

## Indira Foundation Lectures

**Prof Rajmohan Gandhi**, Research Professor at the Center for South Asian and Middle Eastern Studies, University of Illinois at Urbana-Champaign, USA, delivered two Public Lectures on the theme **Glimpses of Modern South Indian History** on Feb 7 & 9, 2017. It was the second one in the series of Indira Foundation Lectures constituted and held annually at IITGN with an aim to present the latest researches in various disciplines to a wider audience.

## Student and Staff Activities

### AWARDS AND RECOGNITION

- **Pallavi Chilka** bagged the **Best Poster Award** in National Conference of Chemistry of Light and Medicine. She also received funding for 6 months internship at Carnegie Mellon University under the IITGN overseas research experience scheme.
- **Krittika Ralhan** received the **Fulbright-Nehru doctoral research fellowship 2017-18** in the neuroscience subcategory. She will be heading to University of Rochester for her work on the project titled **Design of macrocyclic peptide-based aggregation inhibitors for Alzheimer's disease**.
- **Pawan Sharma** was selected for a Screenplay Writing Workshop in International Film Festival as a delegate student. He received a certificate from Film and Television of India, Pune. His film **Be the change** got a certificate of excellence from Information & Broadcasting Ministry which was made with collaboration of IITGN with Sabarmati Ashram deals with Swachh Bharat Mission.

### IGNITE 3.0

Technical council at IITGN, organized **IGNITE 3.0**, on Mar 10-11, 2017. Drone airshows, laboratory tours and 3D printing workshops were among the highlights of this technological fest.

### JASHN

**Jashn 6.0** was organized from Jan 6 - 9, 2017. It was bigger and better than the earlier versions as there were around 29 events in total. The event was organized by a team of 72 volunteers.



### IITGN FAMILY SPORTS FESTIVAL

The second edition of **IIT Gandhinagar Family Sports Festival** was held from Feb 3 -5 2017. It aimed to bring together the faculty members and staff along with their families to interact and participate in group events and programs.



### BLITHCHRON

The two-day annual cultural festival of IITGN was held during Feb 10 -11, 2017. The ninth edition of Blithchron had plethora of new events. A major attraction of Blithchron'17 was the performance by Coke Studio featuring Ayushmann Khurrana with his band Ayushman Bhava. The following day, Italian producer/DJ, Rossella Blinded and the electronica musician and producer, Dualist Inquiry's performance was the highlight.

This year, in association with **The Wishing Factory**, a non-profit organization, Blithchron 2017 took up the social initiative of fulfilling the wishes of 23 children suffering from thalassemia, through the various events being conducted in the fest.