

# Connections

IIT Gandhinagar



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Connections is the quarterly newsletter for friends of IIT Gandhinagar

## Institute Activities



### VISIT TO PORTUGAL

IIT Gandhinagar (along with IIT Roorkee and IIT Madras) signed an MoU with the Portuguese Foundation for Science and Technology for academic and research cooperation with the Portuguese universities and the MoUs were exchanged in presence of the two Prime Ministers on June 26, 2017. **Prof Sudhir K Jain** and **Prof Jaison Manjaly** represented the Institute. They also visited a number of Portuguese universities, including a visit on June 23, 2017 by Prof Jain to ISCTE-IUL Lisbon. The Institute has built a vibrant partnership with ISCTE-IUL over the years and it was an opportunity for him to meet five IITGN students who were undergoing summer research internships there and the four students of ISCTE-IUL who were scheduled to visit IITGN for the same. The Rector (President) **Luis Reto**, Vice Rector **Nuno Guimaraes**, and **Prof Rosa Maria Perez** also interacted with the students.



### JAPAN FINANCE MINISTER VISIT

Japanese State Minister of Finance **Mr Taku Otsuka** visited IITGN on 24 May, 2017. The minister along with his official team of 17 delegates, met the faculty and the students and visited the research facilities. This visit is one step closer to building stronger partnerships with Japanese academia and industry.

### INDIAN NAVY AND IITGN

**Vice Admiral A K Chawla**, Chief of Personnel in Indian Navy visited IIT Gandhinagar on April 15, 2017 with his two colleagues: **Rear Adm Sandeep Beecha** and **Lt Cdr Rahul Kumbat**. The meeting explored several possibilities of working together and forging exciting collaborations in the future.



## Support for the Institute

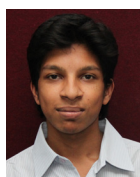
### SULTANIA SCHOLARSHIPS

**Mr Deepak Sultania** has setup two scholarships of Rs 5,000 per month for undergraduate students: *Mahabir Prasad Sultania Scholarship* and *Durga Devi Sultania Scholarship*. Mr Sultania is the Director of Durga Bearings group, the largest distributor of bearings in India. Starting at an early age in business, he has a rich and varied experience of 37 years in the bearing trade. He is father of an alumnus of IIT Gandhinagar and has set up these scholarships to honour his parents. **Sri Mahabir Prasad Sultania** was the founder of Durga Enterprises. These are the first



scholarships set up by parents of our alumni.

### KANDOI-DAIRKEE-GAURAV SCHOLARSHIP



**Mr Abhishek Kandoi**, **Mr Maisum Ali Dairkee** and **Mr Anchit Gaurav** (Pioneer batch BTech graduates of 2012) have set up an undergraduate scholarship of Rs 5,000 per month. The scholarship is to be awarded to a student who is actively involved in non-academic activities and showing trajectory

towards all rounded growth. This is the first named scholarship by alumni of IITGN.

### CHANDRAKANT & PATRICIA DESAI SCHOLARSHIP

**Prof Chandrakant S Desai** has set up a scholarship of Rs 5,000 per month for BTech students of Civil Engineering. Prof Desai is a Regents' Professor at the University of Arizona, Tucson, Arizona in USA. He has also been a visiting professor at IITGN and is a well-wisher of the Institute.



## Faculty News

### PATENTS

- Method for the asymmetric synthesis of (s)-paraconic acid, investors include **Prof Chandrakumar Appayee** and **Abhijeet Sarkale**.
- Subband feedback cancellation assistive listening devices, investors include **Somanath Pradhan**, **Vinal Patel** and **Prof Nithin George**.
- Flame retardant composition and a process for preparing the same **Prof Kabeer Jasuja** and **Saroj Kumar Das**.

### SPONSORED PROJECTS

- Tuning Structure and Rheology of Aggregated Suspensions: Influence of Particle Surface, Concentration and Anisotropic Suspending Medium sponsored by Science and Engineering Research Board (SERB) Principal Investigator **Prof Prachi Thareja**, Chemical Engineering.
- Theoretical and computational investigation of the role of transverse correlations in the thermal response of liquid-on-solid wetting behaviour sponsored by Science and Engineering Research Board (SERB) Principal Investigator **Prof Kaustubh Rane**, Chemical Engineering.
- Tethered AMPs for antibacterial surface coatings sponsored by Science and Engineering Research Board (SERB) Principal Investigator: **Prof Abhijit Mishra**, Material Science and Engineering.
- Computational pipeline for integrated analysis of large scale NGS data to accurately define genome-wide binding profiles of

- Phosphate derivatives of myo-inositol as ras inhibitors **Prof Sivapriya Kirubakaran**, **Prof Vijay Thiruvengatam**, **Javeena Hussain**, **Gayathri Purushotaman** and **Siddhant Bhoir**.
- Smart eye system for Visuomotor Dysfunction diagnosis and its operant conditioning claiming priority from earlier filed Indian patent application. **Prof Uttama Lahiri**, **Dr Abhijit Das** and **Dr Anirban Dutta**.

protein sponsored by Department of Biotechnology (DBT), Principal Investigator: **Prof Sharmistha Majumdar**, Biological Engineering.

- Design & prototype demonstration of a CHCP system for scalable building energy use based on methanol powered fuel cell system sponsored by Science and Engineering Research Board (SERB), Principal Investigator: **Prof Atul Bhargav**, Mechanical Engineering.
- Investigation of Structure-Property-Performance relations in hierarchical 3-D Lattice Structures sponsored by Science and Engineering Research Board (SERB) Principal Investigator: **Prof Ravi Sastri Ayyagari**, Mechanical Engineering.
- Atomistic insight into the structural influences of competitive post-translational modifications; Phosphorylation and O-GlcNAcylation sponsored by Department of Biotechnology (DBT) Principal Investigator: **Prof Sairam Swaroop Mallajosyula**, Chemistry.

### FELLOWSHIP

Transregional Research Fellowship from Social Science Research Council funded by the Andrew W Mellon Foundation (US) for three-country research project entitled, "Nature in InterAsia: Biodiversity Conservation in India, China and Bhutan". **Prof Ambika Aiyadurai**, Anthropology, Humanities and Social Sciences.

- A low-cost, portable, easy-to-use, eye-tracking device integrated with computerized cognitive tests for early diagnosis of Dementia at community level using big-data analytics in cloud under a highly affordable Software-As-A-Service model sponsored by Department of Biotechnology (DBT) Principal Investigator: **Prof Uttama Lahiri**, Electrical Engineering.

### CONSULTANCY PROJECTS

- Seismic studies for Barmer to Pali Pipeline Project (BPPL) of M/s GSPL for L&T - GULF Private Limited Principal Investigator: **Prof Sudhir K Jain**, Civil Engineering.
- Seismic studies on Palanpur - Pali Mundra Pipeline Project of M/s GIGL for L&T - GULF Private Limited Principal Investigator: **Prof Sudhir K Jain**, Civil Engineering.
- Review and vetting of proposed Suryadhar Lake Project, Dehradun, Irrigation Department of Uttarakhand Principal Investigator: **Prof Pranab Mohapatra**, Civil Engineering.

## Activities at IITGN

### RAAGMALIKA

A classical musical event was held on April 7, 2017 in which students and faculty members of IIT Gandhinagar gave classical music performances. **Prof Atul Dixit** and **Prof Srinivas Reddy** were some of the faculty members who performed.



### NYASA SUMMER CAMP

The third edition of the Nyasa summer camp was organized during May 25 - June 25, 2017 for the children of government schools in Palaj and Basan villages. With the duration of 4 weeks, the camp consisted of interesting

attractive sessions like paper art, drawing, hygiene, toys from trash, plantation, dance etc with a daily class on basic English skills.

### IITGN EXPLORER FELLOWSHIP 2017

A total of 98 IITGN students received the Explorer Fellowship for the summer of 2017. The students traveled in 31 teams to different states in India over a period of six weeks to explore the amazing cultural and geographic diversity of the country. The students are required to travel by sleeper class in trains or by state government buses and to stay in low-cost accommodation. They are also expected to maintain a diary or blog during the travels.

### JEE OPEN HOUSE

IITGN hosted two JEE Open House events on June 3, 2017 and June 17, 2017 with the aim of offering guidance and exposure to students who appeared for Joint Entrance Examination (JEE) Advanced 2017. The Open House had several sessions with IITGN



faculty, students and alumni. A campus tour was also organized for the students and their parents.

### SUMMER RESEARCH INTERNSHIP PROGRAMME (SRIP)

The program offers opportunity to students from within IITGN as well as outside to carry out research under mentorship of IITGN faculty. 82 students from institutes across the country and 40 from IITGN participated. Around 70 research projects were offered by over 40 faculty members this year. The SRIP



students are either funded by the institute or by the faculty members. The number of research interns funded by faculty members increased from 26 last year to 54 students this year.

## WORLD ENVIRONMENT DAY CELEBRATION

The campus community celebrated **World Environment Day** on June 5, 2017. Environmental awareness and love for nature was the motto for the day. The community, including families and children, participated in generating awareness for environment through a drawing competition, stalls, books, sharing information about disposal of trash, and use of products generated from recycled waste.

## SHORT COURSES/ WORKSHOPS/ PANEL

- Karate Workshop on **I am my own security** by **Mrs Rashmi Goyal**, April 8-9, 2017.
- Panel discussion on **India and the Idea of Secularism** by **Prof Rita Kothari**; **Prof Michel Danino**, IITGN April 12, 2017.
- Workshop on **Application of Mathematics** by **Prof Saleh Tanveer** (Mathematics, Ohio State University, USA); **Prof Sandeep Juneja**, TIFR, Mumbai; **Prof Chetan D Pahlajani**, Mathematics, IIT Gandhinagar; **Prof K Chelvakumar**, Mechanical Engineering, IIT Gandhinagar; **Prof Dinesh Garg**, Computer Science, IIT Gandhinagar; **Prof Nitin Khanna**, Electrical Engineering, IIT Gandhinagar May 16, 2017.
- Short course on **Protein Purification** by **Dr Ashok G**, GE Healthcare Life sciences, May 1-2, 2017.
- Short course on **Seismic Analysis and Design of Confined Masonry Buildings** by **Dr Svetlana Brzev**, IITGN during May 15-22, 2017.
- Short course on **Quantum Transport Phenomenon** by **Dr Sitangshu Bhattacharya** and **Dr Rekha Verma**, IIT Allahabad, Uttar Pradesh, June 12-16 2017.

## LECTURES

- **A New Proof of the Infinitude of Primes** by **Dr Bibekananda Maji**, IITGN, April 3, 2017.
- CSE Seminar on **Finding Small separators in linear time via Tree-width reduction** by **Jayesh Choudhari**, IITGN, April 3, 2017.
- **Attitude tracking control for aerobatic helicopters: A geometric approach** by **Nidhish Raj**, April 3, 2017.
- **Economic Ideas from the East** by **Prof Michel Danino**, IITGN April 5, 2017.
- **Fun with Programming - Competitive Programming Stories** by **Mr Anup Kalbalia**,

## SUMMER INSTITUTE ON SOCIAL JUSTICE PRACTICE AND RESEARCH



IITGN and the University of Saskatchewan (UoS), Canada organised Summer Institute on Social Justice: Practice and Research during June 19-30, 2017. A group of nine faculty members from UoS and one from the University of Ottawa, Canada along with 10 IITGN faculty members and students offered the sessions of various topic on gender, health, and social science research methods. 38 participants from 28 institutes across the country took part in the programme. The programme keynote speeches were delivered by Chief Executive Officer of Aga Khan Rural Support Programme, **Apoorva Oza**;

and Director and Professor of Economics at the Center for Development Alternatives in Chennai, **Prof Indira Hirway**. **Prof Ambika Aiyadurai**, IITGN and **Prof Raj Srinivasan**, UoS were the coordinators of the Summer Institute.

## IIT GANDHINAGAR GRAM FELLOWSHIP

IIT Gandhinagar has established Gram Fellowship to encourage students to immerse themselves in what-it-is-like to live in a village. During the fellowship, the students would engage with the community to understand their concerns, welfare, values and beyond. It is expected to be a learning experience rather than a “solution” finding/seeking project and is intended to experience the life of common people who may not have access to sufficient resources, and to think beyond technological interventions to address the concerns of the community.

Tech Lead at CodeChef April 7, 2017.

- **Emerging Changes, Challenges, Opportunities For The World & For India** by **Mr Arvind Singhal**, Technopak Advisors Pvt Ltd, April 7, 2017.
- **The Complete Professional in the 21<sup>st</sup> Century: Ten Commandments** by **Prof Raj Chhabra**, IIT Kanpur, April 7, 2017.
- **Competitive programming - what it involves and why it can make for an interesting hobby or a serious passion** by **Mr Anup Kalbalia**, a Tech Lead at codechef by April 7, 2017.
- **Using NEGF formalism for Quantum Transport Simulations** by **Dr Bhaskaran Muralidharan**, IIT Bombay, April 10, 2017.
- **An Adaptive Multi-Factor Authentication (A-MFA) Methodology** by **Prof Dipankar Dasgupta**, University of Memphis, US, April 11, 2017.
- **Computationally understanding human behavior from non-verbal cues** by **Prof Tanaya Guha**, IIT Kanpur, April 13, 2017.
- **Innovation and Societal Relevance** by **Dr Dipankar**, Chief Scientist, TREE Labs Foundation, April 14, 2017.
- CSE Seminar Series **Experiences and Interesting Problems from the ACM-ICPC Regionals 2016** by **Akash Pallath**, **Chinmay Sonar** and **P R Vaidynathan**, IITGN, April 17, 2017.
- **Sufism in Sindh** by **Prof Rita Kothari**, IITGN, April 18, 2017.
- **The Coin Exchange Problem** by **Prof Indranath Sengupta**, IITGN, April 21, 2017.
- **Investigation of numerical viscosities and dissipation rates of second-order TVD-MUSCL schemes for implicit large-eddy simulation and Analytical Investigation of Thermoacoustic Instabilities in Premixed**

**Combustion Systems** by **Dr Sarma L Rani**, University of Alabama, Huntsville, May 8-9, 2017.

- Mathematics Discipline Seminar Series by **Prof Saleh Tanveer**, Ohio State University May 15, 2015.
- **Intel RealSense** by **Dr Achintya Bhowmik**, Intel Corporation, May 15-16, 2017.
- **Symmetry and Conservation Laws in Quantum Mechanics and Band topology and interaction-driven topological transition** by **Dr Kush Saha**, Max Planck Institute for the Physics of Complex Systems, June 29, 2017.



**Extreme Engineering: A New Paradigm For Top-Class Engineering Education** by **Prof Amrutur Anilkumar**, Vanderbilt University, June 5, 2017.



**Prof T Pradeep**, IIT Chennai, delivered the sixth Roddam Narasimha Lecture titled **Clean water using advanced materials: Science, incubation and industry** on June 6, 2017.

## Student and Staff Activities



### UDAAN- FAREWELL

The formal farewell dinner for graduating batch was organized on April 15, 2017. The students dressed in formal attire, symbolizing their preparedness to face the world, walked down the memory lane and recounted their years at IIT Gandhinagar. The evening included by anecdotes and speeches by students and faculty, and musical and cultural performances by the students.

### MESS HOUR DEBATE

The house believes that there should be a transparency of funds in all student organised activities of IIT Gandhinagar. **Prof Atul Bhargav** took part in this debate along with other student members on April 8, 2017.



### ESTABLISHMENT OF STAFF DEVELOPMENT CELL

For facilitating personal and professional development of non-teaching staff, a Staff Development Cell was constituted on April 11, 2017. The SDC is committed to facilitating the capacity building of all the staff colleagues, who are the backbone of the institute's human resource. **Prof Umashankar Singh** is the Chairman and **Mr Krishan Birhman**, Coordinator of the Staff Development Cell.

### AWARDS AND RECOGNITION



**Mr Abhijeet Ojha**, a PhD student has been awarded for the best research poster among 206 participants from around 42 countries at International Conference on Applied Surface Science organized by Elsevier Publishers group in Dalian City, China.

## Sports News



### HALLABOL'17

Hallabol, the annual intra-college sports festival of IIT Gandhinagar was organized from the March 24 - April 3, 2017. This edition of Hallabol saw 539 teams participate in the thirteen events, amounting to a total of 3510 registrations, the highest of all Hallabol editions organized till date. The events comprised of a blend of unorthodox team sports (Foot-volley, 3-a- side Baddy), sports which are otherwise uncommon in India (Ultimate frisbee, Futsal etc.) and classic Indian sports (Gully-Cricket, Seven Stones and Kho-Kho).

### LFP (LEAGUE OF FOOTBALL PLAYERS)

The 8<sup>th</sup> edition of intra-college football league come to an end this April. The league consisted of 5 teams with total number of 142 players which included students, staff and faculty. The finals between Blitz FC and Rebels United ended in 2-4 score line as Rebels United were crowned champions of LFP 2016-17.



### DISHA CUP

IIT Gandhinagar organised the 3<sup>rd</sup> edition of Disha Cup sports tournament from June 09 - 11, 2017. The Institute's outsourced and contract workforce actively participated in the annual event and displayed great team spirit.



### SUMMER SPORTS CAMP

Summer Sports Camp was organised from June 1 - 30, 2017 for all games like Athletics, Basketball, Cricket, Football, Table Tennis, Volleyball, Gymnasium, and Yoga under the supervision of Sports Coordinator **Mr Dinesh Parmar** and with the guidance of the coaches. Yoga sessions were conducted in the morning 6:30 to 8:00 and rest of the events were conducted in the evening 6:30 to 8:30. The camp was open to all IITGN community and SRIP students.

## IN MEMORY OF PROF K V V MURTHY



**Prof K V V Murthy**, visiting professor of Electrical Engineering passed away on March 31, 2017 in Mumbai (born on March 18, 1940 in Hassan, Karnataka). He had a long stint as a faculty at IIT Bombay until his superannuation. He joined IITGN in 2009 and was much loved by the students for his inspiring teaching of a variety of courses. Prof Murthy was known for his passion for teaching and research in signal processing. Always friendly with everyone, Prof Murthy was a very engaged person participating in numerous activities. His departure is a great loss to the Institute.