

Connections

IIT Gandhinagar



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Connections is the quarterly newsletter for friends of IIT Gandhinagar

Institute Activities

EIGHTH ACADEMIC ADVISORY COUNCIL

The eighth Academic Advisory Council meeting was organized on December 28, 2018 to discuss issues of academic priority to IITGN. The council comprised of eminent academicians from India and abroad as well as faculty members of IITGN. The council members deliberated and provided strategic inputs on several issues, including the possibility of lateral entry into the BTech program, ways to support students who are academically lagging, faculty recruitment, and curriculum review.



INSA ANNIVERSARY GENERAL MEETING AT IITGN

IITGN co-hosted the 84th Anniversary General Meeting (AGM) of the Indian National Science Academy (INSA), on December 27, 2018. About 200 participants, which included INSA Fellows, eminent scientists and engineers, special invitees, young scientists, and awardees, attended the AGM at IITGN. Prof Sudhir K Jain, Director, IITGN gave a welcome speech and acquainted the delegates with the path-breaking initiatives and developments at IITGN.

NINTH LEADERSHIP CONCLAVE

The ninth Leadership Conclave of the institute, held on December 29, 2018, saw some of the most illustrious industrialists, academicians and eminent thinkers from India and overseas coming together to strategize and design leadership ideas for IITGN. The day-long conclave had thoughtful discussions and brainstorming sessions on vision and mission of IITGN, assimilation of IITGN values among the internal stakeholders, systems and policies for long term stability and continuity, and branding and image building for the institute.

Support for the Institute

SMT AMBA AND SRI V S SASTRI DISTINGUISHED VISITING CHAIR



Prof A V Anilkumar has set up a Distinguished Visiting Chair at the institute to promote institutional excellence, in honor of his parents Smt

Amba and Sri V S Sastri. Under this chair, every year, a currently active distinguished academic of international stature, in science, engineering, or humanities, will be invited to spend at least a month at IITGN for lectures, interactions, and research collaborations. Prof Anilkumar is an aerospace engineer on the faculty at Vanderbilt University. He was

a NASA investigator of microgravity fluid flow phenomenon and his current interests include novel energy conversion systems for airplane flight.

BIPIN AND REKHA SHAH SCHOLARSHIP



Mr Bipin Shah has set up a scholarship to support the UG students for overseas summer research internship in the area of Electrical Engineering. The scholarship is awarded every year to one UG student of Electrical Engineering. Mr Bipin Shah is CEO and Chairman of Kovair Software in San Ramon, California. He holds a BEE (hons) degree

from Jadavpur University, Kolkata and a MSEE from the University of Wisconsin. He has mentored three start-ups and has been active in several non-profit organisation as well. Mr Shah is also a co-founder of the IIT Gandhinagar Foundation in USA.

OUTREACH

Prof Sudhir K Jain, was the Chief Guest for the Convocation Ceremony at the Indian Naval academy, Ezhimala, Kerala, on November 25, 2018. Prof Jain participated in a panel discussion on "India 3.0 - Driving disruptions from within" at the NEXT CIO Leadership Forum 2018 organized by Nutanix in Mumbai on October 04, 2018.

Faculty News

PATENTS

- Pharmaceutical compound and process for preparing the same: Inventors include Sivapriya Kirubakaran, Srimadhavi Ravi, Althaf Shaik, Sugata Barui,

IITGN.

- A current source array for high resolution high speed digital to analog converters: Inventors include Satyajit Mohapatra, Nihar Ranjan Mohapatra, IITGN.

- Process for preparing fluorescent carbon based quantum dots: Inventors include Kabeer Jasuja, Saroj Kumar Das, Ramchandra Gawas, IITGN.

AWARDS AND RECOGNITIONS

- **Prof Sudhir K Jain**, Director, IITGN, received the **Distinguished Alumni Award for Academic or Research**

Excellence from IIT Roorkee (formerly known as University of Roorkee).

- **Prof Raj Srinivasan**, Visiting Professor, Mathematics, IITGN, received the **J.W. George Ivany Internationalization**

Award, one of the highest honors by the University of Saskatchewan, Canada.

- **Prof Akshaa Vatwani**, Mathematics, has received **INSPIRE Faculty Award**, Department of Science and Technology.

SPONSORED PROJECTS

- Geometrically frustrated layered structure: synthesis and properties, Department of Science and Technology, Principal Investigator: **Dr Sethulakshmi N**, Chemistry
- Ultrasound-responsive multi-layered microbubbles using electrohydrodynamic focusing device for oral cancer drug delivery, University Grants Commission, Principal Investigator: **Prof Sameer Dalvi**, Chemical Engineering
- DNA nanodevices to program stem

cells, Ramanujan Fellowship, Department of Science and Technology, Principal Investigator: **Prof Dhiraj Bhatia**, Biological Engineering

- The virginity industry: hymenoplasty and disciplining desire in contemporary India, Population Foundation of India, Principal Investigator: **Prof Tannistha Samanta**, Social Sciences
- Wearable sensors for gait assessment – Visiting Advanced Joint Research (VAJRA), Science and Engineering Research Board, Principal Investigator: **Prof Uttama Lahiri**, Electrical Engineering

CONSULTANCY PROJECTS

- To assess effectiveness of FR ACP sheets compared to non-FR ACP sheets for Aludecor Lamination Pvt. Ltd., Principal Investigator: **Prof Gaurav Srivastava**, Civil Engineering
- Ground penetrating radar survey for underground cable detection for National High Speed Rail Corporation Limited, Principal Investigator: **Prof Amit Prashant**, Civil Engineering
- Short course on mechatronics for Mahindra Technical Academy, Principal Investigator:

Prof Madhu Vadali, Mechanical Engineering

- Preliminary investigation of collapse of part of wet section of soda ash plant of Nirma Ltd., Porbandar on August 1, 2018 for United India Insurance Company Limited, Principal Investigator: **Prof Dhiman Basu**, Civil Engineering and **Prof Manish Kumar**, Civil Engineering
- Risk and uncertainty assessment for critical railway infrastructure due to impacts of climate change for Ministry of Environment, Forest and Climate (Govt. of India), Principal Investigator: **Prof Vimal Mishra**, Civil Engineering

NEW FACULTY

The following faculty members joined the institute during this quarter:

Name	Designation	Discipline	PhD/ Last Degree	Date of joining
Dr Prasanna Venkatesh B.	Assistant Professor	Physics	McMaster University, Canada	03-10-18
Dr Bipul Saurabh	Assistant Professor	Mathematics	Indian Statistical Institute, Delhi	04-10-18
Mr Manish Jain	Associate Teaching Professor	Creative Learning	IIT Kanpur	13-12-18
Dr Sanjay Singh Bora	Assistant Professor	Earth Sciences	University of Potsdam, Germany	18-12-18
Ms Manasi Kanetkar	Assistant Teaching Professor	Design & Innovation	IIT Bombay	18-12-18
Mr Rajendra Nagar	Assistant Research Professor	Electrical Engineering	IIT Jodhpur	24-12-18

SCHOLAR-IN-RESIDENCE

Name	Discipline	Affiliation	Date of joining
Dr Frederick Coolidge	Humanities	Professor, University of Colorado, Colorado, USA	14-08-18

Activities at IITGN

YES BANK AWARD

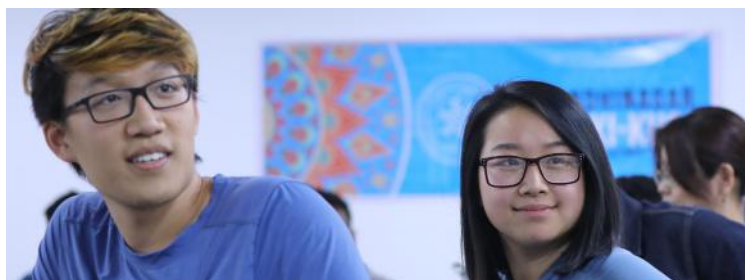
Adding yet another feather to its cap, IITGN has bagged the YES Bank Natural Capital Award (NCA) 2018 under the Eco Campus category. Educational institutes from all over the country competed for the award and were adjudged based on the strength of their sustainability practices deployed for campus development and management.

DFI INDIA CONFERENCE

IITGN hosted the 8th Conference on Deep Foundation Technologies for Infrastructure Development in India on November 16-17, 2018. The conference was organized at IITGN in collaboration with Deep Foundations Institute and Indian Geotechnical Society, Ahmedabad Chapter and it was inaugurated by **Dr I P Gautam**, IAS (Retd) and Managing Director - MEGA Company Ltd., Ahmedabad. The conference was chaired by **Prof Amit Prashant** and **Prof Ajanta Sachan**.

IITGN-JAIST WORKSHOP ON DESIGN INTERVENTION FOR BEHAVIOURAL CHANGE

IITGN hosted a three-day workshop on Design Intervention for Behavioural Change for the students of Japan Advanced Institute of Science and Technology (JAIST), and IIT Gandhinagar during December 12-14, 2018. The workshop was aimed at finding local solutions for the universal problems such as - mass transportation, pollution, traffic, and gender discrimination which involve multiple stakeholders. The workshop was coordinated by **Prof Leslee Lazar** and **Mr Franklin Kristi**.



INDIA KI KHOJ

India ki Khoj, a unique cultural immersion program of IITGN, kick started on December 17, 2018 with ten students from California Institute of Technology (Caltech), ten students from Japan Advanced Institute of Science and Technology (JAIST), and nineteen students from IITGN. With its seventh edition this year, the students got to know India and its social, cultural, political fabric through a number of activities designed to explore and appreciate the many ideas, imaginations and realities that constitute India. The event was coordinated by **Prof Mona Mehta** and **Prof Jaison Manjaly**.

WORKSHOP FOR DYE AND TEXTILE INDUSTRIES

DSIR-IITGN-CRTDH in association with Underwriters Laboratories (UL) arranged a one-day workshop on 'Reducing Discharge of Hazardous Chemicals in Dye and Textile Industries' at IITGN on October 24, 2018. The event saw participation from the industry partners, environmental and energy specialists, researchers and academics, technology providers, policy makers, and regulators. The event was coordinated by **Prof Chinmay Ghoroi**.

NEEV ENTREPRENEURSHIP DEVELOPMENT WORKSHOP

NEEV IITGN organized a six-day workshop on Entrepreneurship Development from October 29 to November 3, 2018, for BBA students of Faculty of Business Administration, GLS University. The workshop comprised of sessions on idea generation, market research, negotiations, cost analysis and financials, marketing and promotion, business plan formulation, and many others. The workshop was concluded with the final business plan competition and presentation.

TWENTIETH NATIONAL SYMPOSIUM ON ENVIRONMENT (NSE-20)

The Earth Sciences discipline, IITGN in collaboration with Health Safety & Environment Group, Bhabha Atomic Research Centre (BARC), Mumbai, organized the Twentieth National Symposium on Environment (NSE-20) during December 13-15, 2018. The Symposium, with a focal theme of “Challenges in Energy Resource Management & Climate Change”, was inaugurated by **Shri S A Bhardwaj**, Chairman, Atomic Energy Regulatory Board and coordinated by **Prof Manish Kumar Singh**.

SYMPOSIUM ON FRONTIER PROBLEMS IN PHYSICS

The Physics discipline, IITGN hosted a two-day Symposium on ‘Frontier Problems in Physics’ during November 20-21, 2018. Distinguished scientists gave lectures on outstanding research areas in theoretical and experimental physics. About 120 participants from

various nearby educational institutes, universities, and colleges also participated in the event. The Symposium was coordinated by **Prof Sudipta Sarkar**.

COGNITALKS

The second edition of CogniTALKS was organized on November 16, 2018 by the Centre for Cognitive Science, IITGN, hosted an eclectic group of experts such as **Venkatesh Rajamanickam**, **Sonia Mehra Chawla**, **Neelkanth Chhaya**, and **Bhuvaneshwari S**, to engage in a discussion about human cognition. Students and academics from NID, NIFT, IIM, DAICT and other institutes attended the event.

VISITORS

- **Prof Venkatesh Narayanamurti**, Benjamin Peirce Research Professor of Technology and Public Policy and former Dean of Engineering School, Harvard University visited IITGN on October 18, 2018. IITGN faculty benefited from his scholarship and the experience of building an Engineering School with an interdisciplinary culture.
- IITGN hosted **Mr Dheeraj Pandey**, Founder, CEO & Chairman, Nutanix on campus on October 2, 2018. Nutanix is a cloud computing software company, known as a “unicorn startup” as it reached a \$1 billion valuation in 2013. During the visit, he gave a highly engaging lecture on ‘Entrepreneurship and the Role of Design’.

WORKSHOPS

- Workshop on The Pragmatics of Political Discourse in the Public Sphere by **Prof Jef Verschuere**, **Prof Brook Bolander**, **Prof Jenny Cook-gumperz**, **Prof Rukmini Bhaya Nair**, **Prof Jan Ola Ostman**, October 21-28, 2018.
- Spoken Sanskrit Workshop by **Ms Ojasi Sukhatankar**, Samskrita Bharati, October 25-31, 2018.
- Navigating Yourself by **Counseling Services and the Communication and Life Skills Program**, November 3, 2018.
- Blockchain Masterclass by **Mr**

- Babu Munagala**, Founder, CEO & Managing Director, Zebi, November 3, 2018.
- ‘Effective use of Web of Science’ Citation Database and ‘EndNote’ Reference Management System by **Dr Subhasree Nag**, Scientific Research Division, Clarivate Analytics, November 13, 2018.
- Product Management Masterclass by **Ms Nikita Maheshwari**, Nutanix, USA, November 16, 2018.
- Fundraising Masterclass by **Mr Shripati Acharya**, Co-Founder and Managing Partner, Priven Advisors, December 5, 2018.



GIAN course on Nanosafety: Biological & Environmental interaction of nanoparticles by **Prof Jamie Lead**, Director, Smart State Center for Environmental Nanoscience & Risk, University of South Carolina, and **Prof Superb Misra**, Assistant Professor, IITGN, November 19-22, 2018.

SHORT COURSES

- Post-transcriptional gene regulation in development and disease by **Dr Rahul Kanadia**, University of Connecticut, Storrs, USA, October 20 to October 21, 2018.
- How to think like a Designer? by **Mr Sandeep Karmarkar**, Nutanix, India, November 10 to November 11, 2018.
- Desalination: Status and Perspective in India by **Prof P K Tewari**, **Mr Sriram Kulkarni**, **Dr P Selvaraj**, **Prof V K Shahi**, **Prof C Subramaniam**, **Prof G N Tiwari**, **Mr G Venkatesan**, November 16, 2018.
- Building early-stage startups and Valuations by **Mr B V Jagadeesh**, KAAJ Ventures, and Leavey School of Business, Santa Clara University, CA, USA, November 12 to November 17, 2018.

- Cold Atmospheric Plasma (CAP) for redox biology and therapeutic applications by **Dr Ajai Kumar**, Former Professor, Institute of Plasma Research, Gandhinagar, October 16, 2018.
- Understanding and designing polymeric interfaces in Li-ion and Li-air batteries by **Dr Sai Gourang Patnaik**, Laboratory of Analysis and Architecture of Systems (CNRS), Toulouse, France, October 17, 2018.
- Globalization and the Tribes of India: Issues of Tradition and Transition by **Prof Kamal Misra**, Utkal University of Culture, Bhubaneswar, October 22, 2018.
- Sustainability and India's Water Safety Issues vis-à-vis Wastewater Management by **Dr Rakesh Kumar**, Director, National Environmental Engineering Research Institute (NEERI), October 23, 2018.
- Universal deformations of dihedral representations by **Dr Shaunak Deo**, TIFR Mumbai, October 24, 2018.
- Recent Trends in Signal Processing, Communication, and Machine Learning by **Dr Ganapati Panda**, IIT Bhubaneswar, October 25, 2018.
- Cryogenics: An uncommon technology for the common man by **Prof Sunil Kumar Sarangi**, Retired Professor, IIT Kharagpur, October 25, 2018.

- A Brief History of Stephen Hawking by **Prof Sunil Mukhi**, IISER Pune, October 25, 2018.
- Recent Advances in Image Motion Deblurring by **Mr Subeesh Vasu**, IIT Madras, October 26, 2018.
- Informal Political Economy, Insecurity and Primordality by **Prof Ghanshyam Shah**, Former Professor, Jawaharlal Nehru University, October 26, 2018.
- Changing Nature of Disaster Risks in 21st Century: Evolving Role of Engineers by **Shri Kamal Kishore**, Member, National Disaster Management Authority, October 27, 2018.
- Breast Cancer Awareness by **Dr Anagha Zope**, Apollo CBCC Cancer Care, Ahmedabad, October 31, 2018.
- Discrete Mechanics and Control by **Prof Ravi Banavar**, IIT Bombay, November 1, 2018.
- Air Quality, Citizen Science and Capacity Building Powered by Earth Observations by **Dr Pawan Gupta**, USRA, NASA Marshall Space Flight Center, November 2, 2018.
- Not Quite ‘Enterprising Subjects’: Work, Youth Aspirations and the Limits of Theorising ‘Neoliberalism’ in India by **Prof Sanjay Srivastava**, Institute of Economic Growth, Delhi University North Campus, November 2, 2018.

- The impact of inequality and polarization on the political economy by **Dr Basudeb Guha-Khasnobis**, Asian Development Research Institute, Patna, November 5, 2018.
- Some Aspects of Computational Journalism by **Prof Niloy Ganguly**, IIT Kharagpur, November 12, 2018.
- Brown-Douglas-Fillmore Theorem by **Dr Sameer Chavan**, IIT Kanpur, November 12, 2018.
- Counting real zeros of real polynomials by **Prof Dilip Patil**, IISc Bangalore, November 12, 2018.
- Nanotoxicity of titania in bone tissue engineering in 2D and 3D cell models by **Dr Anna Ribeiro**, University of Grande Rio, Brazil, November 15, 2018.
- Is there a conflict between the rights of children and the rights of teachers? by **Prof Vimala Ramachandran**, Educationalist, November 16, 2018.
- Leak Before Break Design Methods and its application to Indian Nuclear Power Plants by **Shri Hari Shankar Kushwaha**, Ex-Director, Health, Safety & Environment Group, November 16, 2018.
- Design of highly-efficient, affordable power management circuits in high-voltage 0.35um CMOS technology for automotive applications by **Mr Krishna Kanth Avalur**,

LECTURES

- Entrepreneurship and the role of Design by **Mr Dheeraj Pandey**, Founder & CEO, Nutanix, October 2, 2018.
- Boundary value problem with measures for fractional elliptic equations by **Dr Mousomi Bhakta**, IISER Pune, October 3, 2018.
- Self-Discovery - Creating a Progressive mindset by **Mr Suresh Rajagopal**, a Professional Trainer, October 4, 2018.

AMS Semiconductors India, November 19, 2018.

- A novel single-molecule analysis of gene-silencing protein H-NS uncouples DNA binding affinity from DNA specificity by **Dr Ranjit Gulvady**, National University of Singapore, November 22, 2018.
- The University, Democracy, and Identity

Resistance by **Dr Gaurav J. Pathania**, University of Massachusetts, USA, November 22, 2018.

- Measurement of Water Quality in Tomorrow's Agroecosystem by **Dr Daniel D Snow**, University of Nebraska, USA, November 23, 2018.
- Semigroup Rings: Resolutions and Structure

by **Dr Hema Srinivasan**, University of Missouri, Columbia, USA, December 6, 2018.

- Mixed multiplicities of Iterations by **Dr Steven Cutkosky**, University of Missouri, Columbia, USA, December 7, 2018.
- SWRIC: A nucleosome editing machine by **Dr Raushan Singh**, University of

Massachusetts Medical School, Worcester, USA, December 7, 2018.

- Temporal DNA Barcodes by **Mr Shalin Shah**, Duke University, December 13, 2018.
- Vector bundles on hypersurfaces by **Dr G V Ravindra**, University of Missouri - St. Louis, USA, December 13, 2018.

Student and Staff Activities

AWARDS AND RECOGNITIONS

- At the National Students Space Challenge organized by IIT Kharagpur in collaboration with ISRO during October 5-7, 2018, **Tejas Mehta** and **Manikanta Mandlem** secured the second position in the Case Study event and **Abhinav** and **Karthik Karvaje** secured the fourth position in the Space Quiz (all are UG students).
- **Swaroop Chakraborty**, a PhD student, received the Best Oral Presentation Award at the 5th International Conference on Nanomedicine and Tissue Engineering (ICNT-2018), held at Kottayam, Kerala.
- **Joshna Gadhvi**, a PhD student, received an oral presentation award (3rd prize) at the 13th India-Japan Bilateral Conference, BICON-2018 held during November 25-28, 2018 at Jaipur.
- **Avishek Kumar**, an MTech student, received the best poster award in the Polymer category at the International Conference on Soft Matter (ICSM) 2018, held at MNIT Jaipur.
- **Anirban Roy**, PhD student, and **Rohan Chawhan**, an MTech student won the Optical Society of America Best Poster Award at Photonics 2018 (International Conference on Fiber Optics and Photonics) held at IIT Delhi.
- **Vraj Patel**, **Rushil Shah**, **Pranjali Jain**, and **Sharad Joshi** won the BBC Hackathon on 'Fighting Fake News', which was conducted at the Google campus, Gurgaon on November 14-15, 2018.
- IITGN secured Gold in 'BETiC Medical Innovation Challenge', Bronze in the 'Eye in the Sky', 4th in 'Case Study', 7th in 'Star Cluster Identifier' and 8th in 'Campus Sustainability Challenge' at the 7th Inter IIT Tech Meet held at IIT Bombay. Overall, IITGN stood 9th in the tally.

ROBOT SUMO WRESTLING

IITGN organized its first ever Robot Sumo Wrestling Competition on November 23, 2018. In the event, the students brought their robots into the ring and organized multiple round matches, which witnessed some amazing knockouts. **Prof Madhu Vadali** was the coordinator of the competition.

Sports News

ANNUAL SPORTS FEST OF DAIICT

At Concours '18 – Annual Sports Fest of DAIICT, held on October 28, 2018, the Table Tennis women team comprising **Pranjali Borse**, **Nivedita Pradhan**, and **Aparna Rathi** won the tournament, whereas the men cricket team stood as runner-up in the finals.

INTER-IIT SPORTS MEET

IITGN took part in the 53rd Inter-IIT Sports Meet held during December 13-21, 2018 at IIT Guwahati. The women team secured 4th position in both 4*100 m & 4*400 m women's relay. The institute

AMALTHEA 2018

The 9th edition of Amalthea, the Annual Technical Summit of the institute, was organized on October 20-21, 2018 with a focal theme of 'Integrating Technologies'. The two-day long event had lectures by eminent industrial experts from across the world, a symposium on the theme of 'Advancing Solar Power Generation', and also an interactive exhibition with some exciting display of different technologies. Young brains also competed in various exciting techno-centric competitions. **Mr Kush Saxena**, CTO, Mastercard, and **Prof Sudhir K Jain**, Director, IITGN inaugurated the the event.



HOME COMING 2018

The second edition of Homecoming, an annual alumni meet was held on December 22-23, 2018, which made the alumni relive their fun-filled student life. The two-day event kicked off with an open house with the former students, which was addressed by **Prof Sudhir K Jain**. The students felt nostalgic during some interesting activities like Mini Hallabol, Campfire Dinner, Campus Tour, and Cultural Program.

OUTBOUND TRAINING PROGRAMME 2.0

With an aim to facilitate healthy peer relationships, the Staff Development Cell, IITGN arranged the second edition of 'Leaps and Bounds', an Outbound Training Programme for the staff members on December 8, 2018. More than 85 staff members of IITGN enthusiastically participated in the programme at an eco-tourism campsite in Panchmahal district, Gujarat.

also secured 4th & 5th position in the 200 m women's race and 6th & 7th position in the 100 m women's race, whereas the 800 m women's team made it to the finals. IITGN also secured fourth rank in the march-past (parade).

INTER-IIT CULTURAL MEET

The third Inter-IIT Cultural Meet was held at IIT Roorkee during December 27-30, 2018. Out of the 23 IIT's, IITGN secured an overall 8th position. Bronze medals were secured in Music (Duet Singing and Instrumental Event), FASDesign (Costume Designing), and Photography and Film Making (Online Photography).