



INDIAN INSTITUTE OF TECHNOLOGY  
KHARAGPUR

*gurukul*  
*gurukul*

GOING GLOBAL  
GOING GLOBAL

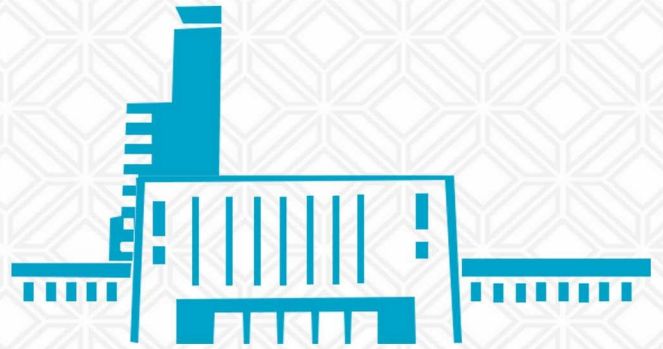




योगः कर्मसु कौशलम्  
*YogaH Karmasu Kaushalam*

*IIT Kharagpur...*  
*IIT Kharagpur... Inspiring Excellence*  
*IIT Kharagpur... Inspiring Excellence*

*The Karma Yogi gives himself over to his work and does so without expecting recognition or return. Excellence is all that matters to him ...*



*-From the teachings of the Bhagavad Gita (The Celestial Song), chapter 2, verse 47*





IIT Kharagpur  
Institutional Development (ID) Program

## CREDITS

### PATRON:

Prof. Siddhartha Mukhopadhyay, Dean Alumni Affairs & International Relations  
Prof. Baidurya Battacharya, Asso. Dean Alumni Affairs & International Relations

### CONTENT:

Shreyoshi Ghosh

### DESIGN:

Abhinav Kumar

### ADDRESS:

Office of Alumni Affairs & International Relations,  
IIT Kharagpur, Pin - 721302

### WEBSITE:

[www.iitkgp.ac.in](http://www.iitkgp.ac.in)  
<https://iitkgp.org>

### EMAIL:

[alumni@hijli.iitkgp.ernet.in](mailto:alumni@hijli.iitkgp.ernet.in)

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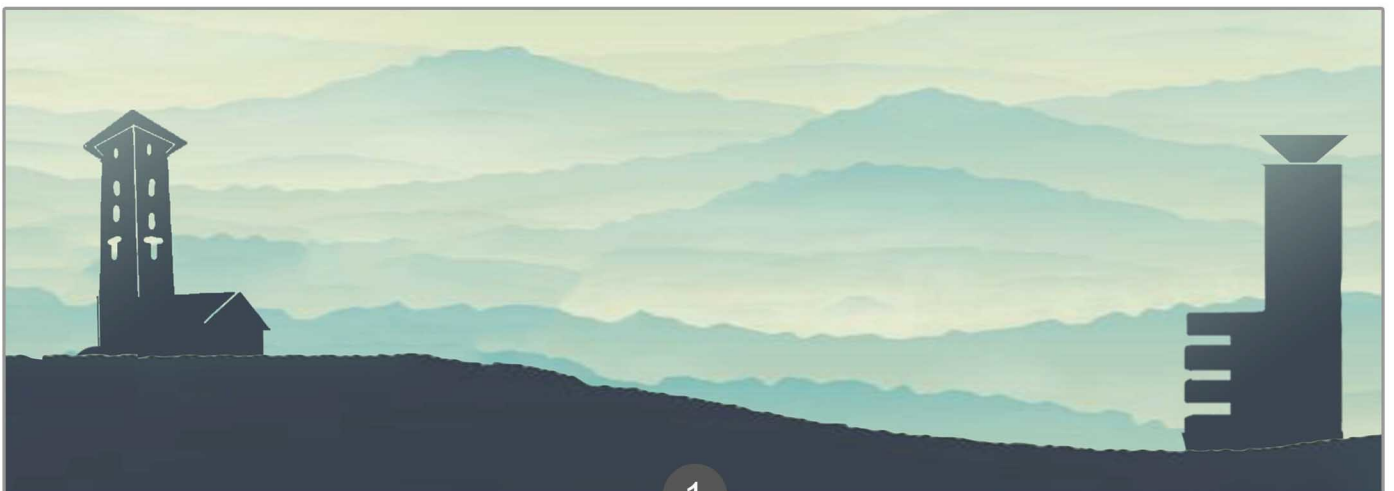


# Genesis

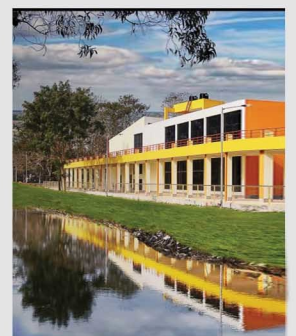
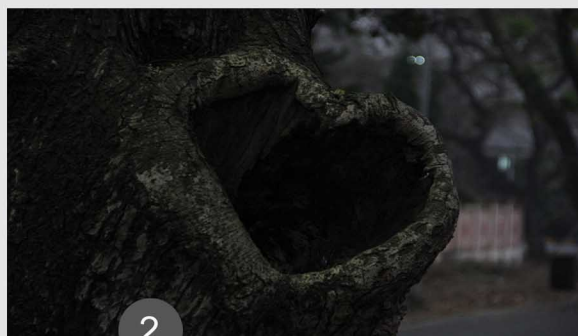
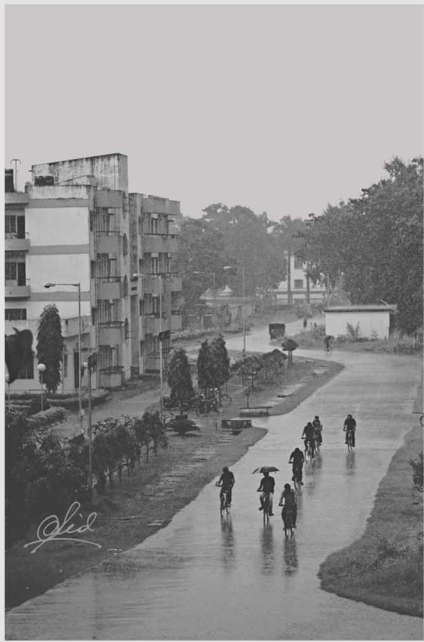
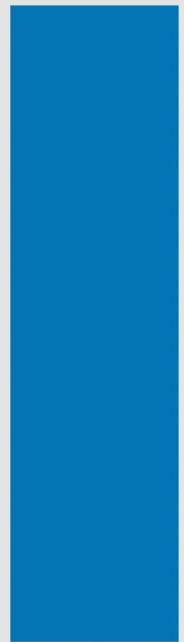
Kharagpur - a dusty town tucked away in the eastern corner of India, famous until 1950 as home to the longest railway platform in the world - became the nursery where the seed of the IIT system was planted in 1951. Spurred by the success of IIT Kharagpur, four younger IITs sprouted around the country in the two following decades, and from these five came thousands of IITians, the brand ambassadors of modern India. It was the success of this one institution at Kharagpur that wrote India's technological odyssey.

Indian Institute of Technology Kharagpur, fondly referred to as IITKGP by its kin, right from its inception formed the bridge between India's ancient wisdom and modern technology. From the inspiration of the tree of knowledge to the motto of 'yoga results in perfect action', IITKGP echoes Indian ethos of enlightenment. On the other hand, the inspiration was the model of education imparted at institutions like MIT with eminent faculty from Europe who joined the Institute in its formative years.

IIT Kharagpur started its journey in the old Hijli Detention Camp in Eastern India, where some of the country's great freedom fighters toiled and sacrificed their lives for India's independence. This is possibly one of the very few Institutions of the world that started life in a prison house. This Phoenix that rose from the struggles of a colonized nation, IITKGP today is a confluence of world class multidisciplinary courses, a cauldron of academic and corporate research, a thriving hub of entrepreneurship and an enabler of best-in-class placement. IITKGP is not just the place to study technology, it is the place where students are taught to dream about the future of technology and beam across disciplines, making differences enough to change the world.









# Genesis



With 224 freshers, 42 teachers and 10 departments, the Institute started its academic journey in August 1951. Today, there are about 40 academic units, 11500 students and 650 faculty members. The past seven decades have continually witnessed new and pioneering developments at IITKGP: expansion from core engineering to life sciences, management, law and psychology; introduction of interdisciplinary studies; and collaboration with the best institutes in India and the world.

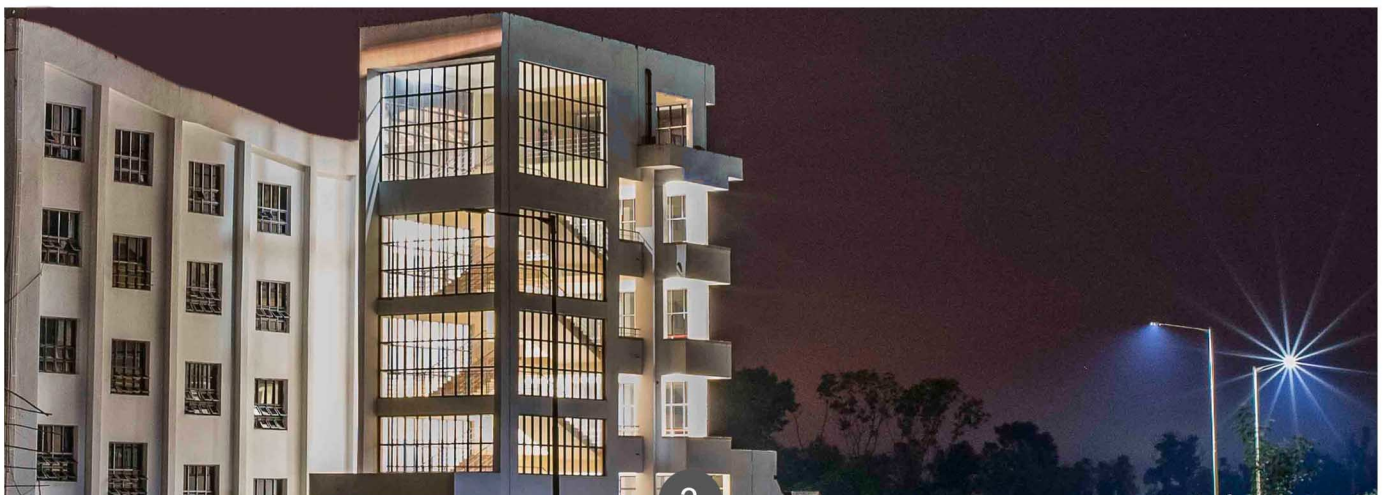


The iconic Main Building of IITKGP displays across its entrance a sign that reads “Dedicated to the service of the Nation.” With quiet dignity, these simple words assert to the world what the Institute is really about. KGPians, as the alumni and students love to call themselves, have contributed significantly to all areas of nation building starting from teaching, scientific research, entrepreneurial ventures, armed forces, civil service and the arts. IITKGP is a life-changing experience: its illustrious alumni speak the story of its impact in the past 66 years. IITians of which KGP alumni have a significant share, form the 4th largest group of entrepreneurs and corporate leaders in the Silicon Valley competing with likes of Stanford, MIT and UC alumni.



The Institute imbibes the culture of excellence in all its activities. We invite our alumni and academic peers to collaborate with us on various fronts and share the expertise of both worlds and join us on our journey to excellence.

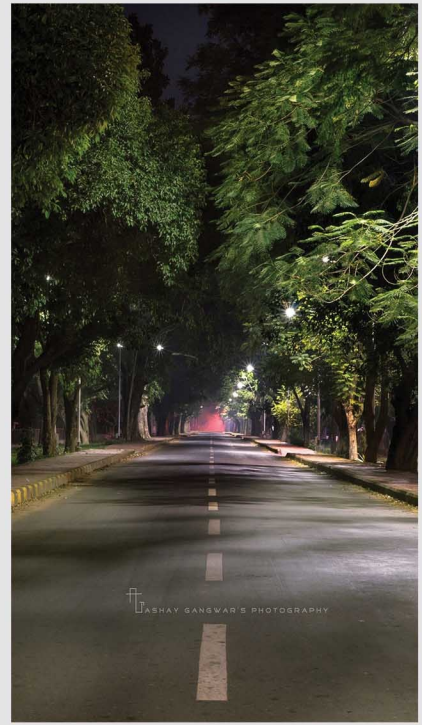
Contact the Dean, Alumni Affairs & International Relations to learn more about IITKGP - [deanaa@hijli.iitkgp.ernet.in](mailto:deanaa@hijli.iitkgp.ernet.in)







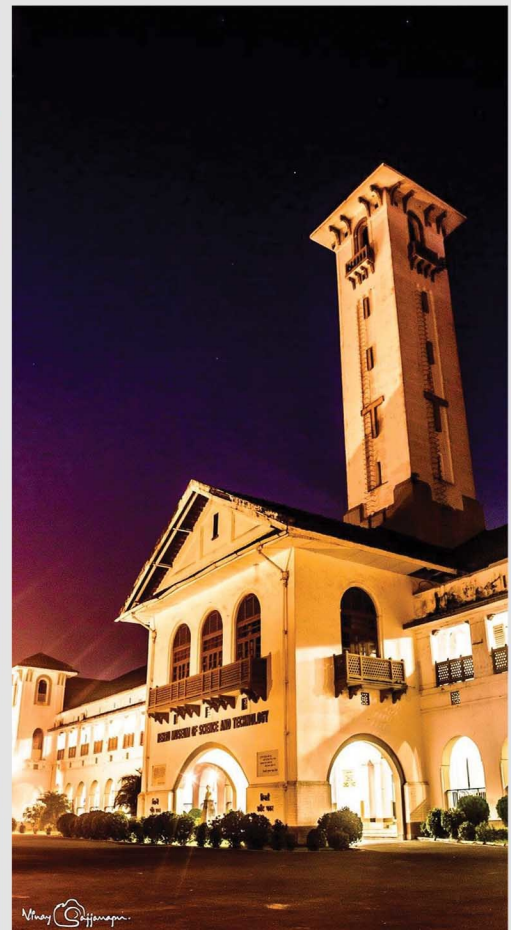
NIKESH ARYAN



ASHAY GANGWAR'S PHOTOGRAPHY



NIKESH ARYAN



Niraj Singhania



# Academic Units

## Earth Sciences

Environmental Science and Engineering  
Geology and Geophysics  
Mining Engineering  
Civil - Environmental  
Water Resources  
Ocean, Rivers, Air and Land Sciences  
Petroleum Engineering

## Life Sciences

Biotechnology  
Medical Science and Technology  
Bio Sciences  
Agriculture and Food Engineering

## Interdisciplinary

Railway Research  
Petroleum Engineering  
Quality & Reliability  
Nano Sciences and Technology

## Infrastructure

Civil Structural  
Architecture and Regional Planning  
Infrastructure Design & Management  
Civil Transportation

## Humanities and Social Sciences

Law  
Economics  
Psychology  
Happiness Science  
Linguistics

## Entrepreneurship and Management

Business Management  
Human Resources Management  
Industrial Systems and Engineering  
Engineering Entrepreneurship





# Academic Units

## **Mechanical Sciences**

Mechanical Engineering  
Civil Engineering  
Aerospace Engineering  
Ocean Engineering and Naval Architecture  
Manufacturing Engineering

## **Electrical Sciences**

Electrical Engineering  
Electronics and Electrical Communications Engineering

## **Computer and Information Sciences**

Computer Science and Engineering  
Mathematics and Computing  
Computational and Data Sciences  
Statistics and Informatics  
Educational Technology

## **Natural Sciences**

Physics  
Chemistry  
Mathematics

## **Materials & Chemical Sciences**

Chemical Engineering  
Metallurgy and Materials Engineering  
Materials Science  
Rubber Technology  
Steel Technology

## **Energy**

Energy Science & Engineering  
Bioenergy  
Cryogenic Engineering

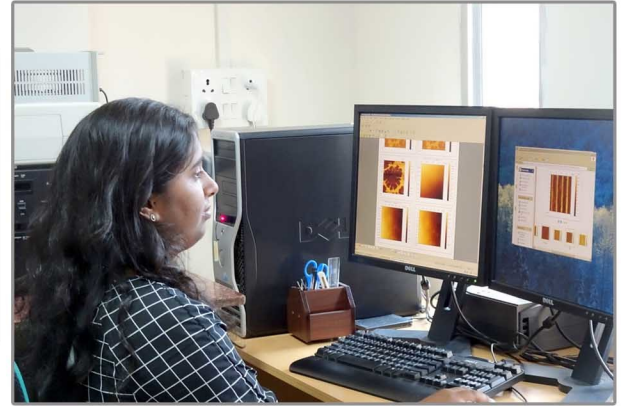




# Academic Programme

## *Undergraduate Programme:*

Bachelor of Technology (BTech - 4 years)  
Bachelor of Architecture (BArch - 5 years)  
Bachelor of Law (LLB - 3 years)



## *Postgraduate Programme:*

Master of Technology (MTech - 2 years)  
Master of Science (MSc - 2 years)  
Master of Law (LLM - 2 years)  
Master in City Planning (MCP - 2 years)  
Master in Business Administration (MBA - 2 years)  
Master in Medical Science and Technology (MMST - 3 years)

## *Research Programme (All Disciplines):*

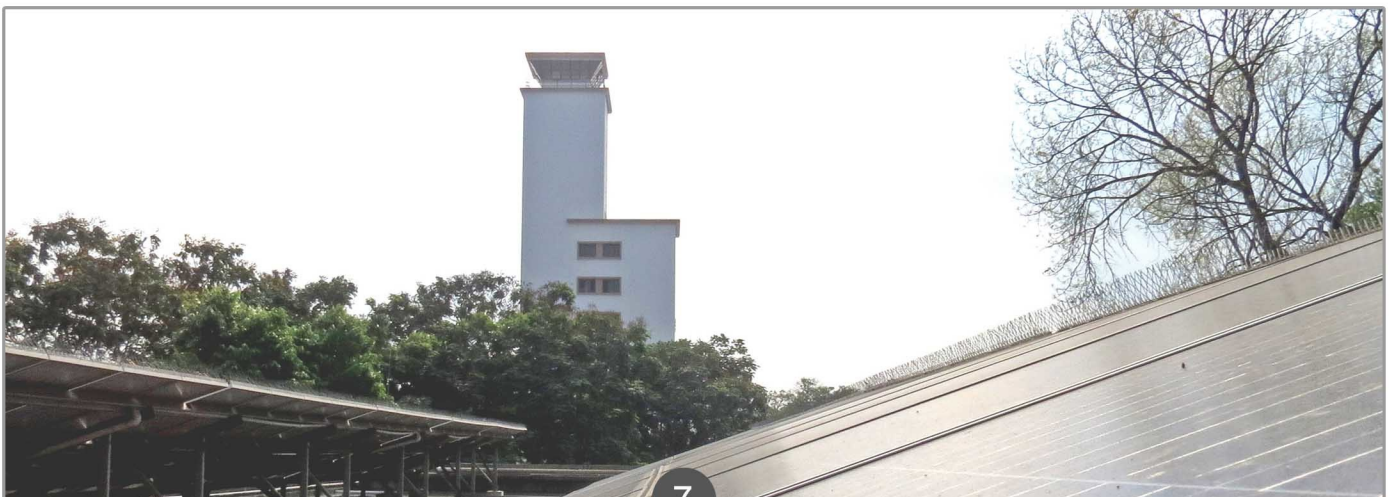
PhD  
MS by Research

### *Dual Degrees:*

BTech + MTech (5 years with interdisciplinary options)  
Integrated BSc + MSc (5 years)  
Dual MTech + PhD  
Dual MS by Research + PhD

### *Inter-Institutional Degree Programme:*

National	International
Postgraduate Diploma	Joint PhD
Joint MSc + PhD	





# Our Faculty



Faculty mentoring student for Young Scientist Award

650 faculty members who graduated from the best Institutions and programs from around the world

Recipients of medals, awards, fellowships from Indian National Science Academy, Indian Science Congress, national and international bodies

Sponsored Chairs, Editorial Board Members, Chairs at Funding Agencies

Full-time and Visiting International Faculty from North America, EU, Israel, Australia

Opportunity of cross-cutting research across disciplines in science, technology, medicine, law and the humanities...

Advanced Manufacturing, Transportation Technologies, Healthcare & Medical Technology, Innovative Infrastructure, Digital Convergence, Geoscience for Future of Earth, Climate Change, Bioscience, Datascience



Bhatnagar Award winning Researcher

Rated Top Academic Institute for Patents 2016' by Indian Intellectual Property office and Confederation of Indian Industries; 50 to 100 per year



Leading Research Group for Technology Development

Rated among the top three Research Institutions in India, by the Department of Science and Technology & NIRF; 2000~ Journal Papers per year

300~ Sponsored Projects worth INR 175~ cr annually; Special Projects (IMPRINT, UAY, NDL, NIDM) worth INR 225 Cr~

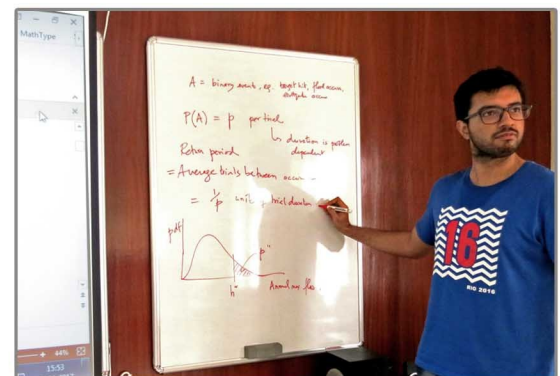
30 winners in DST-Lockheed Martin India Innovation Growth Programme (IIGP) 2016



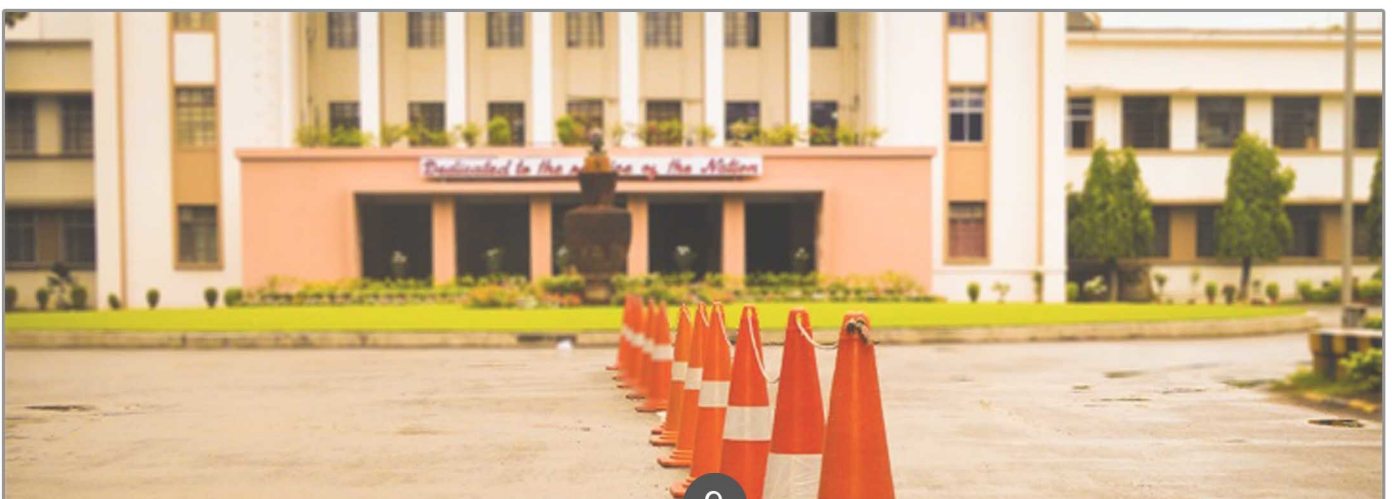


# What We Offer

- A. Opportunity to teach wide variety of courses at multidisciplinary academic units
- B. Faculty and Teaching Excellence Awards with top-up on salary for Young Faculty, additional research grant
- C. Innovative Research Grant under Institute Scheme for Innovative Research and Development for equipment and infrastructure
- D. Additional grant for consumables, contingency and travel
- E. Research Challenge Grants
- F. Professional Development Allowance for attending conferences, paying professional membership fees, buying books and software etc.
- G. Grant for participating in Top 10 Conferences in own discipline; Additional grant for conferences for people with prolific projects
- H. Interest-free soft advance
- I. Special monthly honorarium to awardees of S.S. Bhatnagar Prize, fellows of at least two National Academies
- J. Support for foreign travel for select international conferences
- K. Funded graduate students to each newly joined faculty for research guidance
- L. Opportunity for teaching in other universities in summer recess or faculty exchange programmes
- M. Reimbursement of relocation charges within India/abroad for new recruits



Wish to learn more about IITKGP  
Visit: <http://www.iitkgp.ac.in/faculty-why-joining-iitkgp>  
If you are interested in a teaching position at IITKGP,  
please write along with your résumé to;  
[deanf@adm.iitkgp.ernet.in](mailto:deanf@adm.iitkgp.ernet.in)





IITKGP has developed over the decades a reputation for research excellence. The Institute is ranked among the top three research institutions in India by the Department of Science and Technology and the Government's National Institutional Ranking Framework.

Be it in research publications or patents filing or award winning research, IITKGP has made its mark. About 2000 papers are published each year. The Institute files about 50-100 patents in a year and has been awarded the Top Academic Institute for Patents 2016' by Indian Intellectual Property office and Confederation of Indian Industries. About 300 R&D sponsored projects are undertaken each year, valued at Rs 150 - 200 Cr.

The faculty members win several awards each year for their research: starting from the Young Scientist Award from the Indian National Science Academy (INSA) and the Indian Science Congress, Young Engineer Award and Outstanding Teachers Award from the Indian National Academy of Engineering (INAE), to National Awards such as Gandhian Award, Awards by Dept. of Science and Technology, Awards by Science and Engineering Research Board, Presidential Medals, SS Bhatnagar Award etc. Many are inducted every year as fellows of national and international academies of sciences, engineering and medicine.

The key research domains covered at IITKGP are;

**Digital Convergence:**  
Education, healthcare, governance, and complex engineered systems

**Advanced Manufacturing:**  
Modern manufacturing and early prototyping

**Medical Technology and Affordable Healthcare:** Affordable healthcare for a billion people

**Transportation Technologies:**  
Intelligent, safe, green cyber-physical technologies for next generation integrated transportation systems

**Innovative Infrastructure:**  
Smart infrastructure design, monitoring, and sustenance

**Geoscience for Future of Earth -**  
Sustenance of Critical Earth Processes  
**Information and Communication Technology**

**Food Technology**

**Energy Science**

**Science and Heritage Interface**

**Rural Technology**





# Research & Innovation

### Mega Projects

**Sustainable Food Security**  
Through Technological Innovations for Production, Processing and Logistics

**FUTURE OF CITIES**  
Planning and Policy  
Design and Development  
Habitat and Maintenance  
Governance

**National Digital Library of India**

**सिगनेटि**  
An initiative by IIT Kharagpur

### Major R&D Breakthrough

Bio-hydrogen Plant

Self-cleaning and Cancer Remedial Nanotechnology

Cataractous Eye Protein Nanoparticle for Drug Delivery

Biofuel from Plant Hemocellulose

Security Module for IoT

Lab-on-a-chip with electrically increased liquid flow

### Rural Tech Innovations

Mechanized Dhenki (Traditional rice milling process)

Pedal-driven Potter's Wheel

Integrated Muri (Puffed rice) Making Machine

Pedal-driven Tasar Silk Reeling Machine

### Product Developments

Technology Development for Children with Special Needs

RFT for Safety of School Children

Fatigue Monitor - 2016

Bio-fuel from Agri-waste and Agro-industrial Residue Developed at PE Saha Centre for Bioenergy IITKGP

Iron Fortified Rice

Spider Web Silk - 2015-16

### Initiatives for Nation Development

- Petalop enabled Supercomputing facility
- Centre for Railway Research
- National Digital Library
- Climate Change Centre
- Leading National Initiative Design Innovation
- Leading Healthcare and ICT in IMPRINT
- Key contributor to UAY
- Leading GIAN
- Collaboration with Dept. of Heavy Industries to boost Make in India

Supercomputing Facility 2017

### R&D Initiatives

SBI and IIT Kharagpur FinTech Collaboration 2016

SETTING THE CLOCK STRAIGHT

- India's leading construction firm, Larsen & Toubro (L&T), has announced a strategic partnership with IIT Kharagpur to develop a smart construction management system.
- The partnership aims to leverage IIT Kharagpur's expertise in AI, ML, and data analytics to optimize construction processes, reduce costs, and improve safety.
- The system will be used for real-time monitoring of construction projects, enabling better decision-making and resource allocation.

Determination of antiquity of IVC 2016

Determination of antiquity of Varanasi 2015-16

Geographical Indications 2016

Restoration of Puri temple 2015-16

Centre for Railway Research 2014-17

### Campus Green Innovations

Recycling of kitchen waste into Vermicompost and Biogas using Earth-Gardens for organic Solid Bio-waste at IITKGP

Tree Transplantation is the buzz word at IITKGP

Eco-friendly Bamboo concrete construction (No Steel used) at IITKGP

Plant Biodiversity Park at IITKGP

Solar panel at IITKGP for electricity for research

Green building at IITKGP

### Major Developments

- Upcoming Super specialty Hospital followed by Medical College
- Research Park at Kolkata
- Dual Degree Programmes (Masters and Doctoral) with Curtin and Melbourne universities
- MIT Practicum under SGR International Programme
- RGSOIPL Funded Foreign Exchange Programme with GW Law School
- Semester Away Programme

Super-specialty Hospital

Diamond Jubilee Complex

Foreign Visitors Accommodation

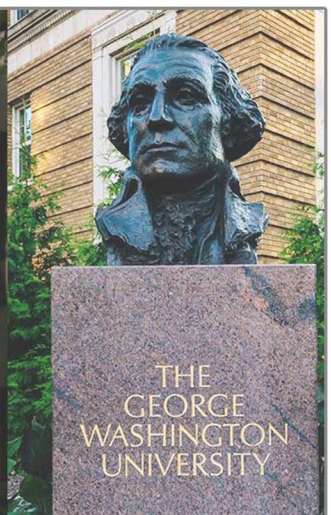
J C Bose Lab Complex

Research Park





# International Programme



IITKGP represents a mini India where students from all over the country, from different cultural backgrounds, languages, economic status come together. This diversity helps IITKGP become a global destination of higher education.

IITKGP has collaborated with many globally renowned universities to promote mutually beneficial exchange of knowledge through exchange of research personnel, especially young faculty and advanced graduate students, so that they may become familiar with the facilities, methodologies, research culture and particular areas of focus of the other institution. Such undertakings aim to promote interaction and collaboration between faculty, staff and students of the two institutions through visits, exchange programme, collaborative research projects etc. It also aims to enhance the technology, social and cultural relations of both countries.

## *Joint Programme:*

*The Institute offers Joint PhD programme with the following universities:*

- Curtin University of Technology
- University of Melbourne
- University of Wollongong

*The Institute also has Dual Degree programme with other top institutions in India:*

Postgraduate Diploma in Business Analytics with Indian Institute of Management Calcutta and Indian Statistical Institute

MSc-PhD Programme on Chemical and Molecular Biology with Indian Association for the Cultivation of Science

## *Foreign Students Visit Programme:*

The Institute offers a robust foreign student / scholar visit programme. Students may visit for a year, a semester or for a shorter duration. Most of these programs have credit transfer facilities.

Students also visit for joint programme of short durations such as Practicum, Workshops which are organized through partner universities.



# Foreign Students' Programme

The Institute conceptualized the International Summer and Winter Term which went national as the Global Initiative of Academic Networks. Every year foreign academicians and students visit IITKGP under this programme for short-term courses. The Institute is among the first in India to set up an exclusive endowment for supporting international programme for travel and stay of students and faculty from IITKGP and foreign universities. The Shri Gopal Rajgarhia International Program includes the following:

- SGR International faculty outreach programme
- SGR International research scholar support programme
- SGR International student scholarship programme
- SGR International workshop/meeting
- SGR Student International travel support

## *Foreign Students' Programme:*

International Relations Cell started the "Buddy Programme", under which each international student will be allocated an IIT Kharagpur student as a "Buddy". The features of this programme are:

It is completely voluntary and can be discontinued as a personal choice

The 'Buddy' would play the role of a guide at IIT Kharagpur and a friend while learning more about the country from which the foreign national has arrived. This works as a two way beneficial interaction

If they enroll as a "buddy", the participants will get a certificate from International Relations Cell, IIT Kharagpur.

## *Foreign Training Programme*

International exposure is crucial for a holistic development of an individual and the experience of living and working abroad will be tantamount to this endeavor. To achieve this goal, Foreign Training Programme (FTP) has been initiated. Under this programme, we have started formalization of the foreign training application procedure in collaboration with the Career Development Cell.

## *Semester Away Programme*

Semester Away Programme (SAP) provides students with the unique opportunity of studying in any university of his choice whether in India or abroad for a semester or two. SAP provides the students with the opportunity to explore their interests and gain international experience.

Faculty and Students for more information, may write to [irc@iitkgp.ac.in](mailto:irc@iitkgp.ac.in)





# Being a Student



## Admission at IITs

Being a student at IIT is the dream of every school-going youngster in India who aims to be an engineer. Each year more than a million aspirants compete for about 6000 seats at IITs. The students qualifying for IITs are considered to be the creme of the creme, not just in India but across the world. And each year about 1300 of these students join IITKGP. Mission IIT goes beyond the boundaries and students from other countries appear for JEE in select countries. In addition, IITKGP has several programs through which international students can visit Kharagpur for courses or research lasting anywhere between a few weeks to one year.

## Teaching and Learning

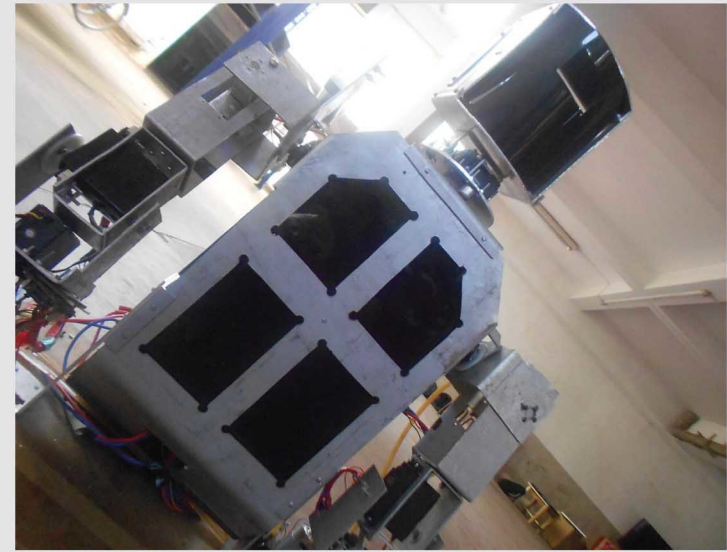
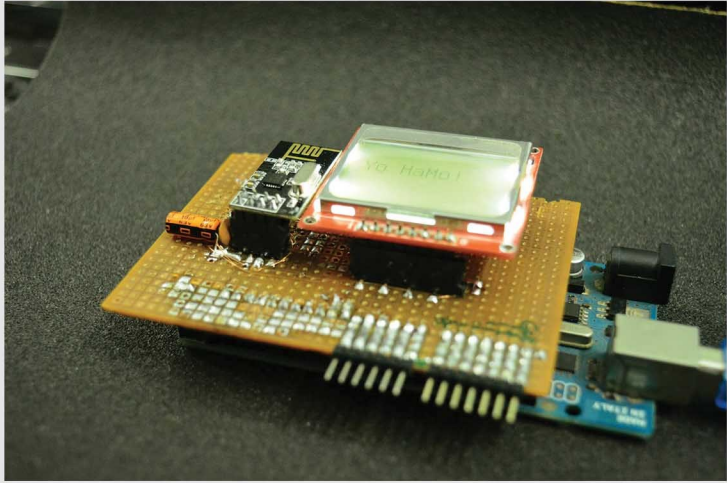
Learning at IITKGP goes beyond classroom and assignments. Being a residential campus for both teachers and students, dissemination and learning at IITKGP does not stay confined to class hours and classrooms. The student is always welcome to drop in at the professor's office. Laboratories can stay open, and classes, tests and discussions are often held in the evenings and weekends. Along with regular instructional methods, students participate in active learning, problem-based learning and independent study. Students can opt for minors, micro-specializations and micro-credit courses in their preferred disciplines. Some of the co-curricular activities in techno-management are being considered for credits under project-based learning. Students needing help in certain areas can opt for shadow teachers seeking help from their peers. Strength and weakness evaluation is done and training imparted to excel in strength factors and manage weakness factors.



IITKGP has the finest hi-tech labs that are at par with its global peers. In addition to specialized labs in every department, the Institute has set up a slew of laboratory complexes: these range from the first year UG laboratories to the Central Research Facility for advanced research in materials and biology. A tinkering lab for your innovators has recently been set up as well.









# Being a Student

The Central Library at IITKGP is considered one of the finest and largest in the world. Its 8000 sq.m provides reading space for 2000 people, holds 300000 books and 25000 subscribed journals. It also has access to all major databases and repositories including 3.8 million theses and dissertations. IITKGP has taken library services to the next level, not just by making books available on the campus through the digital library, but by extending digital library service to external readers through the national mission project National Digital Library.



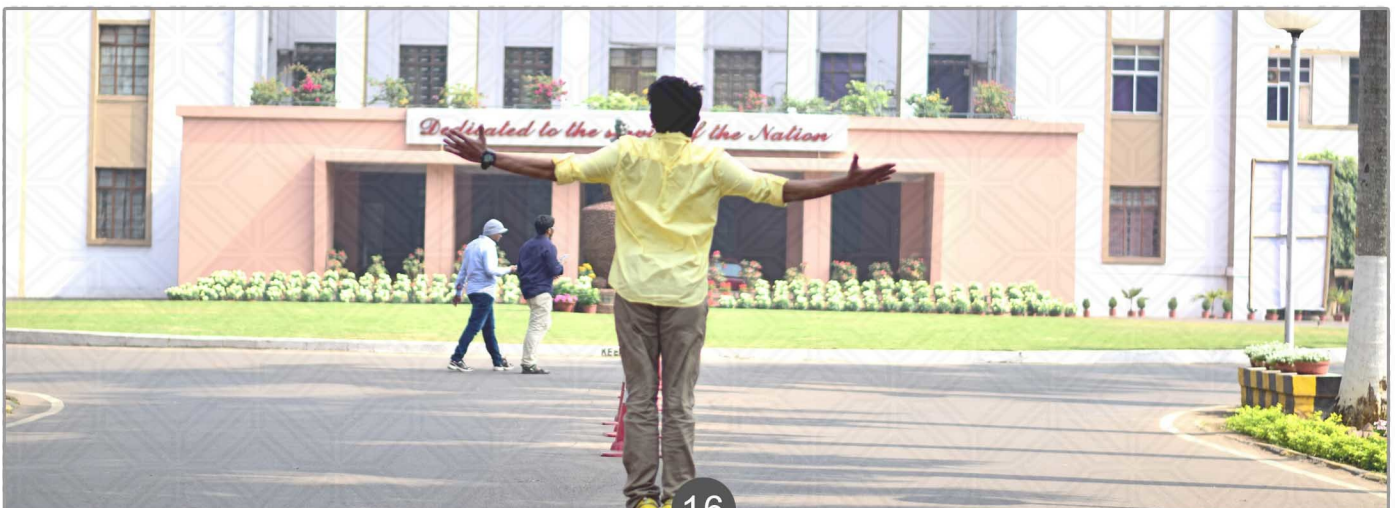
## *Techno-Management (Co-curricular)*

The creativity of students at IITKGP is nurtured by the strong bonding within the interest groups and the time and focus the students can afford due to the residential nature of the campus. Techno-management has reached new heights with Kshitij, one of the largest techno-management fests in the world. The Institute supports techno-management activities through financial aid for participation in international competition, setting up the MNF Innovation Centre, the Centre for Robotics, project based learning etc.

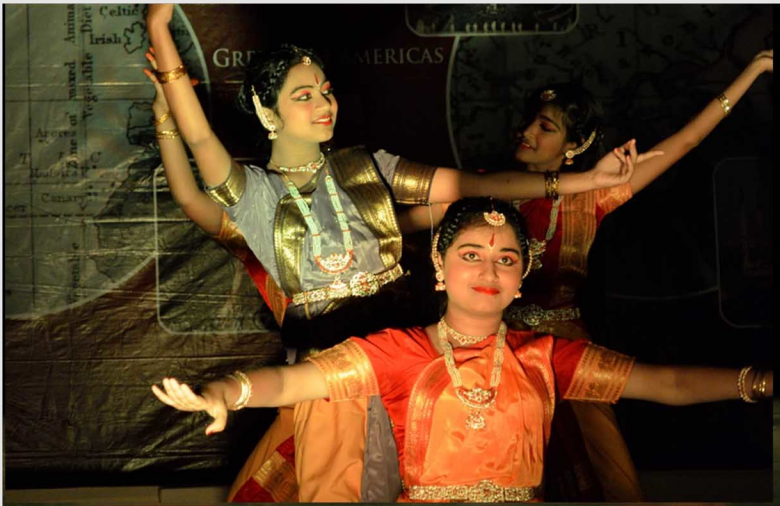


## *Extra-curriculars*

IITKGP realises the importance of sports and cultural activities in shaping the students into complete human beings. Notwithstanding the rigorous academic schedule, students indulge in a variety of extracurricular activities covering music, dramatics, debate, dance, case-studies, business-plans, product design, data analytics and almost every sport you can name from football to water-polo. Furthermore, to prove their mettle in whatever they do, students participate and win in the most challenging national and international level competitions apart from their inter-Hall championships. All these activities are organised and led by the students themselves which provides them with an excellent platform to hone their managerial and leadership skills.









# Being a Student



IITKGP being at semi-urban setup with villages not far from the campus, students get the opportunity to make difference to lives of people through social work in the villages. Students from IITKGP runs a primary school for poor children. Under National Service Scheme, students take part in development program in villages.

## *Becoming a Kgpian*

Education is an activity of the mind and a happy mind is the best receptor of knowledge. With this focus, IITKGP has designed an orientation cum induction program for all incoming first years in which the youngsters get to know the Institute and are encouraged to connect with their creative selves and rekindle their soft skills. Through workshops, mentorship, guest lectures and hands-on training, the students participate in the arts, sports, stress management and conflict resolution. A micro-credit course on Science of Happiness and resilience has been introduced. This is coupled with Yoga sessions for healthy body and mind.

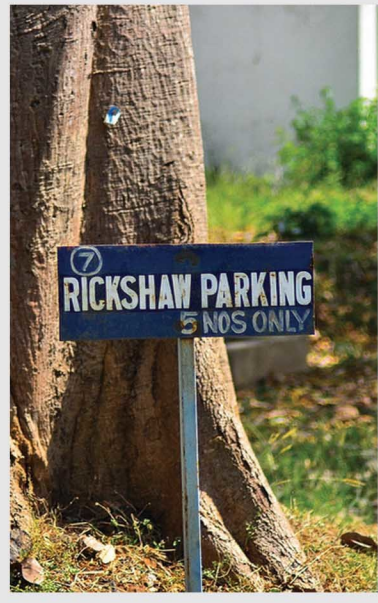


## *Residence*

IITKGP has 22 Halls of Residence. Each has its own dining room, canteen, common room, gym, courts and fields, library etc. Halls of Residence are 'the' most important part of IITKGP student life. It is the Halls where the life-long bonding begins with the Hall-mates and the Wing-mates. It transcends socio-economic background, course of study, batch, interests and hobbies and delivers the KGPians in whom IITKGP lives forever. Inter-hall competitions in sports, technology and cultural events take place around the year.





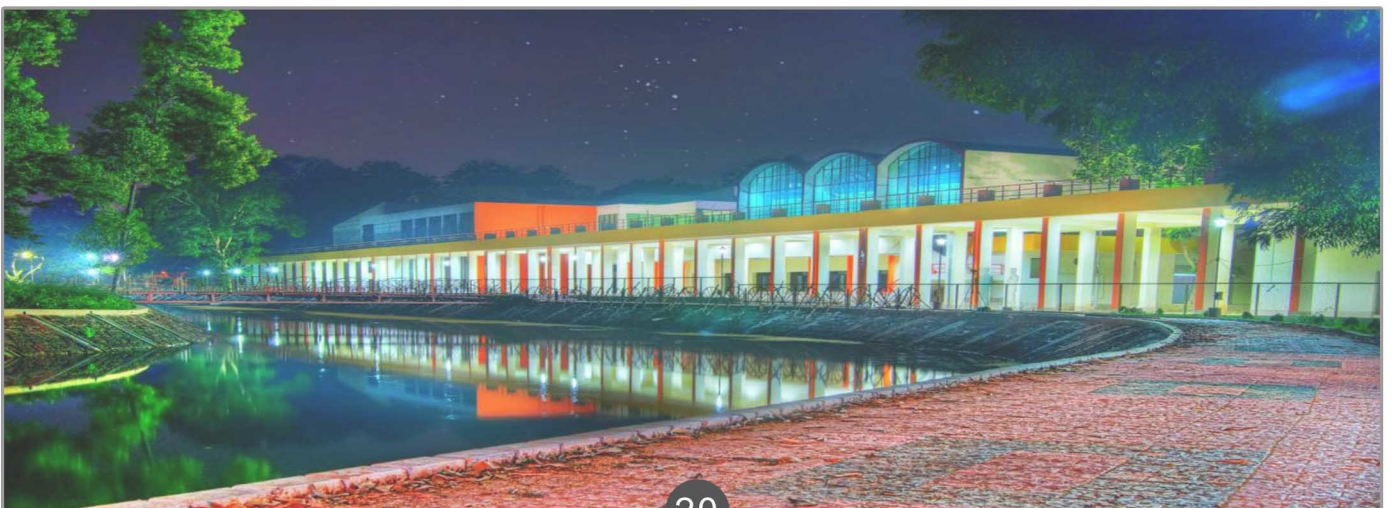




# Being a Student

## Hangouts

There are places in IITKGP that imprint a KGPIan with memories of rendezvous, bonding over food, chats, knowledge sharing, activities. Of these Gymkhana tops the list, where student spend considerable time. The eateries in and around the campus also contribute. The futures planned over a cup of coffee at Cafe Coffee Day, the promises of friendship while sharing a sandwich at Subway, the chilling out at Baskin Robbins, the fun frolic at the market place over taste of Indian food, the long-walks in the greeneries of the campus, IITKGP is the place where you always have somewhere to be and someone to be with.









# Career Development

Every year more than 250 companies visit IITKGP and recruit more than 1600 students. What draws these top companies from across the world to Kharagpur is simply the quality of graduates of IITKGP. IITKGP has been ranked for two consecutive years as the best institution in India in the Graduate Employability Rankings by Quacquarelli Symonds (QS).

Our graduates start their career with top Indian and international organizations: national labs in defence space and atomic sciences, design houses, engineering conglomerates, consulting companies, financial institutions and so on. Some of them take time off to prepare for the nation's premier civil service examinations. About 10-15% of IITKGP graduates opt for higher studies in India and abroad right after graduation while some do so after earning a few years of work experience. Those going for management programmes join the Indian Institutes of Management. Others go for Ph.D. studies mostly in top universities such as Stanford, MIT, Harvard, Purdue, Columbia, Johns Hopkins, Rice, UCB, Warwick, Imperial College, Melbourne etc. A sizeable fraction of our own PhD degree recipients go on to take up post doctoral fellowships around the world or join educational institutions including other IITs as faculty members.



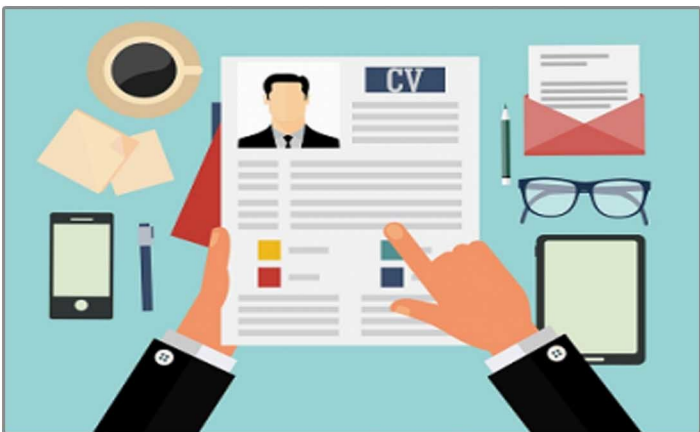
It is not only academic excellence that sets our graduates apart. Four years of campus living in their formative years give them skills that few of their peer groups anywhere in the world can boast of. IITKgp students run for office and manage their Halls and the Gymkhana, raise funds from around the country for events, form groups and societies based on their interests, participate in a wide variety of extra-academic activities and compete with the best of the best.

The alumni of IITKGP have always made their alma mater proud, with their innovative thoughts and perseverance for the growth of corporations all over the globe. A typical KGPIan has always played a pivotal role in the growth of organizations, a habit which is cultivated right here on campus. The alumni reinforce the belief that whichever be the industry, at IITKGP, one will always find candidates meeting, and even exceeding expectations from a prospective employee.



# Career Development

The Career Development Centre (CDC) of IITKGP provides 360 degree career solutions to the students. The Centre with its 20-member strong student team headed by four faculty members and supported by staff, run campaigns round the year for inviting companies for placement and internship, selection of students for recruitment etc. The major initiatives are given below:



## Career Development Programme:

Improve soft skills, professional communication and personality through career counselling by professional agencies/experts

Help prepare professional resumes by conducting resume writing workshops

Management development programme

Assisting the departments in organizing Industry oriented workshops, leadership talks, lectures, competitions, Curriculum Oriented Career Prospects (COCP) Workshops including specialized niche areas

## Internships and placements:

Conducting internships and placements - both national and international

Conducting in-house Employability Tests

Publishing information in portal/ hard copies and communicating the same with recruiters

## Corporate Relations:

Facilitating meetings between visiting corporate houses and Sponsored Research and Industrial Consultancy Cell and Departments

Collecting corporate feedback on what they are looking for in students for different types of jobs

Development of further interaction pattern

Arranging interaction sessions between corporate leaders and students (Guest lecturers/ talks/ seminars)

Alumni - Mentoring, Recruitment, Further networking (Through alumni cell, Dean AA&IR)

Collecting Course content feedback from the industries



# Entrepreneurship

Incubation of entrepreneurial ventures at IITKGP are done at two verticals:

The Science and Technology Entrepreneurs' Park (STEP) at IITKGP offers infrastructural and financial support to startups.

Rajendra Mishra School of Engineering Entrepreneurship offers academic discipline and research programs for student innovators.

**STEP** provides the real incubation space to its incubatees. The incubation policy provides the unique resource for consultancy in entrepreneurship management and venture capital management. STEP is open for students and faculty of IITKGP as well as entrepreneurs external to the Institute.

More than 100 companies have been incubated at STEP of which 50+ have graduated. Some of the successful startups are:

Capillary Tech - CRM

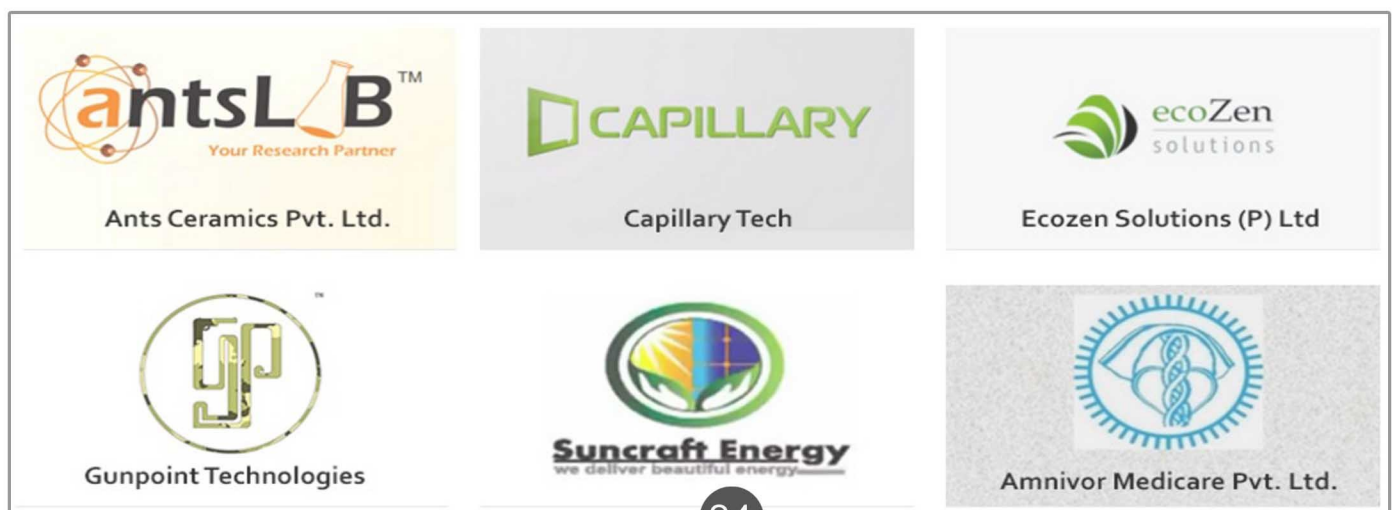
Ecozen Solutions - Renewable energy based products

Ants Ceramics - Advanced ceramics manufacturing

Sankalp Semiconductors

Suncraft Energy - Solar power generation products

Data Resolve - Cyber Intelligence for sensitive data





# Entrepreneurship



Technology Incubation and Entrepreneurship Training Society (TIETS) is a dynamic virtual incubation for entrepreneurship development society. It seeded the efforts to create an all inclusive funding infrastructure at IITKGP. Creation of such an infrastructure triggered the invocation of the entrepreneurship process lifecycle of ideation, incubation and integration among the students and alumni of this institution. TIETS has created an avenue for its incubatees where they get the fund support, mentoring, evaluation and prototype branding. This also guided the way to develop coursewares and a variety of training programs for IIT stakeholders and public at large.



The mentoring policy in regard to incubation provides advocacy, management, procurement, product development strategy, competitive landscape, possible alliances, equity, regulatory issues, and restructuring 3-tiered counseling support to the startups which includes: (1) Technical Support, (2) Financial Support, (3) Legal Advices, (4) Fabrication Assistance, (5) Market information and networking with Research laboratories/institutions.



To encourage entrepreneurial thinking among her engineering students, IITKGP established the Rajendra Mishra School of Engineering Entrepreneurship (RMSoEE) in 2010. The School imparts a strong entrepreneurial culture and provides an ecosystem for venture creation and early start-ups. It offers a five year integrated dual degree with M. Tech in Engineering Entrepreneurship and B. Tech in an Engineering discipline. This unique school for the first time in India provided the opportunity for engineering undergraduate students to design and develop market-ready products while pursuing their academic work.





# Entrepreneurship

The curriculum has been designed to give the students an opportunity to develop their creative skills while applying principles of management, marketing, and finance to the challenges of starting a new business, growing a business, or managing a family business.

The School is equipped with Innovation Lab for ideation and innovative thinking, initializing from ideation, opportunity recognition, B-plan development, and product design and prototype development.

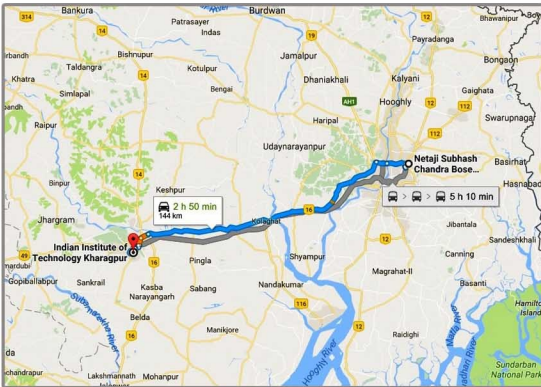
The various funding structure available in the entrepreneurial ecosystem at IIT Kharagpur provides them the flexibility of building and testing their prototypes.

The students are mentored individually by a faculty and a successful entrepreneur in order to transform his/her idea to a successful, techno-commercially viable product or a process.

Guest Lectures, Business Plan workshops, Case study workshops, Knowledge Camps, Patent workshops are conducted throughout the year to involve students in activities that are essential to an entrepreneur.





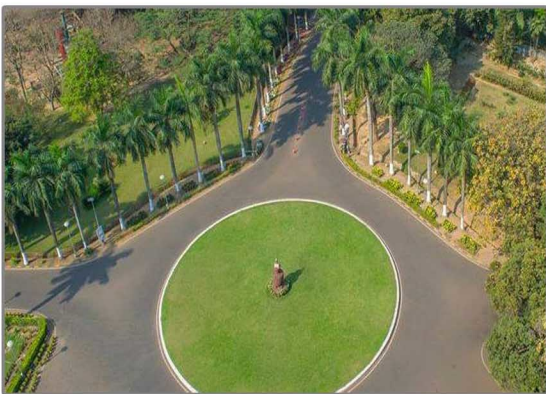


## Way to IIT Kharagpur

IITKgp (as we fondly call our Institute) is a two-hour drive from Kolkata airport, connected by National Highways and rail to Chennai, Delhi and Mumbai, with trains to and from Kolkata running throughout the day. It is a state-of-the-art campus set amidst sprawling acres of lush verdure, a little afar from the hustle bustle of the city, where the brightest minds from across India come to live and mingle - and forever call it home.

## The Campus

IITKgp has the largest campus among all IITs - at 2100 acres and as home to 22000 residents, it is a mini township. In keeping with our ethos of self sufficiency and nation building, we manage all services ourselves - starting with water supply, public health and waste management, managing traffic and our own security, to operating markets, guest houses and our own hospital. In a few years, we plan to produce our entire electricity through solar power. You will love the greenery, the clean air, the nature parks and the water bodies around you, something beyond imagination in the large cities of India, but an ambience that might remind you of the lush campus you would be leaving behind.



## Faculty Accommodation

All faculty members live on campus - you can choose old style bungalows with trees that date back to the days of India's struggle for independence, or in modern apartments with your own bit of blue sky and your own balcony garden.



## Student Accommodation

IIT Kharagpur houses almost 11,000 students. There are 22 Halls of Residences (15 for boys, 5 for girls, 2 general) around the campus. Each Hall is self contained with its kitchen and mess, it's common room and gym, it's basketball and badminton courts, high speed LAN in every room and Wi-Fi.





# Campus Life

## Visitor Accommodation

Accommodation can be availed at the institutional guest houses for a limited period. These guest houses are available for visiting faculty and their families, parents of students, alumni and other visitors of the Institute. Guest house accommodation can also be availed on a long-term basis on case-by-case basis. The guest houses are maintained by staff with experience in hotel management.

## Eateries

Numerous on-campus eateries serve the demands of residents. Some eateries are open overnight, while some serve hot food from early morning itself to best cater to the people's convenience. Each Hall of Residence has its own Canteen apart from the mess. 'Eat-KGP' a virtual collaboration of all the in-campus eateries provides room delivery of food through online orders. The KGP campus also boasts of retail eatery chains such as Cafe Coffee Day, Baskin Robbins and Subway. One can always visit multiple restaurants outside the campus (approx. 5 kms). IIT KGP has its own Food Monitoring Committee that ensures proper quality food is being served hygienically at fair prices at all campus eateries.







## *Health and Wellness*

The campus hospital provides primary Health Care comprising of curative, preventive and health promotion services to its faculty, employees, and students using modern and cost effective techniques and technologies, and through a dedicated and humane approach. It refers patients to top hospitals in the nearest city for specialized healthcare services and medical treatment.

For IIT Kharagpur students, there is a medical insurance scheme. For the referral of the students, there is an arrangement with several hospitals in Kolkata.



Students' Counselling Centre assist students who may be experiencing emotional or psychological conditions that pose a hindrance to their regular activities on campus.

The campus has its own swimming pool, park, sports complex, gym, exclusively available for the campus community.

## *Facility for Children*

Members of faculty and staff can choose from four schools affiliated to different boards within the campus for their children. There are also a number of schools outside within driving distance of the campus.



The Institute has an on-campus children's day-care to help working parents. The day-care encourages the spouses of IITKGP employees to opt for professional engagements in the campus or outside.

## *Other Facilities*

Market, Banks, Post Office, ATMs, Movies, Railway Booking Counter, Travel Agents, Cab booking





# Inclusivity

*A lot of different flowers make a bouquet*

India celebrates inclusivity at all levels of social and economic lives. An ancient land with a recorded history which dates back to the Indus Valley Civilization, India has welcomed peoples of diverse ethnicity, religion and culture throughout the ages, and each in turn has woven a new thread in this unique tapestry of humanity. The modern nation-state of India is thus a grand experiment in harmony of a billion people living in freedom and unity that transcends custom, language, identity and beliefs.

In that spirit of India, the 11000+ students of IITKGP come from all across 29 states of the country come to study at the largest and oldest IIT of the country. And it stretches its wings beyond the national boundaries to Japan, UK, EU, USA, Nepal, Bhutan et al. But when at IITKGP, the students come together as per their interests and hobbies rather than language and culture. The spirit is that of a KGPian, whose homeland is IITKGP, language is KGP lingo, family is hallmates.





# Inclusivity



The same spirit could be seen in the campus community as well. The campus and areas in and around it thrive vibrantly through its 22000 residents. Many of them are actively engaged beyond the perimeter of IITKGP. While several form the academia at the campus and town schools, many are bringing life to the social service organizations in the region. Some are engaged in art promotion and some in assisting children at schools. Many of the campus community members have lent their support to various projects at the Institute.



The campus buzzes round the year with festivals lined up from January to December. Spring Fest, Kshitij, Global Entrepreneurship Summit are the lifelines of the students on one hand, while Illumination and Rangoli on Diwali eve are unique fests which can only be found at IITKGP. Convocation is another colourful day with the final years bidding adieu till they come back to their second home. The Foundation Day on August 18, reminds every year the glory of this institution.



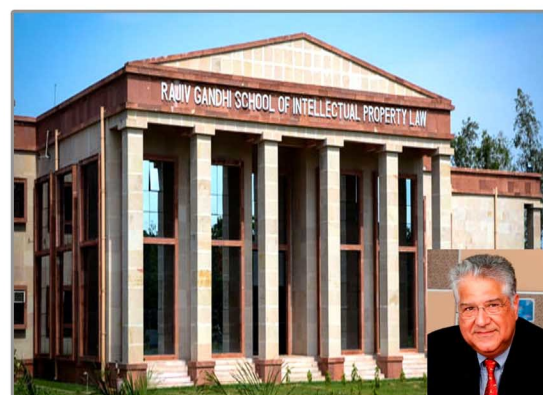


# Alumni Funded Initiatives

Alumni of IITKGP have been the pillars of advancement for the Institute and transformation of engineering education in India.

It started with the first management school of the IIT system, Vinod Gupta School of Management, in 1993 with generous contribution of alumnus Vinod Gupta (BTech/AG/67). Today VGSoM is among top 10 business schools in India and is known for its research activities, collaborative initiatives with corporates and other institutions. VGSoM has also been actively promoting international placement and internship, several of which are supported by the alumni community. Entrepreneur Arjun Malhotra (BTech/EC/70), the Co-Founder of HCL (India's foremost hardware and IT company) and various other entrepreneurial ventures, wanted to realize his vision of the transformational role of telecommunication in the growth of India. The G S Sanyal School of Telecommunication was set up by him in 1996 to function as a center of excellence in the field of communication technology. Its mandate was to serve the nation's needs of education, research, technology development and training. Another transformative step was the Law School - RG School of Intellectual Property Law, also supported by Vinod Gupta.

This School was set up in 2006 and is considered among the top 3 law schools in India. The School was founded with the aim of creating legal technocrats which was unheard of in India at the time. The School has since branched out in other areas of Law as well. The School runs an active faculty and student exchange program with GW Law School in USA. The education of infrastructure design and management was introduced by alumnus Ranbir Gupta (BArch/AR/70) in the Ranbir and Chitra Gupta School of Infrastructure Design and Management in 2008. Today the School runs an extensive program on Science and Heritage Interface (SandHI), a project reinventing the heritage of ancient India in the language of modern science. The School has set up international collaborations with University of Tokyo, Columbia University etc.





# Alumni Funded Initiatives

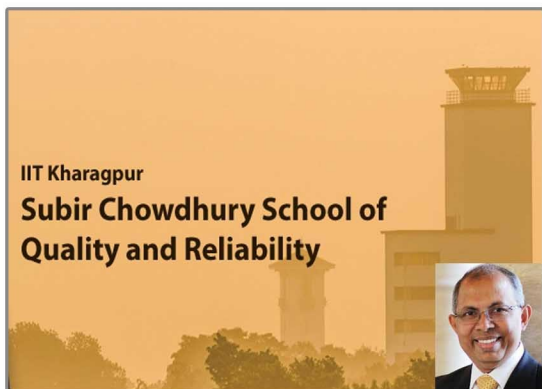


The need for training and support for entrepreneurship in the field of Engineering was recognised by IITKGP in 2010 and the initiative was supported by alumni Devendra Mishra (BTech/ME/66) and Amarendra Mishra (BTech/MT/69) who established a dedicated a School of Engineering Entrepreneurship named after their father and former faculty of IITKGP Late Prof. Rajendra Mishra.

Alternate energy is one of the most intriguing research areas today with black gold reserves depleting and pollution started to take its toll. Researchers at the P K Sinha Center for Bioenergy are committed towards creating bioenergy fuels and have created not only biofuels but also discovered new sources of fuel. One such discovery of fuel source, hemicellulose was reported in Nature. The Center is the vision of alumnus Dr. P K Sinha (BTech/ME/70).



Petroleum Engineering has been a subject of study for decades. But alumnus Ashok Deysarkar (BTech/CH/71) had his mind set for an exploratory and collaborative education in this field unlike the way it is taught - Interdisciplinary and industry oriented program and exposure to subcontinental paradigm. That was the inception of the Deysarkar Centre of Excellence in Petroleum Engineering launched in 2016.



IITKGP has explored the new and intriguing area of Science of Happiness. With alumnus Satinder Singh Rekhi (BTech/EE/72), the Institute in 2016. launched the Rekhi Center for Science of Happiness and a dedicated induction program for new students. A microcredit course Science of Happiness has also been introduced.

In 2017, the Institute has taken up the initiative to set up India's first Center for Quality and Reliability. The center of excellence is the brainchild of alumnus and Quality expert Subir Chowdhury (BTech/AE/89).



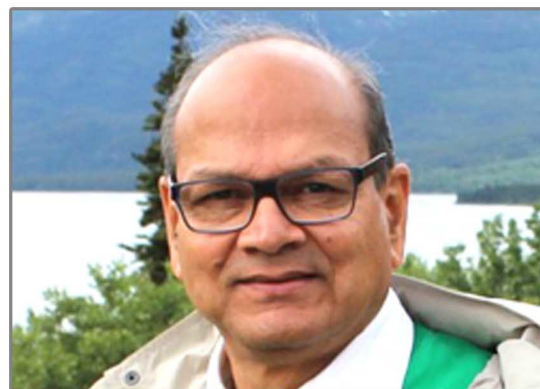


# Alumni Funded Initiatives

While all of these Centers are supporting specific areas of study, there is one program that has contributed significantly towards the Institute's goal of promoting internationalisation. The Shri Gopal Rajgarhia International Program, funded by alumnus Shri Gopal Rajgarhia (BTech/CH/68), facilitate international visit of inbound and outbound faculty and students.

Alumni have contributed generously for development of Library by Prof. Tapan Bagchi (DSc/IM/12), students' all-round performance by Kirtan Behera (BTech/ME/65), Faculty health and wellness by Vijay Kiyawat (BTech/ME/67), Innovation Challenge Grant by Tilak Sarkar (BTech/NA/85). And then, there are a number of Chair Professorships and Scholarships funded by the alumni - Shyamal Ghosh (BTech/ME/60), Vijay Madiseti (BTech/EC/84), Ranbir Gupta et al.

Additionally, a group of alumni came together to fund the Institutional Development Program at IITKGP aimed to position the Institute among the top universities in the world. This group included, Vinod Gupta, Ranbir Gupta, Arjun Malhotra, P K Sinha, Ashok Deysarkar, Shri Gopal Rajgarhia and Purnendu Chatterjee (BTech/ME/71)





## Our Alumni Our Brand Ambassadors



*Mani Bhaumik (PhD/PH/58) - Innovator*

The recipient of first doctoral degree from IITKGP and thus IIT system in 1958 in quantum physics, Mani Bhaumik is a leading expert in the field of innovative laser technology. His research led to use of excimer laser in Lasik eye surgery. Bhaumik is renowned for his philanthropic work in India and USA. Among his many national and international awards include Padma Shri. UCLA Established Mani L. Bhaumik Institute for Theoretical Physics in 2016.



*Lord Sushanta Kumar Bhattacharyya (BTech/ME/60) - Academician*

Graduated in 1961 from the Dept. of Mechanical Engineering at IITKGP, Lord Sushanta Kumar Bhattacharyya, Baron, CBE, FEng, FRS, is the Founding Chairman of Warwick Manufacturing Group. He had been instrumental in various India-UK industrial partnerships. He is a Member of the House of Lords, UK, and a Padma Bhushan awardee.



*Ajit Singh (BTech/CE/62) - Public Servant*

Graduated in 1962 from the Dept. of Computer Science and Engineering at IITKGP, Ajit Singh is the founder and chief of the Rashtriya Lok Dal, a political party in India. He has served as Cabinet Minister under various governments in India in the ministries of Food, Agriculture and Civil Aviation.





## Our Alumni Our Brand Ambassadors

### *Srikumar Banerjee (BTech/MT/67) - Govt. Administrator, Scientist*

Srikumar Banerjee was the Chairman of Atomic Energy Commission of India and Secretary of Department of Atomic Energy. Prior to that, he was Director of Bhabha Atomic Research Centre. He made significant contributions to the study of phase transformations in zirconium and titanium based alloys. He has been awarded SS Bhatnagar Award and Padma Shri.



### *R. Gopalakrishnan (BTech/EC/67) - Corporate Leader*

R. Gopalakrishnan served as executive director of Tata Sons Ltd. and is currently the CEO of The Mindworks. He also served as a director on the board of Tata Power, Tata Technologies, AkzoNobel India, Castrol India and ABP Pvt. Ltd.



### *Duvvuri Subbarao (BSc/PH/69) Govt. Administrator, Economist*

Duvvuri Subbarao is an Indian Economist, Central Banker and Indian Administrative Service officer. He was the 22nd Governor of Reserve Bank of India. He is currently a distinguished visiting faculty at National University of Singapore. Subbarao has led various economic and financial reforms for Indian states, nationalised banks.





## Our Alumni Our Brand Ambassadors



**Arjun Malhotra (BTech/EC/70) - Entrepreneur**

Arjun Malhotra is the Co-Founder, HCL. He founded many other entrepreneurial ventures and has been on the board of many other companies. Some of these are Headstrong, Mapmygenome, Pyramid Cyber Security America Inc., Entercoms etc. Arjun is a noted philanthropist.



**Ajit Jain (BTech/ME/72) - Corporate Leader**

Ajit Jain is the President of Berkshire Hathaway Insurance group. Ajit Jain established the Jain Foundation in the hopes of curing dysferlinopathy.



**Arun Sarin (BTech/MT/75) - Corporate Leader**

Sarin was the Chief Executive Officer of the telecom giant Vodafone Group plc, serving from 2003 - 2008. He was the driving force behind the Vodafone's strategic move into emerging markets, especially Asia and Africa. He also serves on the board of directors of Ola Cabs, Cisco Systems, Charles Schwab and Blackhawk Networks. Sarin received an honorary knighthood from the Queen of England in 2010.





## Our Alumni Our Brand Ambassadors

### *S Christopher (MTech/EC/80) - Govt Administrator, Scientist*

S Christopher currently serves as Chairman of the Defence Research and Development Organisation (DRDO) of India. He is credited to have led the manufacturing of India's first indigenous AEW&C system. He received various distinguished awards including the Best Defence Research and Development Organisation - Outstanding Scientist



### *Pradeep Khosla (BTech/EE/80) - Academia*

Pradeep K. Khosla is the currently the chancellor of the University of California, San Diego. He was Dean of the Carnegie Mellon College of Engineering and the Philip and Marsha Dowd University Professor of Electrical and Computer Engineering and Robotics at Carnegie Mellon.



### *Kalyanmoy Deb (BTech/ME/85) - Academia*

Kalyanmoy Deb is the Herman E. & Ruth J. Koenig Endowed Chair in the Department of Electrical and Computing Engineering at Michigan State University. Deb is a highly cited researcher with 100,000+ Google Scholar citations and an h-index of 101. He has several honors to his credit: SS Bhatnagar award, Thomson Citation Laureate award, TWAS Prize, MCDM Edgeworth-Pareto Award and Infosys Prize. Without Deb, the fields of Multiple Criterion Decision Making and Evolutionary Multi-objective Optimization would not exist in their current form.





## Our Alumni Our Brand Ambassadors



*Bedabrata Pain (BTech/EC/86) - Innovator*

Bedabrata Pain was member of the team that invented the CMOS image sensor. Pain joined the NASA Jet Propulsion Laboratory and managed JPL's image sensor and focal-plane technology research. He was part of the team that invented the active pixel sensor technology that produced the world's smallest camera and has been inducted to the US Space Technology Hall of Fame. Pain has 87 invention patents and a National Award (India) for his directorial venture in the motion picture 'Chittagong.'



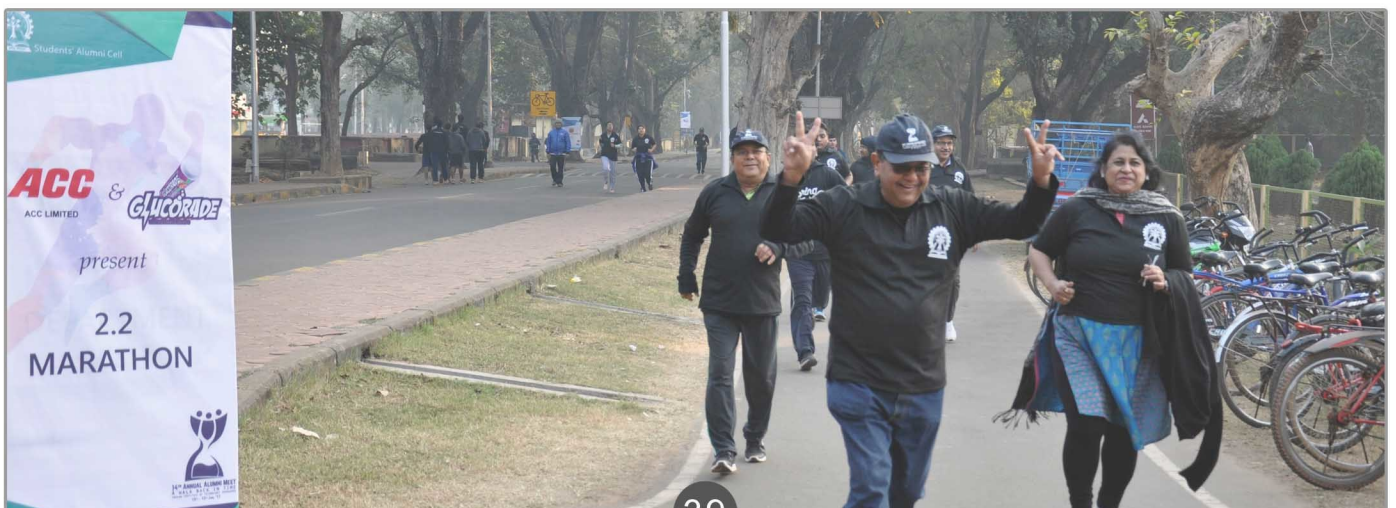
*Arvind Kejriwal (BTech/ME/89) - Public Servant*

Arvind Kejriwal is the Chief Minister of the state Delhi, India. Kejriwal served in the Indian Revenue Service. He has been conferred the Ramon Magsaysay Award for Emergent Leadership.



*Harish Hande (BTech/EE/90) - Social Entrepreneur*

Harish Hande is a social entrepreneur, and co-founded SELCO India in 1995. He was awarded with the Ramon Magsaysay Award for 2011 for his pragmatic efforts to put solar power technology in the hands of the poor, through his social enterprise SELCO India.





# Our Alumni Our Brand Ambassadors

## *Parag Havaldar (BTech/CS/91) - Innovator*

Parag Havaldar is Software R&D Lead at Blizzard Entertainment. He was awarded a Technical Oscar for the development of expression-based facial performance-capture technology at Sony Pictures Imageworks. Havaldar holds 12 patents.



## *Sundar Pichai (BTech/MT/93) - Corporate Leader*

Sundar Pichai is CEO of Google Inc. He led the product management and innovation efforts for a suite of Google's client software products, including Google Chrome and Chrome OS, and was largely responsible for creating Google Drive. He went on to oversee the development of different applications such as Gmail and Google Maps.



## *Anu Acharya (MSc/PH/95) - Entrepreneur*

Anuradha Acharya is the founder and CEO of Ocimum Bio Solutions, a genomics outsourcing company for discovery, development and diagnostics, and Mapmygenome, a molecular Diagnostic company that offer personal genomics and diagnostics products. She is the recipient of Young Global Leader Award by the World Economic Forum.





# Young Achievers from IITKGP



**Aneesh Reddy (BTech/ME/06) - Entrepreneur**

Aneesh Reddy is the Co-Founder and CEO of Capillary Technologies. He is a featured entrepreneur in leading publications such as Forbes, Harvard Business Review, and The Economic Times.



**Himanshu Gupta (BTech/EE/09) and Shrey Goyal (BTech/MI/2011) - Entrepreneurs**

Himanshu Gupta and Shrey Goyal founded Sustainable Growth Initiative (SGI) to advance climate change action and equitable development by engaging with policy-makers, organisations, and communities worldwide. In 2016 they featured in Forbes Indian 30 Under 30.



**Nandini Bhandaru (PhD/CH/2016, MTech/CH/2012) (Scientist)**

Nandini Bhandaru works on nano fabrication including soft-lithography and self-assembly. She is a DST INSPIRE Faculty at the Centre for Nanosciences, IIT Kanpur. Nandini is the recipient of the Young Scientist Award from Indian Science Congress Association, European Materials Research Society's Young Scientist Award, Shah-Schulman Award for Best Thesis, Young Scientist Award from the Materials Research Society of India, and the Gandhian Innovation Award.





IITs are the flagbearers of the Indian education system. An IIT education is a dream for countless Indian students and their families. It changes not only their lives but substantially impacts lives of those around them - the extended family and the local community. At IITKGP that dream is nourished and transformed to reality. Be it industry or academia, art or diplomacy, a student from IITKGP can succeed in any domain he/she decides to aim for. The IITKGP experience is transformational.

IITKGP offers some of the most sought after educational programs in India - starting from Bachelors to Masters and Doctoral programs in various branches of Engineering, Humanities and Social Sciences, Medical Science and Technology, Business Administration and Law. The quality of graduates delivered by this Institute speaks for itself.

Undergraduate admission is conducted through a two stage country wide Joint Entrance Examination (JEE).

More than a million students appear for the first stage, of whom less than two hundred thousand qualify for the IIT specific JEE Advanced exam. Roughly six thousand students successfully clear the JEE Advanced Exam of whom about 1300 students opt for IITKGP - joining either the B.Tech., the Dual Degree (B.Tech. + M.Tech.) or the 5-year Integrated M.Sc. programs.

For admission into the Master of Technology programs, students have to top the Graduate Aptitude Test in Engineering in respective subjects. For admission into MBA, Law, Medical Science and Technology, 2-year M.Sc. programs, there are separate entrance exams.

Admission to Doctoral programs is conducted through written tests and interviews.

There has been a demand to open the IIT system to global students' community. From 2017-18 academic year students from across the globe can appear from IIT entrance examinations.









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