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Convocation Report of the Director

Honourable President of India, Shri Ram Nath Kovind; Honourable Governor of Uttar Pradesh, Shri Ram Naik; Honourable Chairman, Board of Governors of the Indian Institute of Technology Kanpur, Sri R.C. Bhargava; Members of the Board of Governors; Members of the Academic Senate; all graduating students and their family members; members of faculty, alumni, staff and student community; invited dignitaries, guests, and members of the media: I heartily welcome you all to the 51st Convocation of the Indian Institute of Technology Kanpur. I would also like to congratulate the graduating students and their families on this joyous occasion.

Academic Activities

The academic session that ended in May 2018 has been truly satisfying, and I consider it a privilege to review our activities pertaining to this period.

I am pleased to inform you that the total number of Ph.D degrees awarded in this convocation is 186, which is an all time high record in the history of the Institute. To encourage the project based research the Senate approved a new academic programme MS(By Research)four years ago. I am delighted to let you know that the first batch of 25 students in this programme is graduating today. In all 1576 degrees are being awarded in this Convocation with the following details.

Degree	Number of recipients
Ph.D	186
M.Tech	307
MBA	39
M .Des.	21
MS (By Research)	25
VLFM	40
M.Sc. (5 year)	1
M.Sc. (2 year)	147
BTech-M.Tech (Dual Degree)	149
Double Major	11
BT-MBA (Dual Degree)	1
BT-M. Des. (Dual Degree)	1
BS-MT (Dual Degree)	1
MS-PD (MS part of Dual degree)	13
BS-MS (Dual Degree)	56
BT-MS (Dual Degree)	9
B.Tech	505
BS (4 year)	64
Total	**1576**

Among 797 undergraduate students 147 students (i.e.18.4%) students are graduating with distinction (CPI of 8.5 and above).

IIT Kanpur is known for offering most flexible undergraduate and dual degree programmes. Flexibility offered by theses programmes has led to a large number of students graduating with minors (some with two minors) as highlighted below :

No. of students completing one Minor : 158

No. of students completing two Minor : 18

In addition by spending one year extra 11UG students are graduating with a second major and 217 UG students are graduating with a masters degree along with a bachelors degree.

To keep pace with the evolving knowledge in science and technology space, 13 new Undergraduate and 39 new Postgraduate courses have been approved by the Academic Senate.

New Initiatives in Academic Courses

- Curriculum Development and Monitoring Committee (CDMC) to review, monitor, evaluate and revise pedagogy and incorporate the state-of-the-art methodologies in the field.
- MS (Research) programs in Aerospace Engineering from 2017 onwards and in Cognitive Science from 2018 onwards.
- Biometric-based Attendance System for UG classes to understand attendance patterns and to come up with ways to increase class attendance.
- PMRF (Prime Minister's Research Fellowship) by the Ministry of Human Resource and Development. In the academic year 2018-19, IIT Kanpur will be offering 10 admissions under this scheme.

NPTEL, Swayam Prabha Channels

SWAYAM PRABHA
Free DTH Channel for Education

In the last semester, IIT Kanpur's National Programme on Technology Enhanced Learning (NPTEL) Chapter supported Abdul Kalam Technical

University (AKTU) by conducting a white listed course Non-Conventional Energy Re- sources for 45,000+ final year B.Tech students from 273 affiliated colleges.

- Under MHRD's Swayam Prabha initiative of taking education Directly to Home (DTH), 32 DTH channels have been started out of which IIT Kanpur is currently managing the channels 16 and 17. These channels broadcast the NPTEL course content in mechanical engineering, humanities and social sciences and management 24x7.

Research And Development

IIT Kanpur has registered steady growth in its research and development activities this year. Some of the highlights are mentioned below:

- 626 externally funded ongoing projects with a total sanctioned amount of Rs. 795 crore.
- 179 sponsored projects worth Rs. 182 crore
- 128 consultancy projects worth Rs. 23 crore.

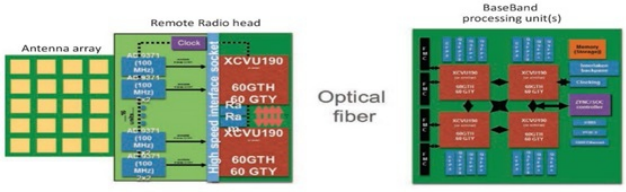
Leading Funding Agencies of the year

Leading Funding Industry Partners

(A list of major projects granted this year is given at the end of the Report.)

MAJOR PROJECTS SANCTIONED

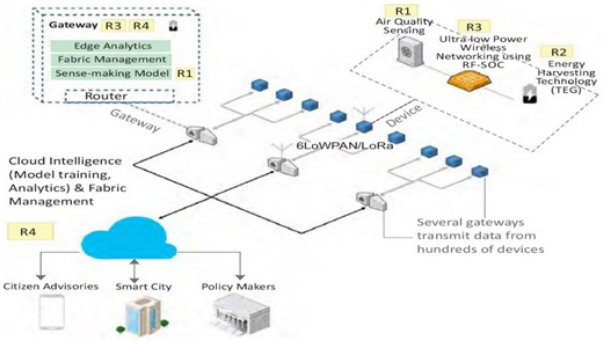
Indigenous 5g Test Bed Design: Funded by the Department of Telecommunication, a 5G test bed is being built in-house to enable Indian industry and academia to achieve the 5G technology development and implementation plans. This test bed will demonstrate state-of-the-art 5G technologies such as massive MIMO, millimeter wave, IOT, and software-



Design, Retrofitment, and Development of Methanol Fuelled Large Bore Engine for Locomotive, Marine, and Power Generation Applications: Funded by the Department of Science and Technology, the Institute and the Indian Railways (RDSO) are working closely to develop the world's first methanol fuelled locomotive engine that will significantly reduce the harmful particulate emissions without using any exhaust gas after treatment technology.

Design & Development of Aquatic Autonomous Observatory (Niracara Svayamsasita Vedhshala-NSVs) for In Situ Monitoring, Real-Time Data Transmission & Web-Based Visualization: funded by IUSSTF, it is a collaborative project between IIT Kanpur and WHOI, USA to develop a low-cost, multi-parameter, water quality platform that will have several in-house developed sensors and auto- sampling capability for durable and reliable real-time monitoring of Indian Rivers.

Air Quality Monitoring Streaming Analytics on Temporal Variables from Air Quality Monitoring (SATVAM): Funded by Indo-US Science and Technology Forum, it is a large, multi- institutional project with IIT Bombay and IISc as collaborating institutes from India and Duke University, USA. . Lack of spatially and temporally distributed air quality information does not enable a scientific study of its impact on human health and the national economy. The key objective of this project is to scale air quality monitoring by developing low-cost, energy self-sufficient air quality sensors that can be calibrated on the fly to transmit data seamlessly via cloud servers. A system like SATVAM will allow policymakers and citizens at large to deploy data-driven control and preventive mechanisms.



UI-ASSIST (US-India collaborative for Smart Distribution System with Storage): IIT Kanpur is leading a Pan-India consortium from technical institutes, utilities, and industries on a five-year joint Indo-US research project. The consortium from the USA is being led by Washington State University (WSU), Pullman, WA. Funded by DST, IUSSTF, US Department of Energy (DOE), the project aims at addressing the essential issues related to the adoption and deployment of smart grid concepts along with distributed energy resources (DERs) including storage in the distribution network for its efficient and reliable operation.

Analysis and technology tools for smart operations of interconnected micro grids including DER and storage

will also be developed. In addition to developing technical solutions, the project will also investigate the social acceptance, impact, and value of the integrative solutions of smart meters, renewable energy, storage and micro grid solutions, along with the policy implications.
A key component of the joint program is the demonstration of the technology at ten lab level pilots and ten field demonstration pilots covering the rural, semi-urban and urban settings involving residential, commercial and industrial consumers.

Development of Nano-Bio-Platforms For Early Diagnostics of Chronic Diseases:

Funded by the Department of Science and Technology, it aims to fabricate nano biotechnology-based platforms for early-stage biomarkers for diagnosis of oral cancer, Mycobacterium tuberculosis, and related pathogens, using samples sourced from saliva and other body fluids. The proposed deliverables include paper-based, micro fluidic chip for early diagnosis of oral cancer and formation of 3D-cryogel matrices for cancer growth modeling through bio printing approach, and an Electrochemical sensor for TB detection and peptide-based matrices for pathogen neutralization.

Development of National Block chain and Demonstrate two Strategic Applications: Funded by National Cyber Security Coordinator (NCSC), IIT Kanpur will research and develop indigenous block chain platforms which while cryptographically secured will enable transparent and efficient e-governance. The project is planned in 3 phases, first a feasibility study and identification of agencies to pilot with, research and prototyping phase, and finally an incubation phase. In the incubation phase, an IIT Kanpur incubated company will produce the solution and provide solution engineering to various agencies for block chain based transparent e-governance.

Center for Energy Regulation (CER): Strengthening Regulatory Research & Network in the Power Sector: Funded by the Department for International Development (DFID), Government of UK, the Center will enhance regulatory research and networking to understand and analyze the key issues in the Indian power sector, while working in close cooperation with Electricity Regulatory Commissions (ERCs), electric utilities and the academia. It also aims to develop networks with institutions in India and abroad.
The SPICE model titled ASM- THEMT has been selected as the world's first industry standard model for Gallium Nitride High Electron Mobility Transistor (GaN HEMT) by Silicon Integration Initiative's Compact Model Coalition (CMC). The Industry standard models are selected after rigorous evaluation and validation of multiple technologies by the semiconductor industry. The model will now be available in Electronic Design Automation software, and will be used by major semiconductor and EDA companies worldwide. GaN HEMT is widely used in RF power amplifiers and power electronics applications. GaN HEMTs will be key to design power amplifiers for future 5G technology. The Government of India is considering setting up a GaN foundry near Bengaluru. DRDO and ISRO are also actively working on developing this technology for defense and space applications.

RESEARCH INFRASTRUCTURE

The Department of Aerospace Engineering received a FIST grant of DST with total support of Rs. 4.53 crore approximately for a five-year period to strengthen the research facilities. This funding support is being used to help initiate/expand the research capability in the following areas:

- High enthalpy high speed flows
- Advanced flow diagnostics
- Improving the mechanical integrity of aerospace materials
- Unmanned Aerial Systems.

The following cutting-edge equipment/facilities will be developed with this funding:

- Free Piston/Expansion Tube Facility and essential instrumentation
- Nd YAG Laser (for upgradation of existing equipment)
- Multi-Material Laser Sintering system
- Rayleigh Thermography setup
- Coherent Anti-Stokes Raman scattering (CARS) setup.

The Department of Electrical Engineering also received FIST grant of DST. The funds are being used for setting up:

- power-device and load-pull characterization system for high power IV, noise, and large-signal high-frequency measurements of nano scale CMOS and power devices,
- time-resolved correlation measurement system for pho- tonic devices
- Reliability evaluation system for power electronic converters
- Automated antenna positioner system for characterization of three dimensional radiation patterns of antenna in the Department's anechoic chamber.

Some of the other sophisticated facilities set up in the Institute during this year are listed at the end of this report.

INDUSTRY COLLABORATION

IIT Kanpur, being a premier technological institute in the country, works closely with industry partners with the objective of adding value to their products and services, the larger goal being to bring in novel solutions to the society at large.

This year, the Institute undertook to prepare a policy document on EVs & HVs vs FFVs in India for Maruti Suzuki India limited. An MOU was also signed in this regard.

NETRA initiated a few projects with Civil and Electrical Engineering departments in addition to what is already in progress in the Electrical and Aerospace Engineering departments.

PROJECTS UNDER UAY

IIT Kanpur has obtained approval for four projects under the Uchchatar Avishkar Yojna, Ministry of Human Resource Development:

(UAY)
Uchchatar Avishkar Yojana

Government of India
Ministry of Human Resource Development

- Aircraft Engine Combustor Design for Improved Operability, Durability, Pattern Factor and Emissions in collaboration with GE India Industrial Private Limited
- Development of Polymeric Biodegradable Packaging Materials in collaboration with Reliance India Limited
- Addressable Peptide-Polymer Electrospun Nanofibers for Cell Sorting, Diagnostics and Delivery with E-Spin Nano-tech Pvt Ltd.
- Fabrication of New Generation Self-Resorbing Implants and Devices from Bioactive and Biodegradable Materials for Orthopedic Applications with Ortho Regenics Private Limited.

IIT Kanpur celebrated National Science Day on February 28, 2018 with a thematic workshop on 'Science and Technology for a Sustainable Future', organized by the Centre for Environmental Science and Engineering (CESE). The Institute celebrated National Technology Day on May 11, 2018. The event was organized by the National Centre of Flexible Electronics (NCFlexE), IIT Kanpur Prof. Y.N. Mohapatra delivered a lecture titled, "What if Electronics is Flexible?" and more than 400 school children attended the talk.

INNOVATION AND INCUBATION

During the year, 53 patents including8 design patents were filed, and21previouslyfiled patents were granted, besides one technology titled "Anti-Counterfeiting Mark with 3-D Features" getting licensed for commercialization.
Till date, 35 design patents and 451 Indian patents have been filed, out of which 84 patents have been granted so far along with 56 technologies licensed for commercialization.

A total of 57 companies are currently incubated at SIDBI Innovation and Incubation Centre (SIIC), IIT Kanpur and 48 have graduated so far.

BIRAC has approved the second phase of funding of Rs.1.9 crore under its scheme entitled BioNEST (Bioincubators Nurturing Entrepreneurship for Scaling Technologies) to provide financial support for the expansion of BIRAC-Bio-NEST Facility at IIT Kanpur.

SIDBI Innovation and Incubation Center (SIIC) at IIT Kanpur have been selected as the 6th Biotechnology Ignition Grant (BIG) Partner of DBT for BIRAC's flagship programme BIG.

BIRAC has approved seed fund of Rs. 100 lakh to provide funding to the start-up companies in Biotech space up to Rs. 30 lakh per startup as equity support.

National Research & Development Corporation, New Delhi has given funding to setup Innovation Facilitation Centre (IFC) at IIT Kanpur. The Innovation Facilitation Center has the mandate of promoting the Innovation Ecosystem and has facilitated filing of 53 Patents during the financial year 2017-18.

Some of the awards of SIIC and its incubate companies are listed in the table below:

Other Achievements:

- Aarav Unmanned Systems has raised an undisclosed amount in pre-Series funding from GrowX Ventures, 500 Startups and BellWether Advisors in March 2018. The first round of funding was received by StartupXseed, 3ONE4 Capital and Sanjay Jesrani aided by ValPro's Enablers.
- APCEGEN Technologies has been selected by DBT to represent Indian Pavilion at Boston in May 2018.
- Oxen Farm Solutions was acknowledged at Rashtrapati Bha- wan in their program for modernizing agriculture.

- Krishi Hub was recognized as Top 10 Agriculture Solutions Provider by Silicon India Startup City.
- National Center for Flexible Electronics at IIT Kanpur has developed one of a kind technology for detecting fake goods. Transpacks Technologies incubated at SIIC manufactured one lakh such labels and shipped to a multinational company.
- Help Us Green, a company incubated at SIIC, has developed the world's first temple-waste solution. The company has a total of 6 patents are in the pipeline. For the financial year 2018, the revenue rate for the company is around Rs. 2 crore and funding amounting to $356,000 has been raised till date from various funders. Help Us Green has been featured in Forbes 30/30, CNBC Awaaz, and Stanford Special Review.
- The incubation and innovation ecosystem at IIT Kanpur is being professionalized by means of a Section 8 company.

Award	Recipient
ISGF Innovation Award 2018 – Smart Incubator of the Year	SIDBI Innovation & Incubation Centre
ISGF Innovation Award 2018 – Smart Incubator of the Year	SIDBI Innovation & Incubation Centre
ISGF Innovation Award 2018 – Smart Incubator of the Year	SIDBI Innovation & Incubation Centre
Finalist of Ericsson Spirit of Entrepreneurship Award, IUSSTF Innovation Award	Kritsnam Technologies

INTERNATIONAL ACADEMIC COLLABORATIONS

Recognizing the value of international cooperation, the Institute has signed MoUs with many foreign institutions for collaboration in academic and research activities.

The list includes Ecole Nationale Superieure D Arts et Metiers from France; Heidelberg University and Faculty of Management and Economics of Leipzig University from Germany; Katanov Khakass University from Russia; University of Seville and University of Santiago de Compostella from Spain; University of Buffalo from the USA; Sharif University of Technology and Alazahra University from Iran; Nanjing University of Science and Technology from China; Shibaura Institute of Technology and School of Engineering, Graduate School of Information Science and Technology and University of Tokyo from Japan, amongst others

FINANCIAL RESOURCE MOBILIZATION.

(In Rs.lakh)

S No.	Comparative Heads	Comparative Statement of Donations	
		2016-17	2017-18
A	Donations	762	1076
A1	On the basis of origin		
1	Domestic	249	353
2	Foreign	513	723
A2	No. of Donors	461	2234
1	Domestic	266	1613
2	Foreign	185	621
A3	No. of Donations	547	2564
A4	Notable Contributions under different initiatives		
1	Infrastructure and Social Initiatives	439	551
2	Academic and Student Initiatives	89	173
3	Batch Contributions	88	121
B	Corporate Social Responsibility		
1	MoU signed with no. of	7	4
2	Total value of MoU signed/extended	985	167
3	Funds received during the year for all MoU signed till closing of Financial Year	145	330

NOTABLE CONTRIBUTIONS ARE AS FOLLOWS:

Purpose	Amount (in Rs.)
Class of 1963 Batch Fund	26,81,820
Class of 1968 Batch Fund	51,32,962
Class of 1993 Batch Fund	23,18,951
Class of 1997 Batch Fund	13,16,210
Opportunity School Building	1,96,31,525
Motwani Incubator & Accelerator	3,21,28,750
Student Endowment Scholarship (Low income group)	35,77,571
Mrs. Ratna Kaushik & Dr. Bhooshan Lal Scholarship	10,00,000
Sandeep & Vineeta Agarwal Scholarship	6,75,000
Tarun Sondhi Memorial Scholarship	6,84,000
Prof. Sanjeev K Agrawal Endowment Fund	26,19,921

Students-Undergraduate Research & Graduate Excellence (SURGE), an outreach program for students from other institutions in the country, supported by alumni contributions, was conducted during the summer of 2017. The selection of participants is highly competitive as thousands of applications from various institutions are received, and this testifies to the increasing popularity of the program among students across the nation.

No.	Particulars	SURGE 16	SURGE 17
1.	No. of Applications	1600	1200
2.	No. of Participants	92	103
3.	No. of faculty members from IIT Kanpur mentoring	73	73

ALUMNI IMPACT

A. Notable achievements in the field of Science and Technology by our alumni:

Our distinguished and respectable alumni have been proud recipients of various honours and awards in various categories during F.Y. 2017-18 as shown below:

Category of Award	Number of Awards
Academic Awards	60
Industrial Awards	4
Government Awards	2

Some of the major achievements are as follows:

Award	Name of Alumni	Award Endowed by
College of Fellows	Prof. Kalpana Katti (MSc2/PHY/1989)	American Institute for Medical and Biological Engineering
2018 Guggenheim Fellow, Member of National Academy of Sciences	Prof. Arup K. Chakraborty (BT/CHE/1983)	John Simon Guggenheim Memorial Foundation, National Academy of Sciences
Fellowship	Prof. Debabrata Goswami (MSC2/CHM/1988)	Institute of Physics
Fellowship	Prof. Sudeshna Sinha (MSc5/CHM/1985) Prof. Sandhya S. Visweswariah (MSc2/CHM/1980) Prof. Shiraz N. Minwalla (MSc5/PHY/1995) Prof.	The World Academy of Sciences
Member	Prof. Jayadev Misra (BT/EE/1969) Prof. Mukul Mani Sharma (BT/CHE/1980) Prof. Ashok	National Academy of Engineering
Padma Shri 2018	Mr. Arvind K. Gupta (BT/EE/1975)	Republic of India
H. K. Firodia Vijnan Bhushan Award 2017, UNESCO Medal 2017	Prof. Ashutosh Sharma (BT/CHE/1982)	HK Firodia Foundation, United Nations Educational, Scientific and
PLuS Alliance Prize 2017	Dr. N. R. Narayana Murthy (MT/EE/1969) Prof. Veena Sahajwalla	The PLuS Alliance
Foreign Associate of National Academy of Sciences	Prof. Manindra Agrawal (BT/PhD/CSE/1986/1991)	National Academy of Sciences

B. Notable entrepreneurial endeavours by some of our alumni:

Name of the Alumni	Entrepreneur in the field of
Rohit Garg (BT/CSE/2006)	Co-founder of Bengaluru-based fintech startup 'Smart Coin'. The company has raised$2 million (Rs 13 crore) in a pre-Series A funding round. Smart Coin is a consumer micro-lending platform focused on the underserved middle and lower-income segments in India. It has successfully disbursed 50,000 microloans so far.
Nikhil Upadhye (Dual/CE/2013) Suhas Banshiwala (Dual/EE/2013)	Co-founders of Aarav Unmanned Systems (AUS). The company has raised an undisclosed amount in a pre-Series A round led by GrowX Ventures, 500 Startups and Bellwether advisors. The Bengaluru-based company designs and develops drone-based solutions for mapping, industrial inspection and precision agriculture using its own proprietary drone technology.
Mr. Deepak Garg (BT/ME/2003)	Founder of 'Rivigo', a technology-enabled logistics company. The company has raised Rs. 322.5 crore in Series D round. The company has its own fleet of 2000+ trucks, a pan-India network, best transit time performance and customized solutions such as LPCD.
Mr. Varun Khaitan (BT/EE/2009)	Co-founder of UrbanClap, a Gurugram based home services start-up. The company has raised $21 million Series C funding from Internet investment fund Vy Capital.

C. Important positions held by some of our alumni:

Name of the Alumni	Position
Prof. K. VijayRaghavan (BT/MT/CHE/1975/1977)	Appointed the Principal Scientific Adviser to the Government of India.
Prof. Chandramauli Agrawal (BT/ME/1982)	Appointed the Chancellor of the University of Missouri-Kansas City.
Dr. Mohit Uberoi (BT/CHE/1986)	Appointed the CEO of Gerber Technology, the world leader in integrated software and automation solutions for the apparel and industrial markets.

INSTITUTE FACULTY

Recruitment

In the past one year, the Institute has offered 40 faculty positions against a rigorous selection from 855 applicants. Out of these, 23 new faculty members have joined the Institute. The appointments per department are mentioned below:

Department	Number of new faculty
Aerospace Engineering	5
Chemical Engineering	1
Civil Engineering	1
Computer Sciences & Engineering	5
Earth Sciences	1
Electrical Engineering	2
Industrial & Management Engineering	2
Mathematics & Statistics	2
Mechanical Engineering	2
Physics	2

During this period, we have also made 9 offers of post-doctoral fellowships, 8 visiting faculty, 12 adjunct faculty, and 2 Distinguished Honorary Professors.

Awards and Honors

I am extremely happy to share with you that a paper authored by Dr. Arun Shukla (BSBE) and Dr. Anand K. Jha (PHY) ispublished in a prestigious journal named Nature Nanotechnology and Nature Communications respectively.

Dr. Abhishek (AE) has been chosen for the Abdul Kalam Technology Innovation Fellowship of INAE for three years. Dr. S. Ganesh (BSBE) received Tata Innovation Fellowship (2017- 2020) by Dept. of Biotechnology (DBT), Ministry of Science and Technology, Govt. of India. Dr. Yogesh M Joshi (CHE), Dr. Amalendu Chandra (CHM), Dr. Sankar P. Rath (CHM) havebeen elected Fellow of National Academy of Sciences, India. Dr. Rahul Mangal (CHE), Dr. Vishal Agarwal (CHE) received Ramanujan Fellowship, SERB, Govt. of India. Dr. J N Moorthy (CHM) and Dr. J. K. Bera (CHM) have been elected Fellows of the Indian National Science Academy, New Delhi.

Dr. Surender Baswana (CSE) received Humboldt Fellowship for Experienced Researchers from Humboldt Foundation of Germany. Dr. Laxmidhar Behera (EE) has been elected Fellow of the Indian National Academy of Engineering (INAE). Dr. Sandeep Anand (EE), Dr. Joydeep Chakrabortty (PHY) and Dr. Somnath Jha (M&S) have been selected Associates of the Indian Academy of Sciences, Bangalore. Dr. Anindita Chakrabarti (HSS) has been elected a Senior Fellow, Humanities Centre for Advanced Studies (2016-2020) of Leipzig University. Dr. Kumar Ravi Priya (HSS) received Fulbright-Nehru Academic and Professional Excellence Fellowship-Flex Award by USIEF. Dr. Sameer Khandekar (ME) has been elected Fellow of Institution of Engineers (India). Dr. Kantesh Balani (MSE) received Swarnajayanti Fellowship Award 2016-17 of Department of Science and Technology, Govt. of India. Dr. Krishanu Biswas (MSE) has been elected Young Fellow of Global Young Academy (GYA), Germany. Dr. A.K. Singh (MSE) received the Fellowship of the Indian Institute of Metals.

Dr. Debopam Das (AE) has been awarded the 'Best Professor in Aerodynamics' in the subcategory: Education Leadership Award by Dewang Mehta National Education Awards. Dr. Arun Shukla (BSBE) has been selected for the B.M. Birla Science Prize in Biology for the year 2016. Dr. Arun Shukla (BSBE) has been selected European Molecular Biology Organization's (EMBO) Young

Investigator. Dr. Sachchida N Tripathi (CE), Dr. Manindra Agarwal (CSE), Dr. Vinod K Singh (CHM) and Dr. Sandeep Verma (CHM) have been chosen for felicitation by the Government of Uttar Pradesh. Dr. Yogesh M Joshi (CHE) received RPG Life Sciences M.M. Sharma Gold Medal by Indian Institute of Chemical Engineers. Dr. Ashutosh Sharma (CHE) was honored with the UNESCO Medal 2017 for contributions to and development of nanosciences and nanotechnology. Dr. K. Srihari (CHM) and Dr. A.K. Chaturvedi (EE) (presently Director, IIT Roorkee) have been awarded the prestigious INSA Teachers Award (2017). Dr. Jitendra K. Bera (CHM) has been selected for the C. N. R. Rao National Prize in Chemical Sciences 2018. Dr. Sandeep Verma (CHM) has been selected for the MRSI-ICSC Superconductivity & Materials Science Annual Prize by the Material Research Society of India for the year 2018. Dr. T.V. Prabhakar (CSE) received Teaching Innovator Award-2016 by MHRD, New Delhi. He also received SKOCH GOLD Award in the category of "Technology for Growth" for the AgMOOC project. Dr. Amey Karkare (CSE), Dr. Purushottam Kar(CSE) and Dr. T V Prabhakar (CSE) received Best faculty of the year in the category of Evangelizing and Contributing to Spread of knowledge across several Institutions; Innovative Application of Technology Tools in Teaching/Learning; Authoring Books On Contemporary Subjects respectively by the Computer Society of India, Mumbai Chapter. Dr. Sandeep Anand (EE) has been selected for the INAE Young Engineer Award 2017. Dr. Debasis Kundu (M&S) received P.C. Mahalanobis award by Operation Research Society of India. Dr. Avinash Kr. Agarwal (ME) received the 6th edition of the India Research Excellence- Citation Awards by Clarivate Analytics. Dr. Gautam Biswas (ME) (presently Director, IIT Guwahati) has been awarded Honorary Doctorate (Honoris Causa) by NIT Agartala. Dr. Sudhanshu Shekhar Singh (MSE) received Young Metallurgist of the Year 2017 Award by The Indian Institute of Metals (IIM), India. Dr. Ashish

Garg (MSE) received Newton Prize Award for DST-RCUK APEX Project by UK National Commission for UNESCO. Dr. Kallol Mondal (MSE) received Mascot National Award by Electrochemical Society of India. Dr. Krishanu Biswas (MSE) received Metallurgist of the Year, 2017 in Metal Sciences Category by Ministry of Steels, Government of India. Dr. Surender Baswana (CSE) and Dr. Anish Upadhyaya (MSE) received Distinguished Teacher Award 2017 by Indian Institute Technology Kanpur. Dr. H.C. Verma (PHY) has been awarded the Maulana Abdul Kalam Azad Shiksha Puraskar-2017. Dr. Indranil Manna (Former Director) has been conferred the D.Sc. degree (Honoris Causa) of the University of Kalyani (WB) during the University convocation (7th September 2017).

The many prestigious scholarships and awards received by our students have been a matter of pride and pleasure for us. Shruti Agrawal, Saksham Sharma, Arihant Jain, Gargi Singh, Durgesh Rajendra Agrawal, Yugesh Ajit Kothari, Yatin Dandi, Anish Saxena received the Aditya Birla Scholarship. Snehangshu Paine received ACC Fellowship. Sudhir Kumar, Aayushi Bansal, Vipul Bajaj, Md. Wasim Alam received the O.P. Jems scholarship. Shivangi Ranjan, Kumar Kshitij Patel,

Preetham Paul Sunkari received Honda Yes scholarship.Vandana Pawreya, Soumya Sahoo,and Apoorva Shukla received Pratibha Eaton Awards.

The full lists of awards received by the faculty and students are given at the end of the report.

STUDENTS' ACTIVITIES

The Institute has encouraged and enabled extra-curricular student activities to ensure that the students become well- rounded. The goal is to produce individuals who are not only technically competent but also have expertise in a range of skills of their choosing. Further, the Institute strongly believes that an abiding social and humane engagement is the hallmark of the empowered youth. To achieve this lofty vision, the Institute nurtures social, cultural and sporting activities pursued by the Students' Gymkhana, which itself is a self-governed body of the students.

Here are some of the achievements of the Students' Gymkhana:

Entrepreneurship Cell

Entrepreneurship Cell (E-Cell), IIT Kanpur is a non-profit student's organization dedicated to promoting the spirit of entrepreneurship amongst the campus community.

The E-Cell established its importance and objective by successfully conducting its flagship event, e Summit 2017, which hosted several prominent entrepreneurs, industrialists, and businessmen. Participation was large

with an attendance of over 1,200 individuals. The event comprised talks and panel discussions by eminent personalities including the likes of Mr. B V R Mohan Reddy, Ex-Chairman NASSCOM, Mr. Sandeep Aggarwal, Co-Founder Shop Clues and Mr. Aloke Bajpai, CEO Ixigo. Apart from these, 7 competitions and 5 workshops were conducted as part of this event which witnessed participation from over 300 colleges across the nation. E-Cell was also the host of the prestigious 'Samsung Innovation Awards' this year.

E-Cell also conducted Startup Master Class - the first-ever event at IIT Kanpur jointly organized by students and alumni. It helped campus entrepreneurs obtain real time investment and gain the association of influential agencies.

Every weekend the lecture-cum-discussion sessions 'Campus Hangouts' were organized, aimed at taking entrepreneurship off the books and into general conversations that lead to an increase in the involvement of the campus in entrepreneurial activities.

Vox Populi

Student journalism was designated as a separate cell under Students' Gymkhana this year. In its maiden year as a cell, Vox Populi furthered its online reach to 7,000 viewers, an increase of nearly 60%. The body published two print editions along with regular updates on its online handle to act as a pivotal link between the administrative perspective and the voice of the campus community. It reported on prominent issues like the Institute's proposal on the 'Institute of Eminence' program, major awards to students and faculty, updates of Inter IIT Sports Meet 2017, grievances of Visitors' Hostel workers and washerman community, the existence of gender insensitivity and much more. The Senate Samachar series of Vox Populi kept the students updated on the proceedings of Students' Senate.

Community Welfare Cell

The Welfare Cell is a student group that is committed to learning, understanding and helping the society within the institute as well as in its vicinity. The different wings of the Cell worked on several important projects:

- Prayas worked in the field of education for the marginalized sections of the society. Apart from regular classes held for the underprivileged children of the workers in the institute, the wing organized

the Prayas Premier League, an annual function, a gender awareness session, a science week and a picnic.


- Prakriti worked in the field of environmental awareness, social innovations, and impact assessment. The group organized a paper collection drive, a tree plantation drive and a clothes distribution and cleanliness drive.


- Raktarpanis dedicated to remedying the shortage of blood and for this purpose it organized various blood donation camps and handled a total of 1140 helpline re- quests.

Outreach Cell

The Outreach Cell has taken several initiatives which have ensured that the campus outreach activities scale up. This included "That's IIT," an initiative to connect with the students and counsel them for smooth transition from their school life to deciding an appropriate college education program. Several alumni connected initiatives were taken, and a "Tips from the Top" session was organized. In its first year of inception itself, outreach cell was able to implement several initiatives that augur well for connecting with the society at large.


Students' Senate

The main policy drafting body of the Students' Gymkhana worked on and legislated various policies this year. Some of the major polices are mentioned below:

- Marketing Guidelines were framed for the Gymkhana to obtain sponsorship as a whole with a vision to make it self-sufficient.
- To streamline the functioning of the Senate, two new sub- committees were created, the Post-Graduate Student Af- fairs Committee (PG-SAC) and the Under-Graduate Stu- dent Affairs Committee (UG-SAC). These committees will opine on issues faced exclusively by the UG and PG communities respectively.
- Formation of a Gymkhana Award for Faculty - To appreciate the efforts some professors put in for the welfare of the students beyond their call, it was decided to institute an award for honoring such faculty.

Ek Bharat Shreshtha Bharat

Ek Bharat Shreshtha Bharat(EBSB) Cultural Day is one of the major flagship programmes of the Government of India, to bring in cultural integration of the country as part of the vision to build a "New India by 2022". Two such EBSB cultural days of partnering states of Tamil Nadu and Jammu & Kashmir and Punjab & Andhra Pradesh were conducted, facilitating more community interactions and harmonious engagement of several cultures.

Science and Technology Council

It has been another glorious year for the Science and Technology Council. The achievements are:

Inter IIT Tech Meet 2018: Gold Medal, Technology for Soldier Support along with one silver and two bronze medals.

Techkriti 2018: Electronics Club won the Techkriti Innovation Challenge and Electrade, BRaIN hobby group won Biobuzz, Aero-modelling Club won Hover Mania and Sky Sparks.

Formula Bharat 2018: With their third formula vehicle, team SAE secured the 9th position in the Design event, 5th position in Business Logic presentation and an overall 15th position.

Aeromodelling Club won the Aerodynamix Competition held at MNIT, Allahabad.

The Science and Technology Council organized various lectures and workshops in programming, robotics and aeromodelling. Council members were invited for guest lectures and judging in Kanpur schools and colleges including HBTI and DPS Kalyanpur.

The Media and Culture Activities

A major initiative taken this year to push new talent to the stage was the open mic series. SPIC MACAY programs were organized to cultivate an appreciation for the indigenous cultural arts amongst the students.


Students of the council created a world record of origami structures by using the maximum number of origami pieces. The record is yet to be verified and cited by the Limca Book of World Record and Guinness Book of World Record.

Games and Sports Council

Diverse activities aimed at broadening the outreach of sporting activities among various segments of campus community were organized during the year. Some of the new initiatives were one- week-one-sport, archery workshop, aquatics in inferno etc.

IIT Kanpur participated in the 33rd Inter IIT Aquatics Meet held at IIT Madras and secured the first position in Water Polo (Men), third in Swimming (Men) and Swimming (Women).

The entire contingent participated in the coveted 52nd Inter IIT Sports Meet held at IIT Madras. We, the defending champions played our heart out and secured third position in the General Championship tally. We stood 2nd in the Men's category and 4th in the Women's category. The weightlifting team secured the overall first position, the athletics (men) and the tennis (men) teams secured the second position; the basketball (men & women), the volleyball (women) and the cricket teams secured the third position. The weightlifting team set a new meet record.

IIT Kanpur hosted the U.P State Taekwondo Championship and Kanpur District Athletics Meet. Our chess team participated in the 6th Inter IIT chess meet at IIT Madras and showcased their talent. Archery and Wall climbing workshops were also conducted.

Adventure Sports Club increased their reach and frequency of treks. The trek to Bhutan has been one of the highlights. Taekwondo club organised belt promotion tests and self-defense workshops. Bicycling expeditions and regular local cycle trips were conducted by the bicycling hobby group. Regular workshops were conducted by all the clubs during the semesters. All the clubs carried out activities to engage the campus community during the summer vacations.

Festivals Antaragni

The cultural fest, Antaragni, reached new heights in its 52nd edition where the team of our students successfully managed the festival which involved a footfall of more than 1 lakh with a budget of around 1.5 crore.

The theme of the festival was 'Suits of Euphoria', representing 52 years of its legacy and the sense of exuberance associated with the fest. The main festival lasted for four days, from 26th to 29th October 2017. These four days were filled with rich cultural performances where more than 200 colleges battled for glory, along with glamorous and enthralling performances from well- renowned national and international artists.

The star attractions of the fest included the world-renowned DJ KSHMR along with the Bollywood duo of Vishal Shekhar, the famous international band Sky Harbor which performed on top of the Red Bull Tour Bus and the all-time popular Indie-pop band Euphoria.

Techkriti

Techkriti, the annual inter-collegiate technology and entrepreneurship festival, was organized in March 2018 with PRISM OF POSSIBILITIES as its theme. Shyam Benegal, the veteran Bollywood director, inaugurated the festival.

Apart from this, other speakers were Hon'ble MK Amir Peretz, Former Deputy Prime Minister and Former Defence Minister of Israel; Simon Taufel, umpire of the 2011 Cricket World Cup Finals and five times winner of the ICC Umpire of the Year; Dr. Moshin Wali, Padma Shri awardee and the youngest physician to the

President of India; as well as Jitendra Nath Goswami, The Moon Man of India and Padma Shri awardee.

Some of the major exhibitions for this edition of Techkriti were ETH Zurich, Autonomous Soccer Playing Robot developed at ETH Zurich, Switzerland; NINO, the first Indian humanoid robot and Remidi the first wearable device to record, perform and play using hand gestures.

Techkriti also witnessed fierce competitions in events like Robowars, International Autonomous Robotics Challenge (IARC), International Robots Got Talent (IRGT), Techkriti Grand Prix (TGP), Techkriti Innovation Challenge (TIC), Multi rotor, Sky Sparks, Embedded, IOT, Business and Entrepreneurial Events to name a few. Adding to it, the fourth edition of

Techkriti Open School Championship was held in 19 cities in 3 rounds.

This time Techno cruise, the zonal round of Techkriti was conducted in 13 cities.

Udghosh

Udghosh, the annual sports festival of IIT Kanpur continued its legacy of being the largest and most anticipated sports festival of India. The 2017 edition witnessed more than 40,000 people with more than 2,300 participants from more than 150 colleges all across India. With the introduction of Kabaddi and Udaan (sports for especially abled), Udghosh broadened its horizon.

This year, Udghosh went one step further by welcoming one of the most prominent athletes of our country, Gold medalist in Olympics, Mr. Abhinav Bindra, as the Chief Guest at the closing ceremony.

Apart from sports, EDM nite (Club Banditz and Carnivore) and Comedy Night (Rahul Subramanian and Nitin Gupta) were also organized. The social initiative of Udghosh 2017 was conducted in collaboration with Suresh Raina's 'Gracia Raina Foundation' with Priyanka Raina arriving on the campus. Udghosh 2017 raised the bar sky high for upcoming editions.

COUNSELLING SERVICE Overview and Team Strength

The Counseling Service (CS) primarily provides emotional, academic and financial assistance to students. CS consists of a team of professional counselors, psychiatrists and a group of student volunteers dedicated towards the welfare of the student community. Currently, there are 3 professional counselors, 2 assistant counselors and 2 psychiatrists who regularly visit the Institute. The student team comprises an undergraduate wing and a postgraduate wing. The UG wing has 25

core team members, 139 student guides, 107 academic mentors and 3 volunteers, whereas the PG wing has 8 core team members and 75 volunteers.

Counselor and Psychiatrists' Sessions

Students typically meet the counselors in two modes - they sometimes approach the counselors of their own volition, or are referred to the CS by their friends, faculty members, psychiatrists or the doctors at the Health Centre. Students with academic difficulty are also encouraged to meet the counselors for advice. In the 2017-18 sessions, 1872 counselor sessions were held.

The psychiatrists typically visit the campus at least twice a month. In times of emergency, the student is directly sent to the Psychiatrist's clinic, along with an attendant. All the activities related to a psychiatrist's visit are coordinated by the Counseling Service.

Financial Assistance

Through the Students Benevolence Fund (SBF), the Counseling Service provides financial assistance to needy students in the form of scholarships. This is available to financially needy students who have been unable to acquire any other financial assistance from the institute. The SBF scholarship is Rs.1500 per month and given for 9 months. Apart from this, SBF Loans are also available to those who are in dire need of money.

Academic Assistance

Academic assistance is provided to students facing difficulty in coping with the academic load. The support exists both at an individual as well as at a group level and is free of cost.

- Remedial Classes: Remedial classes are organized by academic mentors (senior students) to help academically deficient students.
- Study Hours: For underperforming students, study hours are organized by academic mentors during the week before the examinations.
- Technical Terminology Classes: To help those students facing difficulty in understanding the English technical terms, the Technical Terminology Classes are organized- during the beginning of the semester.

Support to Probation Students

The Counseling Service provides emotional as well as academic support to the students on academic probation/warning. This year, the students in AP/WR were allotted a guide from the operations or guidance team, whose responsibility was to look after his/her allotted counselee and also to act as a link between the student and the counselor. Individual counseling sessions are offered to improve the academic performance as well as to resolve emotional issues. A session for

the first year students in probation/warning was conducted to motivate them to perform better. This had a positive impact on the students.

Orientation Programme

Each year, the Orientation Program is organized for the freshmen before the beginning of the new academic session in July to acquaint them with the facilities, services, personnel, rules and regulations of the institute, and to facilitate a smooth transition into life at the institute. A similar session is again organized by the

PG team in December.

The core team members, student guides, student volunteers attached to the Counseling Service help the newcomers in this process. Gymkhana presentations, sessions with the counsellors, group activities, and wing competitions were organized as part of the Orientation Program. To tackle the issue of substance abuse, psychiatrist Dr. Sanjay Mahendru was invited for a session on the 27 July 2017 to sensitize the students about the issue. There were talks by the doctors at the Health Centre as well during the orientation program.

Skill Enhancement Workshops/Classes

English Conversation Classes: English Conversation Classes are organized during the semesters for the students who face difficulty in understanding and communicating in English. These classes are free of cost and are open to all the students.

Sessions on Other Broad Issues

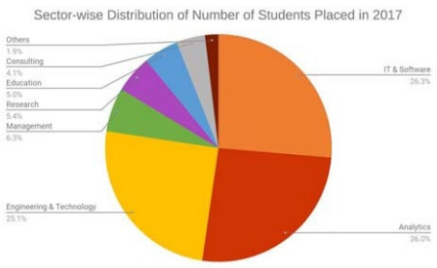
- Explore your department
- Session on Study Techniques
- Intern Gyan
- ESO/SO awareness session

Student Placement

More than 250 companies participated in the Campus Recruitment Driveduring2017-18. Approximately 82% of the graduating batch (including UG and PG) were placed through Student Placement Office during the academic year 2017-18. Some of the major companies that took part in recruitment drive were Intel, Tata Motors, EXL Services, Goldman Sachs, Microsoft, Bank of America, Michelin, Exxon Mobil, Samsung, Black Rock, Michelin, UIDAI, Rubrik Inc., American Express, etc.

Students Placement at PG level

Approximately 80% of PG students graduating in the year 2017- 18 were placed through Student Placement Office. Among the 563 PG students registered for placements this year, 449 were placed till date. Amongst the various programs, the MBA recorded the highest percentage of placements at 100% followed by M. Design at 92%, Dual Degree at 88%, M. Tech degree at 73% and M. Sc (2 yrs.) program at 70%.



Students Placement at UG Level

Approximately 84% of the B. Tech and B.S. degree students were placed through SPO during the Campus Recruitment drive during2017-18. Among the 419 UG students registered for placements this year, 355 were placed till date. This includes 80 Pre-Placement Offers (accepted PPOs) received during internships facilitated by the Student Placement Office.

Unnat Bharat Abhiyan

Under Unnat Bharat Abhiyaan, a scheme funded by MHRD to uplift rural India, IIT Kanpur has adopted five surrounding villages - Hridayapur, Baikanthpur, Ishwariganj, Pratappur Hari and Saxupurva. The outreach activities aimed at the overall upliftment of the villages will focus on cleanliness, computer literacy, harnessing solar energy and using technology for better farming techniques. A survey was conducted to explore the needs and interests of the villagers. The results of the survey will be compiled in a report and then analyzed for on-ground work.

Most of the villagers have responded enthusiastically to the initiatives from IITK.

Epilogue

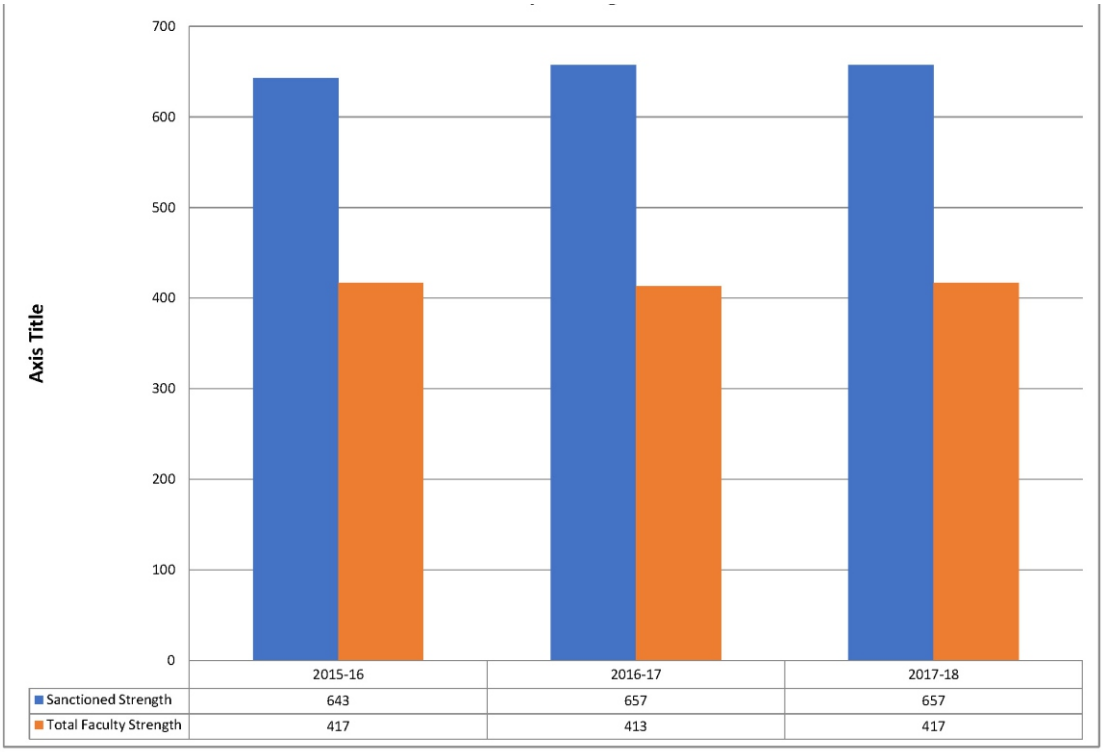
Dear degree recipients, on this memorable event of the fifty-first convocation, I congratulate and commend each one of you on your brilliant achievements and convey my best wishes to the entire class of 2018 graduating today. I also take this opportunity to congratulate your proud parents and guardians for making you what you are today and encourage you to strive for excellence relentlessly. Now, that your journey towards the greater world begins, I would like to share some of my thoughts with you.

As an alumnus of IIT Kanpur, I myself had once entered humbly into this institute in quest of knowledge and walked through its glorious portals to the bigger world to seek my destiny. The precious degree I obtained from this institute inspired me to face challenges in my professional career and achieve success. Today, I have come back to you as a leader of this institute with the message 'nihil ultra' -nothing is beyond the capability of humankind as long as you employ right effort in the right direction. I am confident your teachers/mentors of this institute have instilled enough wisdom, enough courage and enough ambition in you to achieve your dreams as my mentors did. With your acquired knowledge, passion, and determination, I am confident that you will continually strive tousher in a revolution of quality in both professional and social domains.

May God bless you with health, happiness, and peace. May you prove yourself a worthy son or daughter of this great nation, may each one of you scale so high that we never tire of extolling you and bask in your glory, and above all, may your unstinted effort turn victorious at the culmination!

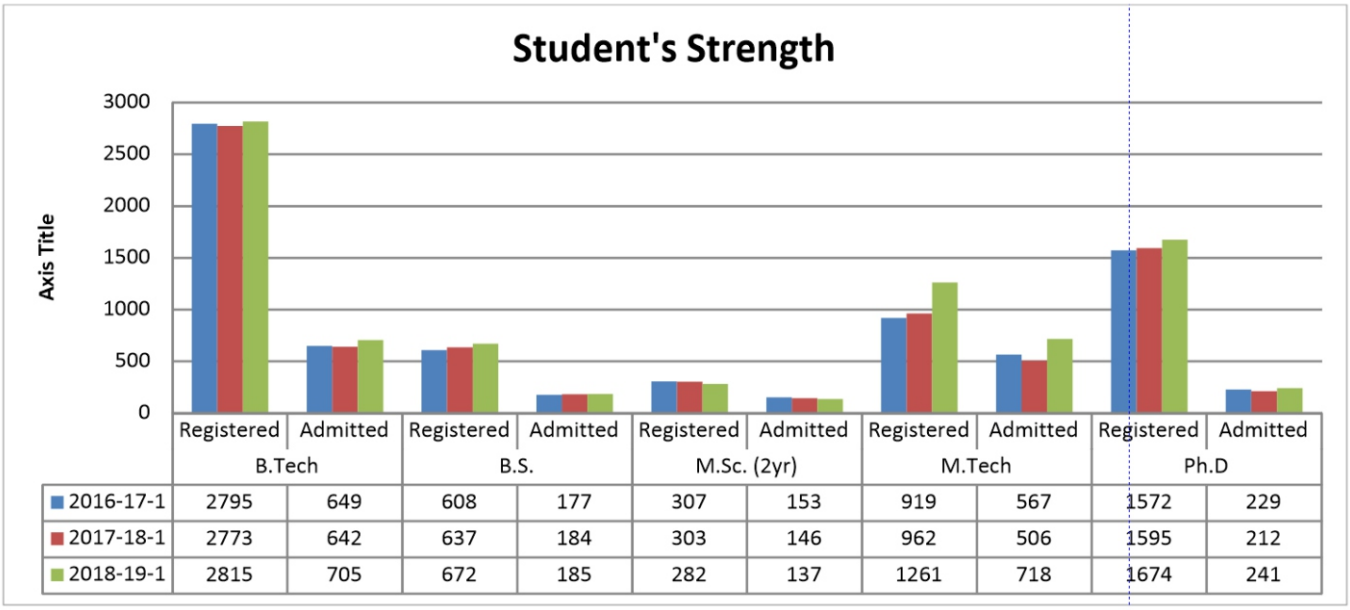
Details of the books published by various faculty members can be obtained from the following web link: https://iitk.ac.in/dord/data/Annual-Report-2017-18/Book-Published.pdf

Faculty Strength



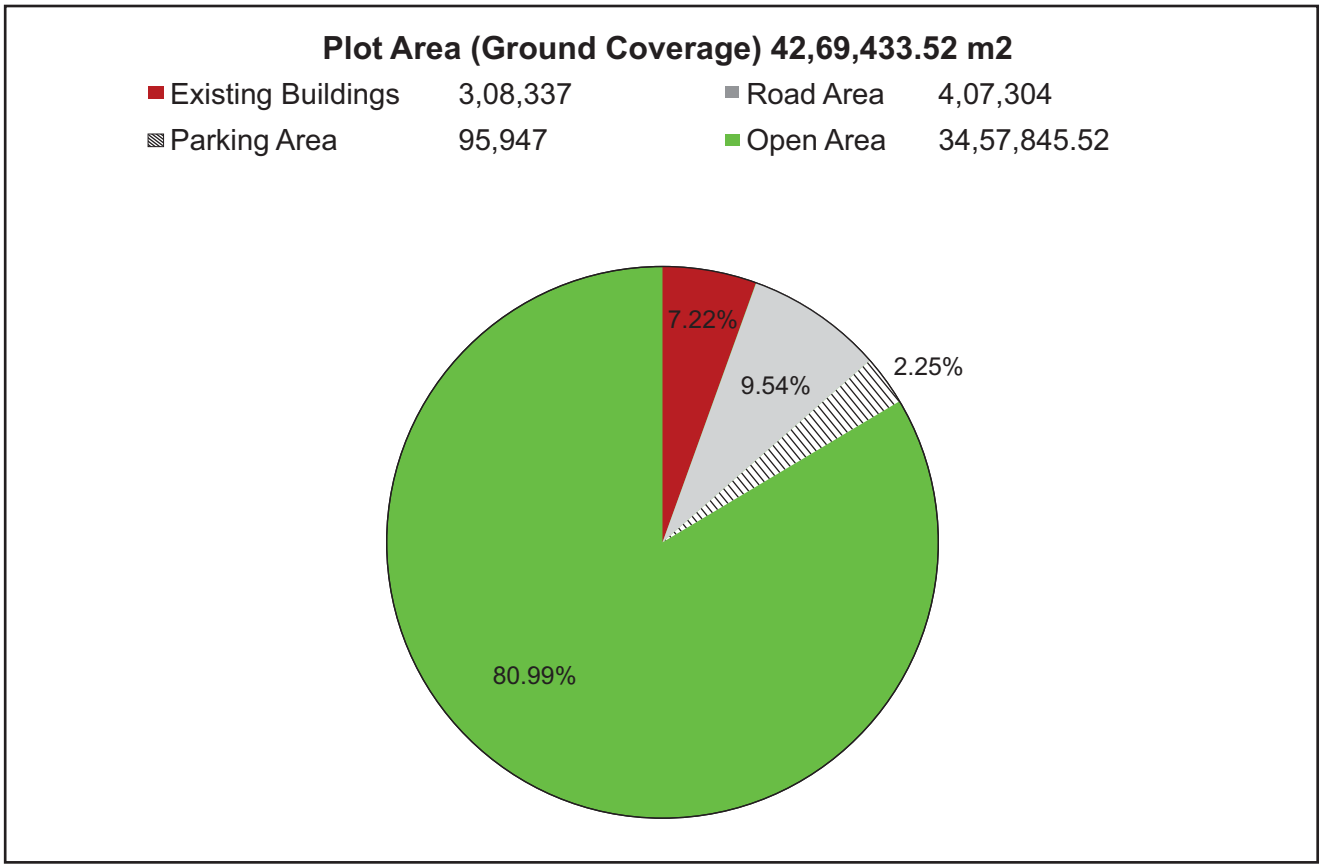
	2015-16	2016-17	2017-18
Sanctioned Strength	643	657	657
Total Faculty Strength	417	413	417

Student's Strength



	B.Tech		B.S.		M.Sc. (2yr)		M.Tech		Ph.D	
	Registered	Admitted	Registered	Admitted	Registered	Admitted	Registered	Admitted	Registered	Admitted
2016-17-1	2795	649	608	177	307	153	919	567	1572	229
2017-18-1	2773	642	637	184	303	146	962	506	1595	212
2018-19-1	2815	705	672	185	282	137	1261	718	1674	241

Institute Works Department



	Particulars	Ground Coverage Area (m2)	% of Ground Coverage to Plot Area
Plot Area		4269433,52	
Existing Buildings			
	Academic Area	86,188	
	Hostel Area	95,266	
	Students Activity Area	21,706	
	Residential Area	82,147	
	Services	23,660	
	Total	3,08,337	7.22%
Road Area		4,07,304	9.54%
Parking Area		95,947	2.25%
Open Area		34,57,845,52	80.99%

ORGANIZATION
(as on 31 March 2018)

List of Members of the Board of Governors
[From 01 April 2017 to 31 March 2018]

CHAIRMAN:

Shri R. C. Bhargava
Chairman, Board of Governors, IITK
Chairman, Maruti Suzuki India Ltd.
220, Sector 15A
Noida- 201 301 (UP)

Members:
Director (Ex-Officio)
Prof. Indranil Manna [upto 6 Nov. 2017]
Director
Indian Institute of Technology Kanpur
Kanpur - 208 016

Prof. Manindra Agrawal [w.e.f. 7 Nov. 2017]
Officiating Director
Indian Institute of Technology Kanpur
Kanpur - 208016

Council Nominees:
Prof. Girish Chandra Tripathi
Professor of Economics - VC BHU
Senate House Campus
University Road, Old Katra
Allahabad, Uttar Pradesh – 211002

Prof. Jayanta K. Bhattacharjee
36 C, Lake Road
Kolkata – 700 029 (WB)

Prof. P. Balaram
Molecular Biophysics Unit
Indian Institute of Science
Bangalore - 560 012 (India)

Shri Krishnamurthi Venkataramanan
CEO & MD
Larsen & Toubro Limited
'C' Building, Gate No.1
Saki Vihar Road, Powai
Mumbai – 400 001 (Maharashtra)

State Government Nominee:
Uttar Pradesh Government:

Professor Onkar Singh [upto 14 June 2017]
Vice Chancellor
Madan Mohan Malaviya University of Technology
Deoria Road, Gorakhpur – 273 010
Uttar Pradesh

Prof. S.N. Singh [w.e.f. 15 June 2017]
Vice Chancellor
Madan Mohan Malaviya University of Technology
Deoria Road, Gorakhpur – 273 010
Uttar Pradesh

Senate Nominees:
Professor V. K. Yadav [upto 31 Dec. 2017]
Department of Chemistry
Indian Institute of Technology Kanpur
Kanpur – 208 016

Prof. M.L.N. Rao [w.e.f. 1 Jan. 2018]
Department of Chemistry
Indian Institute of Technology Kanpur
Kanpur – 208 016

Professor C. S. Upadhyay [upto 31 Dec. 2017]
Department of Aerospace Engineering
Indian Institute of Technology Kanpur
Kanpur – 208 016

Professor Debopam Das [w.e.f. 1 Jan. 2018]
Department of Aerospace Engineering
Indian Institute of Technology Kanpur
Kanpur – 208 016

Special Invitees:
Professor Manindra Agrawal
Deputy Director
Indian Institute of Technology Kanpur
Kanpur – 208 016

Professor K Muralidhar
Dean of Faculty Affairs
Indian Institute of Technology Kanpur
Kanpur – 208 016

Professor Neeraj Misra
Dean of Academic Affairs
Indian Institute of Technology Kanpur
Kanpur – 208 016

Professor A R Harish [upto 30 June 2017]
Dean of Student Affairs
Indian Institute of Technology Kanpur
Kanpur – 208 016

Professor P. Shunmugaraj [w.e.f. 1 July 2017]
Dean of Student Affairs
Indian Institute of Technology Kanpur
Kanpur – 208 016

Prof. Onkar Dikshit [upto 31 July 2017]
Dean of Infrastructure & Planning
Indian Institute of Technology Kanpur
Kanpur – 208 016

Prof. Y.N. Singh [w.e.f. 1 Aug. 2017]
Dean of Infrastructure & Planning
Indian Institute of Technology Kanpur
Kanpur – 208 016

Professor S. Ganesh
Dean of Research & Development
Indian Institute of Technology Kanpur
Kanpur – 208 016

Professor B. V. Phani
Dean of Resources & Alumni
Indian Institute of Technology Kanpur
Kanpur – 208 016

Shri Munish Malik
Finance Officer
Indian Institute of Technology Kanpur
Kanpur – 208 016

Secretary:
Shri K.K. Tiwari
Registrar & Secretary, BOG
Indian Institute of Technology Kanpur
Kanpur – 208 016

List of Members of the Finance Committee
[From 01 April 2017 to 31 March 2018]

Chairman:
Shri R. C. Bhargava
Chairman, Finance Committee, IITK
Chairman, Maruti Suzuki India Ltd.
220, Sector 15A
Noida- 201 301 (UP)

Members:
Prof. Indranil Manna [upto 6 Nov. 2017]
Director
Indian Institute of Technology Kanpur
Kanpur - 208 016

Prof. Manindra Agrawal [w.e.f. 7 Nov. 2017]
Officiating Director
Indian Institute of Technology Kanpur
Kanpur - 208016

Prof. Girish Chandra Tripathi
Professor of Economics - VC BHU
Senate House Campus
University Road, Old Katra
Allahabad, Uttar Pradesh – 211002

Additional Secretary (Technical Education)
Government of India
Department of Secondary & Higher Education
Ministry of Human Resource Development
Shastri Bhawan, New Delhi – 110 001

Joint Secretary & Financial Adviser
Government of India
Department of Secondary & Higher Education
Ministry of Human Resource Development
Shastri Bhawan, New Delhi – 110 001

Prof. V. K. Yadav [upto 31 Dec. 2017]
Department of Chemistry
Indian Institute of Technology Kanpur
Kanpur – 208 016

Prof. M.L.N. Rao [w.e.f. 1 Jan. 2018]
Department of Chemistry
Indian Institute of Technology Kanpur
Kanpur – 208 016

Secretary:
Shri K.K. Tiwari
Registrar & Secretary, Finance Committee
Indian Institute of Technology Kanpur
Kanpur – 208 016

List of Members of the Building & Works Committee
[From 01 April 2017 to 31 March 2018]

Chairman:
Prof. Indranil Manna [upto 6 Nov. 2017]
Director & Chairman, B&WC
Indian Institute of Technology Kanpur
Kanpur - 208 016

Prof. Manindra Agrawal [w.e.f. 7 Nov. 2017]
Officiating Director & Chairman,
B&WC
Indian Institute of Technology Kanpur
Kanpur - 208016

Members:
Prof. C. S. Upadhyay [upto 31 Dec. 2017]
Department of Aerospace Engineering
Indian Institute of Technology Kanpur
Kanpur – 208 016

Prof. Debopam Das [w.e.f. 1 Jan. 2018]
Department of Aerospace Engineering
Indian Institute of Technology Kanpur
Kanpur – 208 016

Shri B M Agarwal
Retd. Engineer-in-Chief, UP Irrigation
102, Ravinder Garden
Sector-E, Aliganj
Lucknow – 226 024

Prof. Manoj Mathur
Department of Architecture
School of Planning & Architecture
New Delhi – 110 002

Shri A.K. Jain
Retd. Special DG, CPWD (Electrical)
Flat 9-B, Tower-X, Meghdutam Apartments
Plot F-21-C, Sector-50
Noida (UP) – 201 301

Prof. Onkar Dikshit [upto 31 July 2017]
Dean of Infrastructure & Planning
Indian Institute of Technology Kanpur
Kanpur – 208 016

Prof. Y.N. Singh [w.e.f. 1 Aug. 2017]
Dean of Infrastructure & Planning
Indian Institute of Technology Kanpur
Kanpur – 208 016

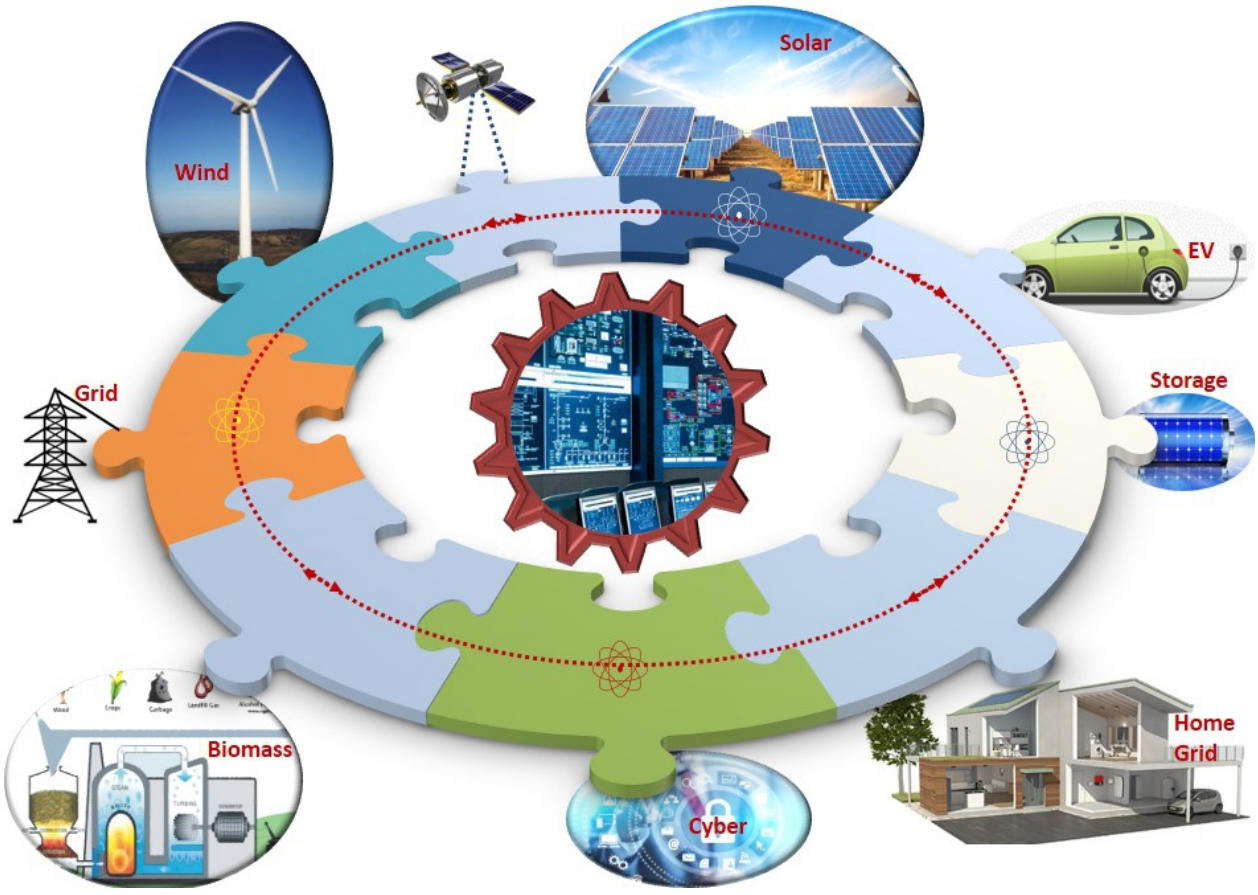
Secretary:
Shri K.K. Tiwari
Registrar & Secretary, BWC
Indian Institute of Technology Kanpur
Kanpur – 208 016

THREE NOMINEES OF THE CHAIRMAN, BOARD OF GOVERNORS

1. Dr. Namburi Eswara Prasad
   Director
   Defence Materials and Stores Research
   and Development Establishment (DMSRDE)
   Kanpur (U.P)

2. Shri Narendra Mohan
   Director
   National Sugar Institute, Kanpur
   Kanpur (U.P)

3. Shri D R Sarin
   Chairman & Managing Director
   Artificial Limbs Manufacturing Corporation
   of India (ALIMCO)
   Kanpur (U.P)



IIT Kanpur to Lead a Joint Indo-US program
on Advance Smart Grid Technology

THE FACULTY

There are fifteen departments and six interdisciplinary programs offering degrees at various levels in the Institute. The Institute had 396 faculties as on 31 March 2018, of these 18 were shared by two departments on half-time basis. There were also 24 other academic officers and staff comprising Research Engineers/ Scientific Officers and Library staff, as on 31 March 2018. 16 Faculty Members, 8 visiting faculty, 12 adjunct faculty, and 2 as Distinguished Honorary Professors joined during the 1st April 2017 to 31 March 2018. During this period, we have also made 9 offers of postdoctoral fellowships. 12 faculty members/ academic staff retired/ resigned during the period. The Visiting/ Distinguished/ Adjunct Faculty contribute significantly and they also get an opportunity to know the Institute.

For full details visit following URL : https://iitk.ac.in/dord/data/Annual-Report-2017-18/List-of-faculty.pdf

ACADEMIC PROGRAMMES

EDUCATIONAL GOALS

Education in the Engineering Stream should produce trained manpower for maintaining and advancing technological growth. The scope of engineering education should evolve based on the evaluation of technological growth for its relevance to the prosperity of the country. The educational strategy in this context should help to develop a knowledge industry and the systems involved in this endeavor should strive for furtherance of knowledge. The academic goals of the Indian Institute of Technology Kanpur from the viewpoint of its teaching programme are as follows:

- To prepare the students for the highest level of excellence in science and technology and to produce competent, creative and imaginative scientists and engineers.
- To promote a spirit of free and objective inquiry in different fields amongst the students and motivate them for higher studies and research.
- To foster an inter-disciplinary approach, and promote the concept of virtual research departments by bringing together faculty and students into activities of mutual interest.

TEACHING PROGRAMMES

The Institute offers instruction in various disciplines of science and engineering, both at undergraduate (UG) and postgraduate (PG) levels. These programmes are planned and implemented by the Academic Senate of the Institute. Micro-management of these programmes is carried out by the Senate Undergraduate Committee (SUGC) and the Senate Post-graduate Committee (SPGC), respectively. The development of these programmes is monitored by the recently introduced Senate Curriculum Development and Monitoring Committee (SCDMC). Apart from this, the programmes are subject to a comprehensive review once every 10 years by the Academic Review Committee (ARC) constituted for this purpose.

Undergraduate Programme

The Institute offers the following undergraduate programmes:

- Four-Year B.Tech. Programmes in Aerospace Engineering, Biological Sciences & Bio Engineering, Chemical Engineering Civil Engineering, Computer Science and Engineering, Electrical Engineering, Materials Science and Engineering, and Mechanical Engineering.
- Four-Year B.S. Programmes in Chemistry, Earth Sciences, Economic Sciences, Mathematics & Scientific Computing, and Physics.

The four-year undergraduate programme consists of two parts having duration of about four semesters each. The first part is primary the Core Programme common to all students, and is carefully planned to give the students a strong base of basic education in Mathematics, Physics, Chemistry, Technical Arts, and Humanities and Social Sciences. The second part of the undergraduate programme consists of the Professional Courses and a project in the chosen branch of specialization.

Two-Year M.Sc. Programme

The Institute also offers Two-Year M.Sc. Programmes in Physics, Chemistry, Mathematics and Statistics, where students with B.Sc. (Hons.) background are admitted through an all-India entrance examination known as JAM (Joint Admission Test to Master of Science). These programmes have been largely responsible for the scientific manpower in Indian research institutes and universities.

Postgraduate Programme

The postgraduate programme is intended to prepare students to enter their professions with a perspective and

breadth of knowledge related to the principal areas in their respective fields of specialization through courses as well as specialized research experience. A postgraduate student is typically enrolled for three or four courses each semester until he/she advances to a point where the principal requirements of the programme left to be fulfilled are research and thesis.

M. Tech. Programme

We have M.Tech. Programmes in all the core Engineering Branches of Aerospace Engineering, Biological Sciences & Bio Engineering, Chemical Engineering Civil Engineering, Computer Science and Engineering, Electrical Engineering, Materials Science and Engineering, and Mechanical Engineering. In addition, there are M.Tech. Programmes in interdisciplinary areas such as Photonics Science and Engineering, Materials Science, Nuclear Engineering and Technology, and Environmental Engineering and Management. The M.Tech. students are chosen through an all-India examination known as GATE and further written test/interview in some cases.

MBA Programme

The MBA Programme is offered by the Department of Industrial Management and Engineering (IME). The students admitted to this programme are selected through an all-India examination known as CAT followed by the interview and group discussions.

M.DES Programme

The M.Des. Programme is offered by the Interdisciplinary Programme in Design. The students are selected through the all-India examinations, CEED and/or GATE, followed by the written test/interview.

Doctor of Philosophy (Ph.D.)

The academic programmes leading to the degree of Doctor of Philosophy (Ph.D.) exists in all the Engineering Departments and the Interdisciplinary Programmes (IDPs) of Cognitive Science, Design, Environmental Engineering and Management, Nuclear Engineering and Technology, and Photonics Science and Engineering, The Ph.D. Programmes are also offered in the Departments of Chemistry, Earth Sciences, Economic Sciences, Mathematics & Statistics, Physics, and Humanities and Social Sciences (English, including Literature, Linguistics, and Language Teaching, Fine Arts, Philosophy, Psychology and Sociology).

The Ph.D. programme culminates in research on a selected topic leading to a thesis submitted in partial fulfillment of the requirements for the degree.

MS By Research

The Institute also offers a Postgraduate Programme known as MS (By Research) in the following disciplines: Aerospace Engineering, Chemical Engineering, Civil Engineering, Computer Science and Engineering, Electrical Engineering, Environmental Engineering and Management, Mechanical Engineering, and Photonics Science and Engineering. The objective of this programme is to promote research at the Masters level, including industry sponsored research.

MS-Ph.D. Dual Degree

The Department of Physics offers a M.Sc.-Ph.D. Dual Degree Programme. The admission is through JAM (Joint Admission Test to Master of Science), and the M.Sc. students migrate to the PhD Programme after the completion of their M.Sc. Programme.

The M.Tech., M.Des, MS (R), and Ph.D. students receive financial support through research/ teaching assistantships.

NEW INITIATIVES

Two new additions to the academic programmes of the Institute in 2017-18 are the Department of Economic Sciences and the Interdisciplinary Programme in Cognitive Science.

Interdisciplinary Programme in Cognitive Science

The Inter-disciplinary Programme in Cognitive Science was inaugurated on June 01, 2017. The Cognitive Science IDP currently has 14 participating faculty from the departments of Biological Sciences and Bioengineering, Chemistry, Computer Science and Engineering, Electrical Engineering, Humanities and Social Sciences [Linguistics, Philosophy, and Psychology], Mathematics, and Mechanical Engineering. The ongoing research activities at the IDP are focused on theoretical modeling of the mind, behavioral approaches, computational approaches, neurobiological approaches, a synthesis of two or more of these, and therapeutic interventions for cognitive disorders. The academic programmes include PhD in Cognitive Science and MS in Cognitive Science. The IDP also offers a Minor in Cognitive Science to interested undergraduate students majoring in other streams of science and engineering. Admission to the Ph.D and M.S. Programmes is through COGJET/GATE and other all-India examinations followed by a written test and/or interview.

The educational objectives of the new Cognitive Science IDP include a) imparting a strong theoretical and empirical background in one or more areas of Cognitive Science, b) inculcating analytical and technical skills to conduct and critically examine research, c) participating in collaborative research in a lab-based community from varying backgrounds, and d) developing an application and innovation based perspective towards research to ensure industrial and societal impact.

Department of Economic Sciences

The Department of Economic Sciences was inaugurated on May 6, 2017. It has the unique distinction of being the only stand alone department of Economics in the entire IIT system. The department evolved out of the existing discipline of Economics, which functioned as a part of the Department of Humanities and Social Sciences. Apart from the traditional areas of microeconomics, macroeconomics and econometrics; the new department has expertise in agricultural economics, Bayesian econometrics, behavioral economics, development economics, efficiency and productivity analysis, environmental economics, financial economics, health economics, industrial economics, international trade, labor economics, law and economics, optimization theory, political economy and public policy.

The Department offers BS, BS-MS Dual Degree and Ph.D Programmes in Economic Sciences. Admission to the BS Programme is through the JEE (Advanced). BS students who satisfy certain eligibility criteria can opt for the MS Programme. Admission to the Ph.D. Programme is through various national entrance examinations such as UGC JRF and GATE followed by a written test and interview.

OTHER NEW INITIATIVES

Senate Curriculum Development and Monitoring Committee (SCDMC), a Standing Committee of the Senate entrusted with the task of reviewing, monitoring, evaluating, and revising the pedagogical models and incorporating the state-of-the-art methodologies in the field into teaching.

PMRF (Prime Minister's Research Fellowship) initiated by the MHRD, under which IIT Kanpur will be offering 10 admissions to the Ph.D. Programme in 2018.

Biometric Attendance System for UG Classes initiated to understand the patterns of attendance in UG courses so that the issue of attendance in classes may be addressed in a meaningful way.

Blended Mode Teaching under the Pandit Madan Mohan Malviya National Mission on Teachers and Teaching (PMMMNMTT) in which lectures are recorded and released prior to the class, and the classroom is used for discussion, clarifications and problem solving.

Activities Related to PG Students: The Research Scholars' Day is now a stable annual feature of the Institute, and is held in each Department and Interdisciplinary Programme. At this event, the doctoral students showcase their ongoing research through oral or poster presentations and engage in extensive discussions with their peers and the faculty. This exercise has been received very well by the research scholar community and has brought new vigor and enthusiasm in the academic community.

RESEARCH ENVIRONMENT

IIT Kanpur has demonstrated its excellence in research in many areas. To cite a few areas: Finite Element Methods Using Domain Decomposition, Flow Induced Vibrations, Wind Tunnel Testing of Large Scale Prototypes, Computational Chemistry, Nano-materials and Nanotechnology, Geometric Optimization of Large Organic Systems, Genomics and Bio-Informatics, Electronic Structure Calculations, Aggregation and Etching, Molecular Dynamics, Thin Film Dynamics, Optical / EM Field Calculations, Computational Fluid Dynamics and Heat Transfer, Computer Aided Design and Rapid Prototyping, Tomography, Robotics, Multi-Body Dynamics, Geo-seismic Prospecting, Stress Analysis and Composite Materials, Vibration and Control, Semiconductor Physics, Photonics, Neural Networks and Genetic Algorithms, Earthquake Engineering, Spin Fluctuations in Quantum Magnets, Quantum Computation and so on.

National Programme on Earthquake Engineering Education

IIT Kanpur earnestly believes that every Institute of National Importance has an obligation to render necessary service to the country in an hour of need. Our country is prone to strong earthquakes, and we need to contain the risks this involves. A trained manpower development programme for earthquake risk mitigation, known as NPEEE (National Programme on Earthquake Engineering Education), has been instituted by the Government of India. IIT Kanpur is the nodal agency for the entire gamut of NPEEE activities.

CONTINUING EDUCATION AND OUTREACH ACTIVITIES

National Programme on Technology Enhanced Learning (NPTEL), a joint initiative of the MHRD, IITs and IISc Bangalore, has 121 of its 600 courses developed by the faculty members at IIT Kanpur. NPTEL Phase IV has proposed several new activities that are in tune with the Central Sector Scheme (CSS) of MHRD and are compliant with the Massive Open Online Courses (MOOC) initiative. It is expected that the CSS and MOOC compliant e-content under NPTEL IV will play an important role towards an affordable and high-quality online and open access education drive of MHRD. The mooKIT, which has been developed from ground up, is a lightweight MOOC management system with several innovations. It comes in multiple versions including an offline version where the MOOC can be distributed over SD cards. More than 20 MOOCs have been delivered on

it and more than 2,00,000 students from around 100 countries have learnt from it. It is likely to be released in open source by December 2018. The broad aim of the project CSS-MOOCs is to facilitate the competitiveness of Indian Industry in the global markets by improving the quality and reach of education. The operational objective of CSSMOOCs is to make high quality learning material available to students of different institutions across the country. The target group for this project consists of students and faculty members of institutions offering Undergraduate/Postgraduate education in India. In 2017, NPTEL Chapter of IIT Kanpur supported Abdul Kalam Technical University (AKTU) by conducting a white listed course, Non-conventional Energy Resources, for more than 45,000 B.Tech. Final Year students from 273 affiliated colleges. Under MHRD's Swayam Prabha initiative of taking education Directly to Home (DTH), thirty two DTH channels have been started out of which IIT Kanpur is currently managing two. These channels broadcast the NPTEL course content in Mechanical Engineering, Humanities and Social Sciences, and Management 24x7.

Convocation details can be accessed at: https://iitk.ac.in/dord/data/Annual-Report-2017-18/Convocation-data.pdf

RESEARCH AND DEVELOPMENT

IIT Kanpur has registered steady growth in its research and development activities this year. The number of externally funded ongoing projects has reached 626 with a total sanctioned amount of Rs. 795 crore. During 2017 - 2018, the Institute received sanctions for 178 sponsored projects worth Rs. 182 crore and 126 consultancy projects of value Rs. 23 crore.

Some of the major grants sanctioned by various agencies during the year include INDO-US Science & Technology Forum (IUSSTF, 42 crore), Department of Science and Technology (DST, Rs. 34 crore), National Security Council Secretariat (NSCS, 34 crore), Science and Engineering Research Board (SERB, Rs. 14 crore), Ministry of Human Resource and Development (MHRD, Rs. 7 Crore).

Some of the major industries which have funded projects this year include Uttar Pradesh Pollution Control Board, Maruti Suzuki India Limited, NTPC, Rajasthan State Pollution Control Board, and Hindustan Shipyard Ltd.

During the year, 53 patents including 8 design patents were filed, and 22 previously filed patents were granted, besides one technology titled "Anti-Counterfeiting Mark with 3-D Features" getting licensed for commercialization. Till date, 35 design patents and 451 Indian patents have been filed, out of which 84 patents have been granted so far. Altogether, 56 technologies have been licensed for commercialization.

A total of 57 companies are currently incubated at SIDBI Innovation and Incubation Centre (SIIC), IIT Kanpur and 48 have graduated so far.

http://web.iitk.ac.in/july14iitkn/data/Research-and-Development.pdf

OUTPUT STATUS OF MHRD PROJECTS

Project Number: MHRD/MDES/2015264
Project Title: DESIGN INNOVATION CENTRE
Project Investigator: Prof. Satyaki Roy
Collaborators(if any): Prof. Shantanu Bhattacharya
Project Initiated on: 02-11-2015
Approval letter and date: 30-09-2015
Total Sanction Amount: Rs. 4,02,00,000

Brief Report for Design Innovation Centre
1. Indian Institute of Technology Kanpur
2. Spokes name

1. Sanjay Gandhi Post Graduate Institute of Medical Sciences, Lucknow (SGPGI, Lucknow)
2. Indian Agricultural Research Institute, New Delhi (IARI, New Delhi)
3. Harcourt Butler Technical University, Kanpur (HBTU, Kanpur)

3. Date of Creation of DIC October 2015
4. Coordinator **Prof Satyaki Roy**
5. Focus Area: **Education, Healthcare and Livelihood Generation**

- To develop a research hub with its spokes for facilitating D-B innovation (Design to Business)
- To develop a design pedagogy to fuel a culture of innovation
- To not only feed the academia and industry but also shape entrepreneurs to drive an innovation-based economy

6. DIC Hub Projects/ prototypes

1. Factory in a suitcase: A portable solution to

synthesize metal sulphide based seed pre-treatment agents for farmers
2. Layered steel for structural application
3. Multi- Electrode Electroporator Prototype for In-vitro Electro-Chemo/Drug-Therapy (ECT / EDT) testing
4. Design and Development of High E ciency 0.5 kW Wind Turbine for Household Application 0.5 kW Wind Turbine for Household Application
5. Design and Implementation of a Web-based Scalable, Secure, Non-Reputable, and Attributable Institutional Grade Management System
6. Prototype heart valve with improved performance: Design, fabrication and testing
7. Highly Affordable Microscope Adapter for Smart Phone camera
8. Diagnosis of Dengue using paper-based device
9. Developing prototypes of portable, light weight 'power bank' from indigenous, Eco-friendly, sustainable charge storage materials
10. Design and Development of Implants for the Middle Ear
11. Beneficial Utilization of Sustainable Industrial Waste for the Development of Self-Compacting Cement Based Precast Panels
12. Development of assistive touch screen-based interface for children with dyslexia and dysgraphia
13. Fog Visibility Enhancement
14. Development of a low-cost Multi-Photon Laser Micro-writer for Lithography
15. Design and Development of Dual wavelength LED based phototherapy unit
16. Field Validation of Stabilized Material for Subgrade Pavement
17. Designing of a novel, off centric nozzle impaction based automatic PM2.5 Air Sampler which is capable to run independently up to 15 days without any operator attention to provide ease to the operator and to facilitate air sampling in the extreme environments
18. Economically Viable Paper-based Microchip for Oral Pre-cancer / Cancer Patients Screening Using Saliva as Sample Fluid
19. Automatic Book Copier
20. A device for estimation of solar power potential of any patch of land (especially rooftop)
21. Development of thunderbird plugin-based Peer to peer client for messaging with support to peer groups to replace intra-institutional mailing load for communication among the students within courses.

DIC Spoke Project (SGPGI, Lucknow)

1. Design and Development of a Needle with Flexible bend at the tip
2. Development of Prosthetic Pinna (Ear)
3. Designing and Manufacturing of Prototype of Dynamic Endotracheal Tube holder
4. Design and development of portable, light-weighted and battery-operated device for subglottic secretion drainage
5. Development of a Fiber optic intubation device with a CO, sensor at its tip for facilitation of endotracheal intubation
6. Solar operated oxygen concentrator for rural health care centers
7. Indigenization and Improvisation of Puncher gun for Manual Tissue Microarray Construction
8. Design and construction of computer controlled automated radio-chemistry synthesizer
9. Electronic Digitization of Biomolecules for Rapid and Real-Time Detection of Human Pathogens using Nanopore Technology

DIC Spoke Project (IARI, New Delhi)

1. Design and Development of Self Propelled band placement Fertilizer applicator cum weeder
2. Design and Development of Laser guided Check Row Planter
3. Development and Standardization of a digital water measuring device for open channel
4. Design and development of Mechanical Accelerator for Ex-situ Paddy Straw Degradation
5. Low cost sensor based automatic Irrigation system for fruit plants
6. Design and development of add-on NPK Briquette application system for paddy transplanter

DIC Spoke Project (HBTU, Kanpur)

1. Development of Vibration Assisted Machining setup for Tailor made Surface Integrity during Hard Turning of steels
2. Development of experimental setup for machining and finishing of Bio compatible materials for medical practice
3. Microwave Extraction of Essential Oils
4. Design and Implementation of Efficient Digital Filter for Biomedical Signal processing
5. Low cost Acrylic Distemper made from Cow Dung **[Student Project]**

DIC Students Projects

1. Tinker toys as creative learning pedagogical tools.
2. Design and development of compact, low-cost paper carry bag making machine.
3. The Low Cost Dental Chair for Indian Dentistry Practice
4. A novel brail tool with read and erase capability for visually impaired
5. Onion Seed Extractor
6. Precision Seed Planter
7. Power Operated Winnower
8. Aqua Ferti Seed Drill
9. Title of the Projects Approved on 29.11.2016
10. Design and prototyping of Prahsamana (a smart hospital bed)

11. Health Care Services for Smart Cities

7. Achievements w.r.t. to HUB and Spokes

List of Awards

1. The project 'A novel brail tool with read and erase capability for visually impaired' was honored with Gandhian Innovation Award in 2017.
2. Another project developed at the Hub titled 'The Low Cost Dental Chair for Indian Dentistry Practice' is being carried forward for commercialization.
3. TULO - An automated mandibular advancement device for the treatment of obstructive sleep apnea by MrVimal C has been honored with Gandhian Innovation Award in 2018

8. List of Patents with Details

1. Abhishek, Kushari, A., Gebre, Y., and Jain, P., "A Device for Power Control and Storm Protection for Wind Turbine". Patent Application No. 201611003599
2. EshanSadasivan, Shantanu Bhattacharya, Mainak Das "Compact Low Cost Paper Carry Bag Making Machine". Patent No.772/DEL/2015
3. Abhishek, Jain, P., and Bhatnagar, K., "High Efficiency Variable-pitch Vertical Axis Wind Turbine (VAWT)". Patent Patent Application No.904/DEL/2015
4. Kundal A., Bhattacharya S., "Low Cost Dental Chair". Patent Application filed
5. Ramkumar, J., Kumar, Amal S., Gujrar, M. (SGPGI, Lucknow), "Automated Subglottic Secretion Drainage Device". Patent Application filed
6. Ghatak, A. "A stage for smart phone microscope". Patent Application filed
7. Mondal, K., Shekhar, S., "Method of Producing Multi-Layered Steel with Variable Compositions". Patent Application filed
8. Kamal Krishna Kar, Nirmal Kumar Gupta (SGPGI, Lucknow), MridulBharadwaj,Meraj Ahmed, Malay Kumar Das, Krishnamurthy Muralidhar, SutapaMondal "Spherical Tri-leaflet Heart Valve". Patent Application no. 201711043075
9. EshanSadasivan, Shantanu Bhattacharya, Mainak Das "Carry Bag Making Machine" Patent Application no. 772/DEL/2015
10. NiharRanjanPatra,Agrawal Asha Ashango" Stabilized Material for Subgrade Pavement". Patent Application no 3776/DEL/2015
11. PushpalDey, Dr. J. Ramkumar, Dr. Vinita Agarwal "A Sample Extraction Device and Operator Thereof". Patent Application no. 201811009657
12. Saumik Bhattacharya, Sumana Gupta,KS Venkatesh" METHOD AND SYSTEM FOR EXPANSION OF VISIBILITY RANGE OF AN IMAGE" Patent Application no 201611011684
13. K.S.Venkatesh, Saumik Bhattacharya, MeghaNehwal "HIGH DYNAMIC RANGE (HDR) IMAGING SYSTEM AND METHOD THEREOF". Patent Application no 201611001989
14. Kaniska Biswas, Tarun Gupta, Santosh Pramanik"Air Sampler". Patent Application no. 291998
15. Kaniska Biswas, Tarun Gupta, Santosh Pramanik"Air Sampler". Patent Application no. 291999
16. Kaniska Biswas, Tarun Gupta, Santosh Pramanik"SENSOR FOR BLACK CARBON DETERMINATION OF AIR SAMPLER". Patent Application no. 292000.

9. Total number of students/participants enrolled:

Courses

1. **Design Process & Methods** The aim of the course is to understand the nature and structure of design in the context of Indian society and its cultural framework; and to develop appropriate products for the Indian society.
2. **Design, Culture and Society** To explore methods of cultural anthropology as a tool for observing user experience; to examine some specific case studies in the light of cross-cultural and comparative concerns; to explore the process of trend mapping; and to develop appropriate products for the Indian society.
3. **Management of Design Innovation** The course broadly covers the topics such as Practical design research, Design strategy & rapid prototyping, Service oriented thinking, Concept positioning & shaping, building designs, Rapid iterating & advancing design, Protecting IPR, Modelling, launch planning & brand creation, Communicating, pitching & delivering design.
4. **Design Thinking and Research Methods** The course is aimed at guiding the students through the Design Thinking, Understanding Design and Design Process. The course content covers various phases, methods, and tools for product design life cycle. The course focuses on User-Centre approach of Design Process for designing functional, ergonomics, and aesthetically appealing products keeping the target user in context

Workshops

1. 5 days' Workshop on Typography was conducted during 9th -13th October 2017 by Dr.Uday Kumar
2. 6 days' Workshop on Form and Aesthetics was also organized between 9th and 14th December 2017 by Dr. Avinash Shinde

3. Two workshops on Leather crafts (April 11-16, 2017 and October 3rd 2017).
4. 5 days' workshop on Product Development for entrepreneur February19-23, 2018 by Prof. J Ram Kumar and Nachiketa Tiwari.
5. Human Computer Interaction Design March 9-11, 2018 Prabhudha Agnihotri.

Seminars

1. Container House: Dream, Design, Utility, Sustainability, Challenges and Economics from Indian perspective by Mr. Nikhil Dugal & Mr. Akshat Goel (Aadhan Group) on 03.10.2016
2. Research Methods in Designer by Prof. Amaresh Chakraborty (CPDM, IISc Bangalore) on 01.07.2016
3. Assistive technology for differently abled by Prof. Sudhir Kamle, Prof. Bishakh Bhattacharya (IIT Kanpur) 30.09.2016
4. Design for Healthcare by Mr. Satish Gokhle (Design Directions) on 27.3.2017
5. Design for Future by Mr. Umakant Tripathi (WIPRO, Innovation Team) 28.3.2017

Project Number: MHRD /EE /2016150
Project Title: Teaching Learning Centre for Internet-of-thing
Project Investigator: Prof. Laxmidhar Behera
Co-Investigator(s)/Collaborators (if any): N/A
Co-Investigator: Dr. Nishchal K. Verma
Collaborators:

1. Dr. Ranjan Kumar Behera/ Dr. Sanjay Kumar Parida (IIT Patna)
2. Dr. Pawan Goyal/ Dr. Bivas Mitra (IIT Kharagpur)
3. Dr. Santhakumar Mohan/ Dr. Santosh Kumar Vishwakarma (IIT Indore)

Project Initiated on: 1st August 2016

Project objectives

The Internet of Things (IoT) refers to uniquely addressable objects and their virtual representations in an Internet-like structure. The basic idea of this concept is the pervasive presence around us of a variety of thing or objects–such as Radio-Frequency Identification (RFID) tags, sensors, actuators, mobile phones, etc. –which, through unique addressing schemes, are able to interact with each other and cooperate with their neighbors to reach common goals.

The center would work towards building research-oriented course content for these thrust areas. The main objectives of this center can be enumerated as follows:

1. To develop a curricular framework for IoT to be used by colleges and post - graduate departments.
2. To develop learning materials, repositories of resources including open-source software and platforms, electronics database.
3. To provide recommendations towards pedagogy and assessment scheme for the IoT curriculum.
4. To conduct rigorous pre-induction programs or the new entrants and in-service faculties and to promote research and critical thinking through project-based learning.
5. To develop state-of-the art lab facilities for the thrust areas to provide hands-on for the new entrants.
6. To start a customized M Tech program in IoT at IIT Patna and to adopt IoT course into existing MTech programs at IITs, NITs, and other technological Institutes.

Progress report

According to course module mentioned in the project proposal, Indian Institute of Technology, Kanpur has conducted a five day short course on **Deep learning and Application**. During this course, IIT Kanpur covered modules such as introduction to deep learning, models of deep learning, deep learning application in medical and Image processing, and robotics system. The course contents were started from the very basic and ended with some real time application of the deep learning. The course contents were covered by Faculties from IIT Kanpur, IIT Delhi and MBM Jodhpur jointly with experts from industries such as TCS Innovation lab, Bangalore. The course lasted for duration of 30 hours with 86 participants from IITs, NITs and other state-government funded institutions as well as private colleges.

The focus then was on conducting an International workshop cum short course on **"Cyber Physical System".** The course covered various topics pertaining to cyber-physical systems and these included: Switching and hybrid systems, Network Control, Multi-agent Systems and consensus, Optimization, cyber-security and applications to automotive, smart grid and multi-robot systems. Faculties from various colleges across India (IIT-Kanpur, IIT-Roorkee, IIT-Indore, IIT-Patna, IIT-Kharagpur, IIT-Bombay, IISc-Bangalore, NIT-Rourkela, NIT-Silchar and IIITM-Gwalior) participated as instructors in this workshop. To add a wider perspective to this workshop, international faculties such as Dr. Sajal K. Das (MST Rolla), Sandeep Ray (Washington State University, USA) and Mainak Chatterjee (University of Central Florida). The course lasted for duration of 51 hours with 46 participants from IITs, NITs and other state-government funded institutions as well as private colleges.

In addition, the course instructors were involved in two high-impact panel discussions that revolved around the topics on IoT and an associated curriculum for a Master's Program on IoT. These panel discussions truly uplifted the value of the workshop by several folds hence making

it a great success.

To initiate the process of teaching IoT and AI to students, a national workshop on "Introduction to AI and IoT" was conducted in 2 modules. Module-1 lasted for duration of 15 days starting from 1-15th June, 2018 and covered basic ideas of Programming for IoT using Arduino, Raspberry-pi with several interfaces as well as a flavor of AI in terms of multi-layered neuron theory, back-propagation algorithm, RBFN, BPTT and RTRN were covered. A total of 58 participants, alongside 4 experts from IIT – Kanpur, IIT-Kharagpur and iSmriti (Industrial Expert) led the module towards completion. Module-2 continued for a period of 10 days starting from 16-25th June, 2018 with 34 participants. This module covered advance applications of AI and IoT in industries and research. Academic experts from IIT-Kanpur, IIT Kharagpur, IIT- Partna and IIT – Roorkee alongside industrial experts from GE, TCS and iSmriti conducted a more hands-on based module. Students were thought to develop and implement AI and IoT algorithms on robotic systems, solar power systems and other key applications such as facial recognition and video processing.

Highlights

1. Short course on "**Deep Learning and Applications**" was organized by Indian Institute of Technology, Kanpur from January 12-16, 2017 which included a total of 86 participants and 8 experts for duration of 30 Hours.
2. Short course on "**Cyber Physical System"** was organized by Indian Institute of Technology, Kanpur from March 20-24, 2017 with 41 participants and 13 experts for duration of 35 Hours.
3. International workshop on "**Cyber Physical System**" has organized by Indian Institute of Technology, Kanpur from March 25-26, 2017 with 46 participants and 17 experts (of which 3 international faculties were invited) for duration of 16 Hours. This included two high impact panel discussions on key topics of IoT and its future application in learning.
4. National workshop on "Introduction to AI and IoT" was conducted at IIT Kanpur from June 1-25, 2018 with a total overall participation of 58 students from various colleges across India. A total of 10 academic and industrial experts handled the course to give the participants both a basic feel of AI and IoT as well as hands on into the same.

Project Number: MHRD/MDES/2016261
Project Title: DTH Channel 16 & 17, Swayam Parabha, IIT Kanpur
Project Investigator: Prof. Satyaki Roy

Project Initiated: 31th August, 2016

Project objectives
DTH Channel 16 and 17, Swayam Prabha, IIT Kanpur has been stared with an aim to initiate new ways of learning by educating students with better and improved methods of curriculum. It offers education through virtual class room and students can access digital repositories from Swayam Prabha portal. Channel 16 is an exclusive channel for Humanities and Social Sciences related courses and Channel 17 is an exclusively dedicated channel for Mechanical Engineering and related courses.

Progress report
Both of the Swayam Prabha channels have introduced new educational areas and acquainted students with advanced learning methods. The channels are producing courses for both undergraduate and graduate students. In last financial year we have transmitted 2500 hrs. of content on Swayam Portal. We have also produced new contents: approximately 500 hrs. for channel 16 and 180 hrs. for channel 17.
Since November 2017, we have organized two Academic Advisory Committee (AAC) Meetings to discuss the modification and addition of new courses for the channels and assessment of the existing courses. We have also made call for proposals with other institutions and partner IITs for the addition of new courses in related areas.

Highlights
1. Channel 16 have introduced 26 new courses, among them 8 courses are already running on Swayam Prabha portal.
2. Channel 17 have introduced 5 new courses, among them 3 courses are already running on Swayam Prabha portal.
3. This online learning portal is not only beneficial for students, it is also useful for college teachers.

Project Number:
Project Title: Global Initiative of Academic Networks (GIAN)
Project Investigator: Professor K. Muralidhar
Co-Investigator(s)/Collaborators (if any):
Project Initiated on:
Approval letter and date:
Project objectives:
-The Union Cabinet has approved a new program titled Global Initiative of AcademicNetworks (GIAN) in Higher Education aimed at tapping the talent pool of scientists andentrepreneurs, internationally to encourage their engagement with the institutes of HigherEducation in India so as to augment the country's existing academic resources, acceleratethe pace of quality reform, and elevate India's scientific and technological capacity to globalexcellence.

Main Objective: To arrange Guest Lectures by international renowned experts.
Progress report:
- Sheet attached
Highlights:
- We had 31 courses approved in 2017-2018 out of 39 proposals.
- 21 courses have been completed.

Project Number: MHRD/DIRO/2015208
Project Title: IMPRINT INDIA - INITIATIVE
Project Investigator: Dr. A K Singh
Co-Investigator(s)/Collaborators (if any): N/A
Project Initiated on: 01-10-2015
Approval letter and date: MHRD vide letter dated 21-09-2015 F.No.3-18/2015-T.S.-I (Pt.)

Project Objectives
IMPacting Research, INnovation and Technology (IMPRINT) is a national initiative to address and resolve various societal problems of our country, so that the stakeholders avail the basic sustainable utilities and amenities at an affordable cost. IMPRINT attempts to solve the various issues of our nation broadly classified under the living world and the material world. Living world includes providing affordable healthcare solutions in order to reach the poor and needy, access to clean drinking water & modernization of waste water and solid waste treatment, green energy supply, establishing sustainable infrastructure and smart cities etc. Whereas the material world aims in facilitating advanced manufacturing practices, developing new materials to suite the requirement of 21st century engineering practices, to secure cyberspace and enhance the virtual reality, to safeguard and protect the nation against terror etc. Notwithstanding the above, IMPRINT resolves to create roadmap for the nation to propose the education and research policy in order to synergize with the national mission.

Progress report
Through IMPRINT India Initiative 2612 proposals were received, 259 proposals were accepted on 28.9.2016 by the Apex committee after rigorously reviewed by Domain Expert Committee (DEC) in three phases. Among 259, 142 proposals are financially closed with 50% matching grant from the partner Ministry/Department/Industries. Partners have already released the fund for 114 projects among 142

Institute	No. of proposal reached financia closure	No. of proposal received matching grant fro partners	Remaini proposal yet to ge fund fro partners
IIIT Allahab	1	0	1
IIITDM Jabalpur	1	1	0
IISc Bengalu	19	16	3
IISER - TVM	1	1	0
IISER-Mohali	1	1	0
IIT (BHU) Varanasi	1	1	0
IIT Bhubaneswar	1	1	0
IIT Bombay	19	16	3
IIT Delhi	10	9	1
IIT Gandhinagar	3	3	0
IIT Guwahati	9	5	4
IIT Hyderabad	6	5	1
IIT Kanpur	18	16	2
IIT Kharagpur	27	17	10
IIT Madras	16	13	3
IIT Mandi	2	2	0
IIT Mandi			
IIT Roorkee	1	1	0
IIT Ropar	1	1	0
NIT Durgapur	1	1	0
NIT Rourkela	2	2	0
NIT Warangal	1	1	0
NITK Surathkal	1	1	0
Total	**142**	**114**	**28**

Highlights
- MHRD has released the grant for 142 projects for both the financial year 2016-17 & 2017-18. The same has been disbursed to all the PIs to their respective institutions.
- Ministry of Power, Steel, Urban Development, SERB, ISRO, ICMR, HUPA, Road & Transport, Heavy Industries, Department of Scientific and Industrial Research, Ministry of Health & Family Welfare and Textiles has released their 50% matching grant for the financial year 2016-17. The same has been disbursed to the PI Instructions.
- A mid-term review meeting for the evaluation of all 142 projects was held in New Delhi on May 12, 2018 in presence of National Coordinator and Domain members.
- National Coordinator and MHRD have taken collective measures to hold sessions with the partner Ministries to accelerate the process of fund release for those financially closed projects which are yet to receive the 50% matching grant.

Project Number: MHRD/CC/20130176
Project Title: Advanced Computation Research and Education
Project Investigator: Head, CC
Co-Investigator(s)/Collaborators (if any): Dr. Amalendu Chandra, Dr. Sanjay Mittal, Dr. Ramasubbu S Ramakrishnan, Dr. Jayant K Singh, Dr. Madhav V Ranganathan, Dr. Raj Ganesh S Pala
Project Initiated on: 21.09.2013

Approval letter and date: F.NO.5-6/2013 TS-VII Dated.08.05.2013

Project objectives
The project objective was to augment and strengthen the Advance computing research and education. This has to be done by augmenting the existing computational facility and encouraging and training students to use it in their research.

Progress report
The facility is in use by around 400 graduate students for their research work rangingfrom understanding physics and chemistry at the quantum level to unraveling asteroidbehavior. In the last one year, 19 Ph.D. students have graduated which worked on awide variety of topics. As a consequence of training and availing facility, the faculty andstudents have published over 100 journal publications in the last one year. Our facultyhas also been contributive in offering relevant courses in this direction. Courses suchas Computational Science and Engineering (on NPTEL) has also received well. In theforthcoming months, we intend to organize a conference/workshop to brainstorm on the challenges and advancement in computational research and education.

Highlights

- 19 Ph.D. Graduated
- 103 refereed journals published using the facility.
- A new course designed for computational science and engineering

Project Number: MHRD/CC/2015003
Project Title: MHRD IIT Council Portal
Project Investigator: ADDI
Co-Investigator(s)/Collaborators (if any): N/A
Project Initiated on: 01.04.2015
Approval letter and date: 19-9/2009-TS.1 dated 25/02/2015

Project objectives
To maintain and update IIT Council Webportal on continuous basis.

Progress report
IIT council web portal is continuously upgraded to make it user friendly and informative. New features been have been added to data upload module. A separate space has been given to render ATR status where item wise uploads are checked from all IITs. Issues and suggestions reported by member IITs are incorporated in the site. Special emphasis is given on security aspects: Cyber Security Center, IIT Kanpur was consulted and their suggestions have been incorporated.

Highlights
1. Many new features added as per the requirements by member IITs.
2. Improved the speed of the website to enhance user experience.
3. Security features incorporated in the code of web portal.

Project Number: MHRD/MET/2014258
Project Title: Virtual Lab – Phase II
Project Investigator: Prof. Kantesh Balani
Co-Investigator(s)/Collaborators (if any): N/A
Project Initiated on: 07/11/2014
Approval letter and date: 19 Aug. 2014

Project objectives
In the Phase-II of Virtual Lab, idea is to make all the developed labs into an open source repository that is available to community/academic institutes, whether in India or abroad, for use and development. The idea is now to convert all the licensed content into a platform that is independent of any licensed software. Further, a target of creating nodal centers and achieve a target participation of 54,000 users in the current year.

Progress report
A user count of 2,39,413 is obtained till June 2018 (see Annexure 1). This is almost double of the targeted user count. The release of the funds for the second year is awaited. A total of workshops have been conducted. A total of 36 nodal centers (Annexure 2) have been created with affiliation to IIT Kanpur.

Target of achieving required users is achieved, but we are lagging in front of creating nodal centers. Overall summary:

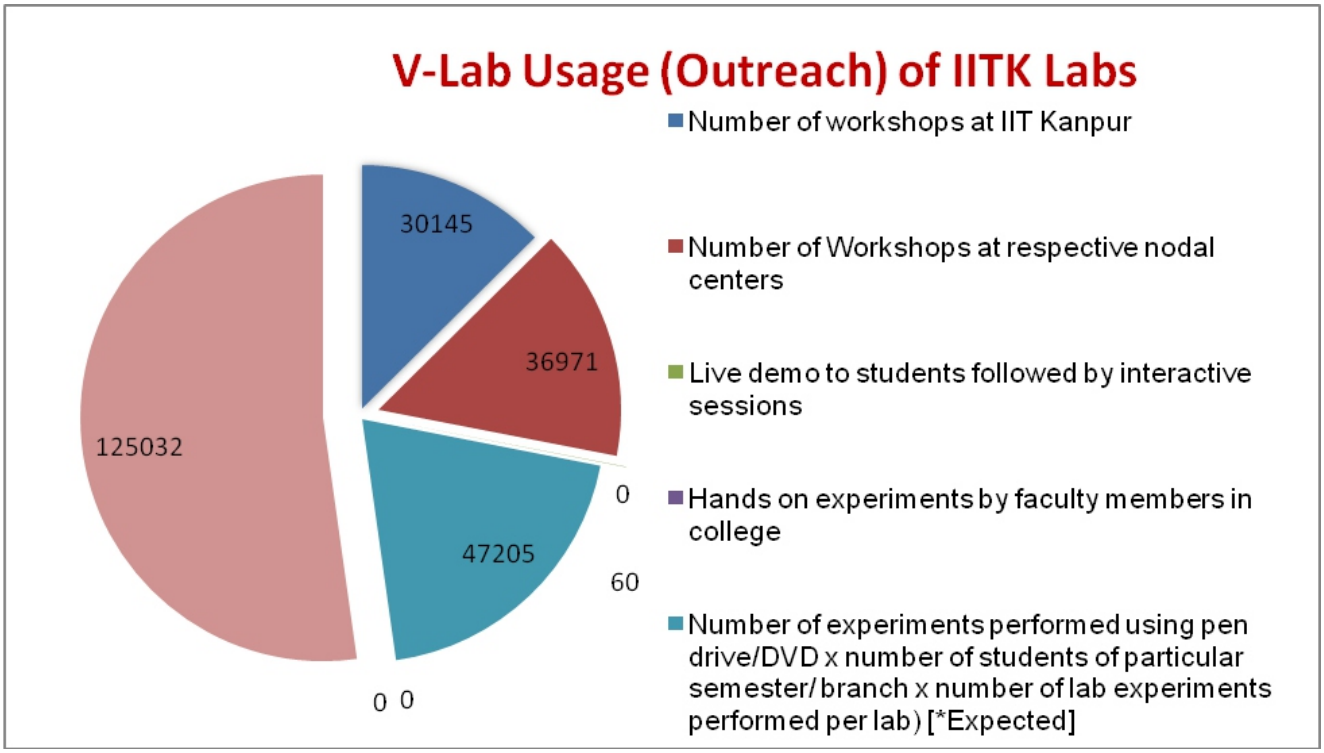
1. Phase II of Virtual Lab has started (since Oct. 2014).
2. The target of taking 3 labs to level six was decided. The list of current stats of virtual labs is provided in Annexure 3 (targets achieved).
3. One regular project engineer, one project associate and one ad-hoc personnel are hired for the project development.
4. The undertaking for integration of all labs (worked upon by IIIT Hyderabad) at common platform is being supported by IIT Kanpur.
5. Next step is to change Lab-View content to open source using Sandhi (developed by IIT Bombay)

Highlights
1. Eight labs have been hosted, and Six labs have achieved FOSS level 6, and two have achieved FOSS level of 5 (The commitment was for only three labs to reach FOSS level 6). The undertaking for integration of all labs (worked upon by IIIT Hyderabad) at common platform is being supported by IIT Kanpur.
2. One regular project technician and one ad-hoc personnel are available for the project development.
3. Currently, the number of nodal centers is36, which exceeds the committee number of 24nodal centers. The user count (of 2,39,413) has substantially exceeded the targeted count (of 54,000)..

Annexure 1: Usage Statistics (Outreach) at IIT Kanpur

Outreach Activities for Collecting Usage Data by IIT Kanpur on Actual Basis (for workshops at **IIT Kanpur**, and approximate basis for outside IITK) till June. 2018.

Outreach Activities for Collecting Usage Data by IIT Kanpur on Actual Basis (for workshops at **IIT Kanpur**, and approximate basis for outside IITK) till 30th, June 2018.				
S. No.	**Activities**	**Quantity**	**Number of Users**	**Counts**
1.	Number of workshops at IIT Kanpur	9	461	30145
2.	Number of Workshops at respective nodal centers	30	2109	36971
3.	Live demo to students followed by interactive sessions	1	60 (10 expts)	60
4.	Hands on experiments by faculty members in college	5	120	(included above in point 2)
5.	Number of experiments performed using pen drive/DVD x number of students of particular semester/ branch x number of lab experiments performed per lab)	(30 colleges)	(~2009 expected)	# ~47205 expected
6.	FDP (Faculty Development Program) and SDP (Student Development Program)	(2 colleges)	92	(included above in point 2)
7.	Hands on experiment performed by students in lab session in respective colleges.	735	2563	Planned as per items 2 and 5.
8	IP random hits (from counter on only 3 V-lab websites)		(>1,25,032 hits)	1,25,032
TOTAL Reach				**2,39,413**



Annexure 2: Virtual Lab Nodal Centers affiliated to IIT Kanpur

S. No.	College	Date	Contact Person
1	Swami Vivekanand College of Engineering, Indore	Feb. 16, 2015	pranaychauhan@svceindore.ac.in
2	Global Group of Institutions, Lucknow	Feb. 19, 2015	dean@ggi.org.in
3	Dr. Ambedkar Institute of Technology for Handicapped, Kanpur	Apr. 16, 2014	cpverma.2007@rediffmail.com
4	Hindustan Institute of Technology and Management, Agra	Apr. 17, 2015	manishgupta.hitm@sgei.org, directorhitm@sgei.org
5	Pranveer Singh Institute of Technology, Kanpur	Apr. 21, 2015	ashutoshtiwari@psit.in, director@psit.ac.in
6	SaraswatiGyanMandir Inter College, Indira Nagar, Kanpur	Apr. 21, 2015	sopanbajpai@gmail.com
7	KendriyaVidyalaya, IIT Kanpur	Apr. 27, 2015	kviit@iitk.ac.in
8	BabuBanarasi Das University, Lucknow	May 06, 2015	seethalk07@gmail.com
9	Krishna Engineering College, Ghaziabad	July 16, 2015	director@krishnacollege.ac.in
10	Bharat Institute of Technology, Meerut	July 17, 2015	dg@bitmeerut.edu.in

11	JSSATE, Noida	July 24, 2015	hodcse@jssaten.ac.in
12	Seth AnandramJaipuria, Kanpur	Aug. 24, 2015	sajsknp@rediffmail.com, sundark.g_sajskanpur@jaipuria.edu.in
13	KV Cant, Kanpur	Aug. 17, 2015	kvkcantt@gmail.com
14	Vidya College of Engineering	Oct. 13, 2015	vce@vidya.edu.in
15	Puran Chandra VidyaNiketan	Oct. 31, 2015	principalpcvn@gmail.com
16	Kanpur Institute of Technology	Oct. 31, 2015	director.kit@kit.ac.in
17	Disha School, Raipur	Dec. 24, 2015	info@chssindia.in, ramanand.goswami@dishamail.com
18	MaharanaPratap Group of Institutions, Kanpur	Feb. 16, 2016	Prof. P. Singh (0512-2770092-96)
19	Government Industrial Training Institute Girls College	Feb. 20, 2016	Itiwb.kanpur@rediffmail.com
20	CSJMU (UIET), Kanpur	Aug. 01, 2016	jainrenu@gmail.com
21	SaraswatiVidyaMandir Inter College, Fatehpur	Aug. 08, 2016	Mr. Ram Singh (8381882722)
22	Rama University, Kanpur	Aug. 16,2016	Dr. Anil Mishra
23	College Of Engg. Science & Tech., Lucknow	Aug. 20,2016	Jprasad3859@yahoo.in
24	Creative Convent Inter College, Lucknow	Aug. 24, 2016	sachanyogendra@gmail.com
25	Lucknow Convent Public Inter College, Lucknow	Sep. 06, 2016	Kumaravinash10july@gmail.com
26	AmalJyothi College of Engineering, Kerala	Oct. 10, 2016	principal@amaljyothi.ac.in
27	Rohini College of Engineering and Technology	May. 13, 2017	principal@rcet.org.in
28	Central Institute of Plastics Engineering & Technology, Lucknow	Oct. 30, 2017	Cipetlko2@gmail.com
29	Shambhunath Institute of Engineering and Technology Allahabad	Nov. 27, 2017	director@siet.in
30	Ajay Kumar GargEngg. College, Ghaziabad	Mar. 03, 2018	akgecor@akgec.org
31	Raj Kumar Goel Institute of Technology, Ghaziabad	Mar. 03, 2018	akagrfpo@rkgit.edu.in
32	Integral University, Lucknow	Mar. 14, 2018	info@iul.ac.in, rhfatima@iul.ac.in
33	Atma Ram Sanatan Dharma College, New Delhi	Mar. 20, 2018	principal.arsdcollege@gmail.com
34	Allenhouse Institute of Technology, Kanpur	Mar. 26, 2018	director@allenhouse.ac.in
35	RajkiyaEngg College, Kannauj	Mar. 27,2018	viveksrivastavakash@gmail.com
36	Galgotias Educational Institutions, Noida	Jul. 05,2018	director@galgotiacollege.edu

Annexure3: List of Labs at IIT Kanpur

Sr.No.	Lab Name	(Lab-ID)	PI Name	Level
1	Virtual Astrophysics Lab	PHY01	Dr. P.K.Jain	6
2	Ultrafast Laser Spectroscopy	CHS13	Dr. D.Goswami	6
3	Material Response to Micro-structural, Mechanical, Thermal & Biological Stimuli	MECH08	Prof. Kantesh Balani	6
4	Aerospace Virtual Lab	_	Prof. S.Kamle	6
5	Virtual Combustion and Automization Lab	_	Prof. D.P.Mishra	6
6	RF and Microwave Characterization Lab	ECE18	Dr. V. Srivastava, Dr. J. Akhtar	5
7	Transducers and Instrumentation Virtual Lab	ECE03	Dr. N.K.Verma	5
8	General Purpose Production Simulation Lab	_	Prof. D. Philip	6

Project Title: Central Sector Scheme for MOOCs-Complaint e-content creation (NPTEL Phase IV)
Project Investigator: Prof. Satyaki Roy
Project Initiated on: 31st August,2016

Project objectives
The broad aim of the project CSS-MOOCs is to facilitate the competitiveness of Indian Industry in the global markets by improving the quality and reach of education. The operational objective of CSS-MOOCs is to make high quality learning material available to students of different institutions across the country.The target group for this project consists of students and faculty members of institutions offering Undergraduate/Postgraduate education in India.

Progress report
Since 2014 IIT Kanpur has offered 220 MOOCs based on the needs of the engineering colleges. As part of the NPTEL Phase IV initiative we have developed the

concept of NPTEL Local Chapters across the country in the different universities and engineering colleges. There are close to 1800+ local chapters today with identified expert faculty members of these institutions serving as local mentors for the students enrolled in NPTEL courses. Since September,2017 we have conducted 14 workshops in the institutes in Uttaranchal, Madhya Pradesh, Maharashtra, Jammu, Rajasthan and Karnataka. These workshops aim at generating awareness about the NPTEL platforms, explaining difficult concepts from the course content by the subject matter experts and inviting more and more institutions with a dearth of good teaching staff to become local chapters and meaningfully utilize this platform initiated jointly by the IITs and supported by MHRD.

Highlights

- In the upcoming July run IIT Kanpur is developing 42 courses of which 22 are new and 20 are reruns.
- In the last semester IIT Kanpur NPTEL Chapter supported Abdul KalamTechnical University (AKTU) by conducting a whitelisted course titled "Non Conventional Energy Resources" for 45000+ final year B.Tech students from273 affiliated colleges. This activity was initiated to provide support to the cause of Higher Technical Education in the state of Uttar Pradesh.
- Course materials are used for GATE exam preparation. Apart from this the students taking the courses are getting an opportunity work as an intern with the faculty members.

Project Number: MHRD /MET /2017127
Project Title: Unnat Bharat Abhiyan
Project Investigator: Prof. Sandeep Sangal
Co-Investigator(s)/Collaborators (if any): Prof. Koumudi P. Patil
Project Initiated on: 21-06-2017

Project objectives

The Mission of UBA is to enable higher educational institutions to work with the people of rural India in identifying development challenges and evolving appropriate solutions for accelerating sustainable growth. It also aims to create a virtuous cycle between society and an inclusive academic system by providing knowledge and practices for emerging professions and to upgrade the capabilities of both the public and the private sectors in responding to the development needs of rural India.

Progress report

Under the programme, a cluster of five villages was adopted in Kalyanpur block, where we worked closely with the villagers. Sanitation, education, village survey, composting, organic farming, livelihood, art and culture are some of the areas where hundreds of our students, faculty and staff volunteered their time and slowly began to make a difference. The results so far have been encouraging - all the villages are now nearly open defecation free, 100 villagers got training in computers, financial literacy and English, training of 50 science teachers of the district has been very well received, and a pilot to conduct organic farming has been successfully initiated. With local partners and IITK alumni coming forward to join in the efforts, we are hopeful that UBA programme will be strengthened by the day.

Highlights

- Awareness about sanitation through rallies, wall paintings, debates and nukkad natak (street plays) by IIT students jointly with village kids and youth
- Composting and organic farming in one of the villages through pilot project, workshops of farmers
- Computer skills and English classes for villagers
- Science demonstrations and teachers training programme for teachers of Kanpur district

Project Number: MHRD /AE /20130082
Project Title: Knowledge Incubation for TEQIP, IIT Kanpur
Project Investigator: Prof. C.S Upadhyay
Co-Investigator(s)/Collaborators (if any): Prof. Ishan Sharma
Project Initiated on: 11-06-2013
Approval letter and date: 09- 07-2013

Project objectives

The Project is focused on the following objectives:

- Improving quality and equity in engineering institutions in focus states viz. 7 Low Income States (LIS), eight states in the North-East of India, three Hill states viz. Himachal Pradesh, Jammu & Kashmir, Uttarakhand and Andaman and Nicobar Islands (a union territory (UT))
- System-level initiatives to strengthen sector governance and performance which include widening the scope of Affiliating Technical Universities (ATUs) to improve their policy, academic and management practices towards affiliated institutions, and
- Twinning Arrangements to Build Capacity and Improve Performance of institutions and ATUs participating in focus states.

To achieve these goals KIT, IIT Kanpur organized several academic activities in past few years. The center aspires bring together the best minds in science and technology in India. It aims to increase interaction and partnership between the Indian intellectual pool and the international pool of experts in the area. The center also serves to incubate new teaching and learning paradigms, and promote research in emerging areas of importance.

Progress report

Primary goal of KIT is to help TEQIP supported institutions develop a culture of research and academic excellence. Towards this, we have achieved the following:

- Provide a platform for the teachers from institutions under IITK quality circle to interact

with the best researchers and teachers from across the country and the world. Towards this, we hosted about **20 workshops/summer programs (Jan 2017 to July 2018)** for TEQIP institutions. Some **1000 participants from these institutions and about 200 experts were brought on the same platform**.

- Areas of concern were identified through interaction with teachers – and comprehensive reports with the problem and possible solutions have been prepared.
- General weakness in teaching and lack of institute support has been identified as an all-pervading problem. Similarly laboratories are not adequate and need upgradation to research grade. Research enriched lectures are missing. Library, proper work space and web-connectivity are also areas of concern.
- Close interaction with IIT Kanpur faculty and sharing of library and laboratory resources at IIT Kanpur was enabled via the visiting researcher and internship programs.
- KIT has provided a unique opportunity to UG and PG students from TEQIP institutions to spend time at IIT Kanpur, work under expert guidance of IIT Kanpur faculty and carry out their research experiments or literature review with a locally identified mentor.
- Excellent resources for research and learning (lecture notes, PPTs and lecture videos) have been created, and are now available freely to any interested user.

Highlights

- In Academic year of March 2017- March 2018, KIT IIT Kanpur hosted 10 events in which around 500 participants from TEQIP institutions and about 150 experts were brought on the same platform to interact with teachers and researchers of TEQIP institutes.
- In summer of 2018, in a two month time 8 events were organized by KIT IIT Kanpur hosting about 500 teachers and 50 students from TEQIP colleges from focused states.
- During Faculty Induction Program held in January/February, around 250 newly recruited teachers from 18 engineering colleges from UP, Bihar, J&K, MP and Uttarakhand spanning several departments including Humanities, Physics, Mathematics, Mechanical Engineering, Civil Engineering etc. attended the program to learn from experts at IIT Kanpur about various aspects of teaching and learning. The Induction Program's primary goal was to familiarize the participants with their roles as teachers. It was designed to orient them on various generic aspects of teaching learning, instructional methodologies, and assessment and evaluation techniques. The curriculum consisted of three modules Pedagogy, Research, and knowing the TEQIP III project. More than 100 IIT Kanpur faculty and staff from different departments came together to make this initiative a big success.

Project Number: MHRD/CS/2015251
Project Title: Teaching And Learning Centre
Project Investigator: Prof. T.V.Prabhakar
Co-Investigator(s)/Collaborators (if any): N/A
Project Initiated on: November 2015

Project objectives

The Teaching and Learning Centre is working at multiple levels to enable stakeholders to improve, adopt, and evolve with expectations, needs and challenges of contemporary education.

● At the Individual faculty member level we create, demonstrate and facilitate mechanisms for Teacher enablement and quality improvement.

● At the Institutional level we work on Curriculum audit, Curriculum design, Curriculum adoption strategy, Faculty Upgradation to enable the overall capabilities of the Institute

● At Technology level we will design and develop powerful electronic platforms to enable the above the two modes of interaction.

Essentially, we cover the two aspects of an Institute that are tightly linked to teaching and learning: the Curriculum, the Faculty who deliver the Curriculum

Progress report

Technology Development

- **Enhanced mooKIT platform** by adding more features that help in situations where internet connectivity is limited.
- Have developed **progressive web APPs for mooKIT**. It is also a messaging based APP, where course content can be accessed even though the bandwidth is very low.Videos can be downloaded, and content can be cached locally. Both iOS and Android Apps available
- Developed **mobimooKIT**, a platform suitable for the developing world where data connections are not available for a large segment of population. Content is accessible over a phone call, with IVR based navigation.
- Developed an **Online quiz portal for IIT Kanpur** and was tested in TA202A Manufacturing Process -I. It helped save a huge amount of time for Faculty - correcting 400+ answer sheets.
- Developed **mooKIT offline app** to deal with network challenged environments. The videos are stored locally either on the mobile storage space or an SD Card. With this, the user does not need to spend bandwidth to watch the videos. This solves a major problem of poor connectivity.

Workshops

- Data Structures - Dr. R K Ghosh
  - *Duration : June 23rd to 25th, 2017, No.of*

Participants : 31

- C Programming - Dr. AmeyKarkare
  - *Duration : June 19th to 22nd, 2017, No.of Participants : 31*
- Faculty Induction Program - TLC IIT Kanpur in association with TEQIP IIT Kanpur
  - *Duration: Conducted in 3 sessions from 20th to 24th January 2018, 29th January to 2nd* February 2018 and 9th to 13th February 2018

MOOCs

- Computer System Security by Dr. Sandeep Shukla
  - *Duration: 1st June to 31st July, No.of Participants 1886*
- Physics of Semiconductors by Dr. H C Verma
  - *Duration: 15th August 2017 to 21st November 2017,No.of Participants: 15,038*
- Life Skills MOOC by CEMCA, University of Hyderabad and Osmania University
  - *Duration: 15th May 2018 to 2nd July 2018, No.of Participants: 4216*
- Mobi MOOC in Kannada for Farmers by Prof. A. Prabhuraju, UAS Raichur
  - *Duration: Planned. Will start on July 2018.*

We also ran following online courses under the **agMOOCs** consortium with the help of Commonwealth of Learning:

- Fundamentals of Agricultural Extensions - Instructor In-charge: Prof. B. Jirli (BHU, Varanasi)
  - *Duration*: 20th February 2018 ; 8 week course, *No. of participants: 4108*
- Integrated Disease Management - Instructor In-charge: Prof. B. K. Sarma (BHU, Varanasi)
  - *Duration*: 20th February 2018 ; 6 week course, *No. of participants: 4066*

Courseware Development

Courseware for the following courses has been developed and tested with our students

1. Thermodynamics of Fluids and Fluid Mixtures
2. Principles of Database Management
3. Ordinary Differential Equations
4. Computational Physics

Project title: UchhatarAvishkarYojana (UAY), Phase I
Project Co-ordinator: Animangsu Ghatak

Projects under Uchhatar AvishkarYojana

S. No.	Title of the Project	MOU signed with	Summary of objective
1.	**Engineering of security hardened cryptographic protocols for critical national infrastructure**	Nivetti Systems	To enhance capability in the area of cyber security
2	**Develop a Novel Synthesis route for a key intermediate – Noroxymorphone**	NavinSaxena Research & Technology Pvt. Ltd. (NSRT)	To develop a method for producing a key intermediate in synthesis of active pharmaceutical ingredients
3	**Design and Development of Adaptive Intelligent Pipe Health Monitoring Robots for Fuel Transportation Systems**	Gas Authority of India Limited (GAIL, India)	To develop sophisticated structural health monitoring mechanism of network of pipelines
4	**Development and Scale-up of UltrasmallNanocatalyts for Hydrodesulfurization**	Hindustan Petroleum Corporation Ltd	To develop novel hydrodesulfurization catalyst using nano-technology

Project Objectives:

- Development and Scale-up of Ultra small Nanocatalyts for Hydro desulfurization (PI: Sri Siva Kumar & R. G. Pala)
- Design and Development of Adaptive Intelligent Pipe Health Monitoring Robots for Fuel Transportation Systems (Bishakh Bhattacharaya & P. K. Panigrahi)
- Develop a Novel Synthesis route for a key intermediate - Noroxymorphone. (D. Dethe)
- Engineering of security hardened cryptographic protocols for critical national infrastructure (Sandeep Shukla & Manindra Agrawal)

Progress report

All the above projects are progressing well. The funds from industry have been received as per schedule. The PIs of the projects have already attended one review meeting of these projects. Several papers, patent applications and technology demonstrations are in the pipeline.

Financial Status

Total amount Sanctioned under UAY from MHRD is Rs.3.08 crores out of which Rs.1.25 crores are received upto Financial Year 2017-18. The expenditure incurred in the projects till 31/03/2018 is Rs.1.07 crores.

Major Activities

(a) Conducted Reunions

During 2017-18, the following 10 reunions took place:

1 Reunion - 1966 batch in the USA, 18 Aug 2017 - 20 Aug 2017, Batch Coordinator - Jayant Kapatker.
2 20th Year Reunion of the Batch of 1997, 15 Dec 2017 - 17 Dec 2017, Batch Coordinator - Ashish Agarwal (97078/ME).
3 25th Year (SJR) Reunion of the Class of 1993, 23 Dec 2017 - 26 Dec 2017, Batch Coordinators - Shashank Narain, Tushar Nene.
4 15th year reunion of the Class of 2003, 29 Dec 2017 - 1 Jan 2018, Batch Coordinator - Vipin Agarwal.
5 30th Year Reunion of the Class of 1988, 16 Feb 2018 - 18 Feb 2018, Batch Coordinator - Nishith Mohan.
6 35th Year Reunion of the Class of 1983, 24 Feb 2018 - 26 Feb 2018, Batch Coordinator - Sudhanshu Goel.
7 40th Year Reunion of the Class of 1978 at Goa, 3 Feb 2018 - 6 Feb 2018, Batch Coordinator - Vinay Agarwal.
8 50th Year Reunion of the Class of 1968, 9 Feb 2018 - 12 Feb 2018, Batch Coordinator - R. K. Agarwal
9 1989 Batch reunion at Jaipur, 15 Dec 2017 - 17 Dec 2017, Batch Coordinator - Vivek Mudgil
10 50th Year Reunion of the Batch of 1968, 9 Mar 2018 - 11 Mar 2018, Batch Coordinators - R. S. Agarwal, Ram Misra.

(b). Distinguished Alumnus Awards Presentation ceremony

The presentation ceremony to honor the awardees of the year 2017 was held on November 2, 2017 in the L17. The DAAs were:

Prof. Rajeev Alur (BT/CSE/87) is conferred with the Distinguished Alumnus Award – 2017 of Indian Institute of Technology Kanpur for his Outstanding Academic Excellence.

Prof. Sangram Mudali (BT/ME/85) is conferred upon the Distinguished Alumnus Award – 2017 of Indian Institute of Technology Kanpur for his outstanding Service of the society at large.

Ms. Anjali Joshi (BT/EE/81) is conferred upon the Distinguished Alumnus Award – 2017 of Indian Institute of Technology Kanpur for his outstanding Professional & Management Excellence.

Prof. Anil K. Jain (BT/EE/69) is conferred upon the Distinguished Alumnus Award of Indian Institute of Technology Kanpur for his Outstanding Academic Excellence.

Satyendra K. Dubey Memorial Award is given to **Vikas Kumar (BT/CE/1997)** for his His honesty, integrity and for his efforts in fighting corruption.

2. Life Membership Drive for the Classes-of-2017

Alumni Association, IIT Kanpur has expanded by adding more than 1517 new members into its database during this year. The AA office had kept in touch with the graduating batch through emails, informing them about the procedure and benefits of becoming a Life Member.

3. Chapter Information

(a) New teams at the chapter

- West Coast - Namita Maunder and Sambit Behere as Co-President
- East Coast - President-Ratan Bajpai, VP-Ashutosh Aman, Secy-Prashant Bhatt, Treasurer-Satya Agarwal
- Bangalore - President-Umesh Joshi, VP-Shailesh Kumar, Secy-Prathamesh Kant, Treasurer-Hemant Sharma, J Secy-Vinay Garg

(b) Chapter Activities

17 Nov 2017	West Coast	Diwali Dhamaka Fabulous skit was presented by IITK DD
11 Nov 2017	SEE Bangalore	Topic was Agriculture, Led by Kaushalendra, Deeksha and Paritosh, this event saw a full house at IIM B. Flawlessly executed it has awesome reviews from all who attended.
9 Dec 2017	SMC Bangalore	Realizing dreams was a multi track event where tech tracks like Block-chain and AI saw a great pull. We believe these are the way to go.
27 Jan 2018	Delhi	Event was planned along with TIE Delhi. Arvind Krishna impressed the audience. Great job by Delhi Chapter in setting this up in a short time.

27- 28 Jan 2018	SMC Kanpur	Ode to Origins - It saw 1300 attendees Many members contributed with energy and enthusiasm. It was one of the first cross batch, across location event, entirely driven by volunteers. Led by Kanpur Alum Ajay Trivedi for on ground work, it was supported by Vinay Garg, Ankit Surti, Himanshu Singh, Rajesh Gupta, Rakesh Sharma, JS Sharma, Gopal Suthawala eCell, Mayank Chauhan, Mihika Jain and SIDBI incubation centre and the teams. Dr. Ravi Sakhuja for curation of the excellent speakers. Special thanks to Prof. Manindra, Prof. Phani and the Alum speakers who made it from various locations in ensuring the event is a success.
17 Jan 2018	Outer Delhi	Various talks organized by experts on GST, Swachh Bharat.
25 Feb 2018	Kanpur	Family get together organized along with DoRA and reviving the good times.
17 Feb 2018	SMC Hyderabad	SMC at Hyderabad - Anil Srivastava, Niti Aayog was the Chief Guest and BVR Mohan Reddy the Key note. Great show by Sanjay Kuberkar, Satish Lunavath and team fur putting up an exciting and high powered event.
3 Mar 2018	West Coast	Holi Milan, good successful event and involved the handing over to the new team.
8 Mar 2018	West Coast	Start up warmer, more action to come in the next days.
10 Mar 2018	Mumbai	Holi Milan pulled more than 150 alums and members for fun times.
10 Mar 2018	Bangalore	Holi Milan - A number of younger alums made it to the event and shall be part of the future activities.
11 Mar 2018	IIT Kanpur	Tips from the Top - "Career Guidance Sessions by our Esteemed Alumni" by Outreach Cell IIT Kanpur at Outreach Auditorium. Invited Speakers are Ram Behari Misra, Ashok Misra, Sudhir Kapur, Sudershan Kumar Banerjee, Saurabh Shrivastava, Satya P. Chauhan and Devasis Chowdhury.
24-25 Mar 2018	Outer Delhi	Inter IIT Sports meet at Noida. Led by Anurag Goel and Damnish this is the first Inter IIT sports meet coming up. Please register and participate and sign up at https://www.yogems.com/event/paniit-sports-meet

4. Visit of IITK Faculty to meet Nepal Alumni

Prof. S. Kamle and Prof. Sanjay Mittal visit to Kathmandu from Feb 2-4 2018. They had a wonderful meeting with Prof. Timila Yami (earlier Dean in Tribhuvan university) and Nepal Alumni.

5. Participation from Alums

As Key technology partner for the government of UP, we invite proposals in the area of renewable energy, Waste management, Pollution control, Cyber Security, Medical Equipment's for the initiatives led by IITK.

Deepak Bhagat has proposed building a bridge between the Silicon Valley and the IITK entrepreneurs. We appreciate the initiative and shall work to build this linkage.

6. Building internal collaborations and external collaborations

As Alumni Association we have to partner with other alumni association and the working together has been increasing and rewarding. We have been able to integrate and work together with PAN IIT, AA of IIT KGP, IIT G, IIT R, IIT D, IIT B and PAN IIM, IIMB and IIMA. ISB has also shown openness to collaborate and participate in joint activities. Some of the initiatives include joint events or programs and simple business model that meets the local Chapters understandings.

7. Rise of the Entrepreneur flavour

(a) Incubation center

- *SIIC, IIT Kanpur and with it & more Incubators*

Prime 83 from '83 batch and '87 batch have been

supporting in a planned manner.

- *Satellite Centre at Bangalore, Delhi*

(b) Mentor Build up from the Alumni base

- Support to E-Cell
- Mentors listed with Incubatee in out Incubation centre.
- Mentors for Start-ups in SMC and SEE.

(c) Workshops

(d) Startup Master Class

It allows our alumni learn, participate and present the best of themselves. The following locations shall be organizing the SMC.

- Pune, Sept 16
- Hyderabad
- Mumbai
- Delhi
- Bangalore
- SMC Central at IIT Kanpur

(e) Alumni and Institute Interactions

- Marketing and PR
- Endowment Fund Support
- Sponsoring Projects or Competence Center at IITK
- Interaction with Students and Incubation center
- Workshops and SMC Central

8. Along with the Institute

- Alumni Association Bangalore Chapter has instituted a 'Golden Jubilee Chair of Entrepreneurship & Innovation' at IIT Kanpur, commemorating the Golden Jubilee of IITK. Led by our senior alumni Mr. Pawan Kumar and Mr. Sujith Kumar, it is now crystallized.
- Internship/workshop program at IITK for children of alumni during summers/winter vacation
- A pilot project has been set up on the experimental basis for some Class XI students as interns for one month at IITK on the request of alumni.
- Counselling for the aspirants who have cleared JEE - Outreach cell is proposed in Noida, Gurgaon, Hyderabad, Mumbai and Lucknow.
- Internship for the graduates - http://spo.iitk.ac.in/internship.html
- Placement at IITK - IITK had the best placement as per records in this placement season for the job. Credit goes to the placement team and also to many alumni who have been preferring IITK at the college of choice.
- Incubation centre at Bangalore and Noida
- Bangalore Incubation Center -
- Collaborative and information sharing within the Alumni.
- Website - Facelift of the current website ongoing with the help of DoRA.
- Email Groups - The chapter wise email groups continue. However with many more mediums, their effectiveness needs to be supported with other methods as well.
- Facebook - Integration with IITK's official page.
- Whatsapp groups - Chapter groups are getting active and focused. IITK entrepreneurs for entrepreneurs.

9. Medical Support

Alumni Association committed to help him to raise fund for the medical expenses through web portal for the following alumni

1. Nitesh Prajapati
2. Shreesh Jadhav
3. 82 Batch Mate Fund
4. Sambors Medical Support Fund
5. Sudhanshu Kumar Fund
6. Prof. Shashi Shekhar Mishra

FINANCE

The Institute has a decentralized financial management structure, organized largely by the primary source(s) of funds.

Unaudited FY 2017-18 accounts are prepared as per the guidelines of Ministry of Human Resource Development (MHRD), the administrative ministry of the Institute,conveyed vide their letter no. 29-4/2012-IFD dated 17 April 2015. The unaudited accounts were duly adopted by the Board of Governors (BOG) at itsmeeting of27 June 2018, following endorsement at the Finance Committee meeting earlier in the day.

The accounts are available with the title '2017-2018 Consolidated (unaudited)' at the following link:
http://www.iitk.ac.in/new/annual-accounts

Following are the highlights of Institute's FY 2017-18 unaudited financials:

- Balance sheet size of over Rs.2,875 crore, without any valuation added for the IIT brand.
- Operating income and almost matching operating expenditure of about Rs.1,014 crore.
- Fully utilized MHRD releasedrevenue and capital funds of Rs. 385 crore and Rs. 146 crore respectively.
- Funds receivable from MHRD at Rs.106 crore as on 31 March 2018, was received on 3 April 2018.

Table below presents the summary financials:

INDIAN INSTITUTE OF TECHNOLOGY KANPUR
INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31MARCH 2018

(Amount in Rs)

PARTICULARS	SCHEDULE	CURRENT YEAR 2017-18	PREVIOUS YEAR 2016-17
INCOME			
Academic Receipts	9	47,81,86,455	46,47,48,053
Grants/Subsidies			
Grants against Salary	10	2,11,75,18,536	1,53,46,56,419
Grants against Pension	10	59,65,64,820	62,12,00,989
Grants against Others	10	25,69,34,650	31,12,00,000
Grants against Scholarships	10	50,38,91,524	51,60,63,854
Income from Investments	11	21,94,84,892	14,29,18,630
Interest earned	12	3,24,88,277	1,40,33,156
Other Income	13	80,59,98,999	41,61,61,292
Prior Period Income	14	5,72,80,734	-
Deferred Revenue Income	4	5,08,11,84,099	1,55,66,03,979
TOTAL (A)		**10,14,95,32,987**	**5,57,75,86,372**
EXPENDITURE			
Staff Payments & Benefits (Establishment Expenses)			
MHRD Grant Salaries	15	1,98,87,96,490	1,43,74,32,506
MHRD Grant Retirement and Terminal Benefits	15	1,27,69,46,779	87,77,49,555
Academic Expenses			
MHRD Scholarships	16	50,38,91,524	51,60,63,854
Other Academic Expenses	16	20,40,42,275	17,39,94,237
Administration and General Expenses	17	42,96,80,942	42,74,29,758
Transportation Expenses	18	36,01,379	59,78,226
Repairs & Maintenance	19	39,17,30,357	24,43,40,070
Finance Costs	20	3,69,43,958	3,56,79,172
Depreciation	4	5,09,27,70,151	1,56,82,69,695
Other Expenses	21	3,97,43,781	3,67,85,513
Prior Period Expenses	22	94,96,630	69,74,254
TOTAL (B)		**9,97,76,44,266**	**5,33,06,96,840**
BALANCE BEING EXCESS OF INCOME OVER EXPENDITURE (A -B)		**17,18,88,721**	**24,68,89,532**
Utilization Against Advances		**-**	**-**
BALANCE BEING SURPLUS/(DEFICIT) CARRIED TO CAPITAL FUND		**17,18,88,721**	**24,68,89,532**

The P. K. Kelkar library focused on it's collection development and knowledge enhancement through training and workshop. Library uses open source software KOHA for it's automation, Joomla for website designing and DSpace for Institutional repository. Our web-catalogue enhance the way of searching and retrieval of resources, it gives a link to Google® cover images&contents, enables print options, support rating, comments, making of list and exports search results in different formats. P. K. Kelkar Library subscribed to only online digital subscriptions of all periodicals for the year 2018.The library vision document approved by the academic senate is also in its final stages of implementation to make the P.K. Kelkar library an efficient and modern knowledge center. Installation of CCTV in key points had been successfully installed for surveillance and security. RFID implementation is also under process for better inventory and theft control. The library conducts seminar/lectures for the apprentice trainees and staff for the upgradation of skill and recent development on regular basis.

Library had spent14.40 crores for the purchase of various print and online resources.
This year we had managed to weed out 1028 Nos of damaged books and 9010 Nos of abstract and index bound volume journals.

The library had arranged following sponsored workshop to improve academic and research writing skills.

Event	Purpose	Date
1. One day workshop on "Ethics, plagiarism and publishing in high impact journals". Sponsored by: Wiley	To increasing acceptance rate of papers submitted in high impact journals. Introductory access to Wiley Researcher Academy (WRA) tools and tutorials.	October 07, 2017
2. One day editorial workshop on "How to publish with Taylor & Francis". Sponsored by: Taylor & Francis	To improve research publication skill. To encourage our research community to publish in T&F platform.	February 02, 2018

The work done by various units are summarized below:

Library Automation

The library has its own website (http://pkklib.iitk.ac.in) hosted and maintained by library. The website provides navigation to the resources subscribed by the library. Online request of untraceable books, library resource usage statistics, resource manual, budget details, new arrival of books, highlighting research output etc. are the other services provided through our website.

This year we have successfully upgraded our institutional repository from D space 1.5 to 5.5. During the period 676IITKtheses were archived in ETD repository with a total number reached to 16300.

Circulation and Maintenance Unit

The unit not only holds the responsibility of circulation of resources but also resolve reference and referral queries. The unit also put all its efforts to maintain and restore the library furniture and fittings. Unwanted and unserviceable goods were also written off and disposed of to create more space in the library. During this period renovation/ maintenance of rooftop for the water leakage problem in the library was completed.

During the period 68120 books were checked out/renewed and 29488were checked in. Total 97608 transactions were carried out (approximately 271 transactions per day). Six books were reported as lost and a sum of Rs. 18,936.00 was recovered as book cost with handling charges. Library has also bounded1500 damaged/ mutilated books during the financial year. More than826 outside visitors/ students also visited the library.

Inter-library loan

The library is facilitating its users and other institutes for delivering the documents through the resource sharing with other institutions. ILL unit provides reference and Inter-Library Loan facility. During the period 74 documents requests were fulfilled to IITK users whereas 104documents were sent to other libraries.

Acquisition Unit

A: books

Our library procured 533 books by spending an amount of Rs 31.44 lakh. This number is less than the number for the last year, and we appreciate members only recommending books that are likely to be used extensively as this was an appeal last year which enable us to renew all the subscribed journal of 2018.

A total of 363 books were received as donations were also acknowledged.

The purchased books of different departments are listed in the below table.

Department/ Centers	No. of books purchased
Aerospace Engineering	61
Biological Science & Biological Engineering	04
Civil Engineering	58
Center for Lasers and Photonics	08
Cognitive Science	08
Chemical Engineering	29
Chemistry	34
Computer Science Engineering	7
Library/Discretionary	2
Design Programme	2
Economics Science	16
Electrical Engineering	35
Environmental Engineering & Management	0
Earth Sciences	15
Generalia	4
Humanities and Social Sciences	59
Industrial & Management Engineering	16
Mathematics and Statistics	31
Mechanical Engineering	78
Materials Science and Engineering	2
Materials Science	3
Nuclear Engineering and Technology	0
Physics	61

News about the accessioned books is sent out every week as an e-mail link to all users.

B: Online Resources

The library has subscribed 5234 periodicals and 18 databases for the year 2018. The expenditure for subscribing to various resources including binding was Rs.14.09 crores.

Access to e-resources through INFLIBNET e-Shodh Sindhu (Ess): Consortium for higher education electronic resources.

Being a core member of Ess, we are getting online access to more than 5,000 peer-reviewed journals, bibliographic, citation and factual databases in different disciplines from various publishers/aggregators.

The following major e-resources are accessible to us:

Library Subscribed	Ess supported
1. American Chemical Society	1. ACM Digital Library
2. Cambridge University Press	2. American Institute of Physics
3. Cell Press	3. American Physical Society
4. Wiley	4. Annual Reviews
5. Elsevier (ScienceDirect)	5. Springer
6. Emerald Group Publishing	6. ASCE Journals Online
7. IEEE/IET	7. ASME Journals Online
8. Institute of Physics	8. Economic & Political Weekly
9. Springer-Nature	9. Nature
10. Optical Society of America	10. Oxford University Press
11. Royal Society of Chemistry	11. MathSciNet
12. SIAM	12. JSTOR
13. Taylor and Francis	13. Project Muse
14. Thomas Telford / ICE	14. Web of Science
15. SciFinder	15. ISID Database
16. Scopus	16. J Gate Plus (JCCC)
17. Ebsco – Business Source Complete	**
18. Indiastat	**

COMPUTER CENTRE

Computer Centre (CC) caters to the computational and IT related needs of the academic as well as residential community at IIT Kanpur. The main facilities provided by CC are: High Performance Computing, Institute Local Area Network covering academic area, residential area and students' hostels, Email facility to over 10000 users, Computer Labs, Various software for specialized research and general use by the campus.

The centre functions round the clock on a state of art data centre divided into various zones that host compute and other servers, parallel clusters for different projects, office automation services and soft switch based telephony services. All the CC facilities are backed up by a UPS system and diesel generator for 24 hours uninterrupted supply.

The institute Computer Centre has two High Performance Computing setups, which have ranked 369 and 130 in top 500 lists (www.top500.org), in the November 2010 and June 2013 lists respectively. The second cluster became ranked 118 in the top 500 lists in June 2014 with the addition of extra nodes. Together, these setups have 1373 nodes.

The Institute has a fully managed Local Area Network of more than 20000 nodes, connecting all the hostel rooms, offices and residences over wired as well as wireless network. It has 4 Gbps connectivity to the Internet via different internet service providers. CC provides Single-sign on facility for seamless wifi connectivity within campus and eduroam for seamless wifi connectivity for members travelling to participating institutes worldwide.

CC maintain labs with over 400 computers. The labs and the computational infrastructure hosts a wide variety of general as well as specialized application software in areas like simulation, modelling, data management & processing, CAD/CAM, computer graphics, word processing. Several software are also hosted on central servers for use by students and faculty on their own computers.

CENTRE FOR DEVELOPMENT OF TECHNICAL EDUCATION

The Centre for Development of Technical Education was established for the purposes of coordinating the various activities connected with development of curricula, preparation of resources, administering the continuing education programme and providing in-service training to the teachers of engineering colleges. This Office is located in the Academic Affairs Building Room No. 303.

The activities are organized under three different cells, namely

1. Quality Improvement Programme (QIP)
2. Continuing Education Cell (CEC)

This write-up describes the various activities of the above two cells:

1. QUALITY IMPROVEMENT PROGRAMME

Since its inception, in 1971, the Quality Improvement Programme of the Ministry of Human Resource Development, Department of Education, Government of India, has strived for development of technical education in the country, primarily by upgrading the teaching curricula and enhancing qualifications of teachers of engineering colleges/institutions recognized by All India Council for Technical Education (AICTE). The main facets of QIP include.

(A) Degree awarding programme

Master's Degree Programme (M.Tech.)

Under M.Tech. programme (4 semester) the teachers are sponsored by the engineering colleges/institutions recognized by the AICTE. After the selection of the teachers by the Central Committee of the QIP Coordinator, the admission letters to the selected candidates are issued by the respective Head of the Department of the Institute. The State Governments/ Institutions sponsoring the teacher are required to treat them as on deputation and bear their normal salaries and other allowances during the period of their sponsorship. In addition to the above the Government of India provides each candidate a scholarship and a contingency grant. The present rates of scholarship and contingency grant are as follows:

Scholarship	:	Rs.4,000 per month (24 months)
Contingency grant	:	Rs.3,000 per annum

Doctoral Programme (Ph.D.)

Under this programme the serving teachers who already possess Master's degree and are sponsored by the State Government/Engineering Institutions recognized by AICTE are eligible for selection. The Doctoral

Programme under QIP is for three years duration.

The present rates of fellowship and contingency grants are as follows:

Fellowship : Rs.15,000/- per month for three years
Contingency Grant : Rs.15,000/- per annum

(B) Short Term in-Service Training Courses (AICTE Sponsored)

The short-term in-service training courses sanctioned under Quality Improvement Programme are specifically designed for improving the competence of serving teachers of engineering colleges in specific areas according to their requirements. The different short term courses which will be conducted during the year are announced once in a year. Short term courses for various durations are as follows:

One-week Course
Two-week Course

The faculty members of various disciplines are requested to submit proposals for the conduct of short term courses under QIP in the month of December every year. These proposals are put up to QIP Coordinator for approval. About 20 course proposals are approved under this scheme every year.

2. CONTINUING EDUCATION CELL (CEC)

(A) Self-Financed Short-Term Courses

Faculty members are also encouraged to run short-term continuing education courses for industry on a self-financing basis. An overhead of 15% of the gross receipts of the course is chargeable by CDTE on all such courses whether run at IIT Kanpur or elsewhere, and also on industry-sponsored courses whether run at IIT Kanpur campus or elsewhere. Proposals for all such course must be submitted to CDTE for approval by the Director.

Besides these programmes CDTE will also approved the activities of Courses/ Workshop /Seminar/ Conferences/Symposium/Training programme throughout the year. Recently CDTE had started new activity online courses through Moockit for students, teachers of Inter college/Engineering Colleges.

Summary of various activities during the year 2017-2018

1. QIP Students

(a) M. Tech. Candidates admitted - Nil
(b) Ph.D. Candidates admitted - 01

2. Short term courses conducted under QIP – 16
3. Short term self-financed courses conducted - 25
4. Workshops/ Conferences/ Seminars conducted – 19

CENTRE FOR CREATIVE WRITING AND PUBLICATION

Dr Prashant Bagad was the coordinator of Centre for Creative Writing and Publication (CCWP) for the year 2017-18.

Under the auspices of CCWP, two guests were invited:

(1) Sitanshu Yashashchandra visited IIT Kanpur on 7-8 March 2018.

Sitanshu Yashashchandra is an eminent Gujarati poet and playwright. He received the Sahitya Akademi Award for his collection of poems, Jatayu, in 1987. His other major awards include the Rashtriya Kabir Samman, Kavi Kusumagraj National Award, and Padma Shree. His poems and plays have been translated into many languages including Hindi, English, Marathi, Bengali, French, German, Russian and Korean. He was Professor of Gujarati, Comparative Literature and South Asian Studies at several universities including University of Pennsylvania, Sorbonne University, Loyola Marymount University and University of Chicago. He was Vice Chancellor of Saurashtra University from 1990 to 1993. He has been associated with 'Adapt/Spastic Society of India' for three decades as a parent and trustee.

On 7 March, in a Poetry Reading session, Prof Sitanshu read some of his well-known and recent poems in translation.

On 8 March, Prof Sitanshu delivered a lecture titled "How it all begins? Some depictions of 'beginning' in Indian literature(s)". He dealt with the following themes and questions in his lecture: Adikavi Valmiki, Adi Natyakar Acharya Bharat, Poet-playwright Kalidasa, Gunadhya who wrote 'Brihad Katha' and some other Indian writers including Amrita Pritam of our own times, have given some interesting accounts of 'beginnings' of various kinds. How do these Indian authors understand this moment or time? What do these accounts tell us? Do they add up, do they open it up, do they produce a creative tension, describing if not defining (an) 'Indian' way to begin?

(2) Sharankumar Limbale visited IIT Kanpur on 19 March 2018.

Sharankumar Limbale is an eminent Marathi writer and critic. His autobiography Akkarmashi (The Outcaste) is considered a landmark in Marathi literature. It won the Maharashtra State Government's Award in 1985. He has authored thirty nine books. His works have been translated in several languages including Bengali, English, Gujarati, Hindi, Kannada, Malayalam, Punjabi

and Urdu. He has been invited to many national and international literary festivals including Melbourne Writers' Festival, Canada Arts Festival and Palakkad Literature Festival. His book Towards an Aesthetics of Dalit Literature is studied widely as a vehement critique of the mainstream notions of literature and culture. He was Professor and Director of the School of Humanities and Social Sciences, Yashvantrao Chavan Open University, Nashik.

On 19 March, Dr Limbale delivered a talk on "Creative Writing and Writer's Commitment". Dr Limbale narrated his own experiences of and dissatisfactions with the mainstream Marathi and Indian literature and aesthetics. He underlined that a proper appreciation of Dalit writing cannot be done without a new, alternative literary aesthetic. This new aesthetic seeks its inspiration from the Ambedkarite movement and pursues the ideal of an exploitation-free society. There was a lively question and answer session after the talk.

MEDIA TECHNOLOGY CENTRE

The Media Technology Centre, IIT Kanpur is committed to ensure a smooth transition to Digital India encompassing all walks of life. Hence it provides a learning platform for faculty and studentsalike, exposing them to a whole world of extensive knowledge.

National Program for Technology Enhanced Learning (NPTEL)

NPTEL is a joint initiative of the MHRD and the seven IITs and IIScBangalore.There are 117 video and 126 web based courses from phase I and about 600 courses were proposed to be developed by the end of phase II&III. Of these 600 courses, 121 courses have been developed by the faculty members at IIT Kanpur and have been posted live on the NPTEL Portal.

Central Sector Scheme For MOOCs-Complaint e-content creation (NPTEL Phase IV)

The broad aim of the project CSS-MOOCs is to facilitate the competitiveness of Indian Industry in the global markets by improving the quality and reach of education. The operational objective of CSS-MOOCs is to make high quality learning material available to students of different institutions across the country. The target group for this project consists of students and faculty members of institutions offering Undergraduate/ Postgraduate education in India.

Since 2014 IIT Kanpur has offered 220 MOOCs based on the needs of the engineering colleges. As part of the NPTEL Phase IV initiative we have developed the concept of NPTEL Local Chapters across the country in the different universities and engineering colleges. There are close to 1800+ local chapters today with identified expert faculty members of these institutions serving as local mentors for the students enrolled in NPTEL courses. Since September,2017 we have conducted 14 workshops in the institutes in Uttaranchal, Madhya Pradesh, Maharashtra, Jammu, Rajasthan and Karnataka. These workshops aim at generating awareness about the NPTEL platforms, explaining difficult concepts from the course content by the subject matter experts and inviting more and more institutions with a dearth of good teaching staff to become local chapters and meaningfully utilize this platform initiated jointly by the IITs and supported by MHRD.

In the upcoming July run IIT Kanpur is developing 42 courses of which 22 are new and 20 are reruns.

In the last semester IIT Kanpur NPTEL Chapter supported Abdul Kalam Technical University (AKTU) by conducting a whitelisted course titled "Non Conventional Energy Resources" for 45000+ final year B.Tech students from273 affiliated colleges. This activity was initiated to provide support tothe cause of Higher Technical Education in the state of Uttar Pradesh.

Course materials are used for GATE exam preparation. Apart from this the students taking the courses are getting an opportunity to work as an intern with the facultymembers. The MOOCs course materials are also used for GATE examination preparation. Apart from this the students taking the courses are getting an opportunity work as an intern with the faculty members.

DTH Project

The Ministry of Human Resource and Development launched 32 Direct-to-Home channels which would do a live telecast of classroom lectures from top institutions, including six IITs, as part of SwayamPrabha initiative.

Out of the 32 SwayamPrabha DTH channels, 8 channels are being managed by the NPTEL Core Team. The two channels (16 & 17) are currently being managed by IIT Kanpur.

DTH Channel 16 and 17, Swayam Prabha, IIT Kanpur has been started with an aim to initiate new ways of learning by educating students with better and improved methods of curriculum. It offers education through virtual class room and students can access digital repositories from SwayamPrabha portal. Channel 16 is an exclusive channel for Humanities and Social Sciences related courses and Channel 17 is an exclusively dedicated channel for Mechanical Engineering and related courses. These MHRD Funded channels are focused to expand the reach of high quality education and helping it to percolate across the social strata.

Both of the Swayam Prabha channels have introduced new educational areas and acquainted students with advanced learning methods. The channels are producing courses for both undergraduate and graduate students.

Besides the existing NPTEL Courses, 25 more courses are being developed this year in the field of Humanities and Social Sciences, Economic Sciences, and Management and Mechanical Engineering. The channels are available for free on Doordarshan's Free Dish DTH platform and the students will only need a Set Top Box to access them.

Lectures recorded at other institutes are also being sourced from here (Channel 16 and 17).We have also made call for proposals with other institutions and partner IITs for the addition of new courses in related areas.This online learning portal is not only beneficial for students, it is also useful for the faculties and instructors.

FM 90.4 Community Radio Station

IITK Community Radio caters to the needs of the community members in and outside the campus covering a radius of about 5 to 7 km. As we serve the local community in and around the campus, our main objective is to broadcast content which is popular and relevant to the local as well as specific audience. For example programs which encourage local culture, and revive local art forms or handicrafts which are fast disappearing, programs on health awareness and hygiene, on education - specially for the junior and middle schools, on agriculture and farming methods used to help farmers to improve their yield, to just name a few.

In the year 2018-2019 we have broadcasted various programs on music as per the demand of the community. The highlight program for the year is RUBARU through which we were able to share inspiring experiences and thoughts of our campus faculty to motivate students. IIT students, faculty and our radio team worked together to produce the program.

Just like every year a **Radio Jockey Workshop** will be organized soon in order to help the community understand the importance of radio. Our aim is to create interest in the mind and hearts of our listeners and raise awareness about the real aim of a community radio.

NRCs (National Resource Centres)

National Resource Centres (NRCs) for online refresher programmes for Higher Education faculty through SWAYAM. The Ministry of Human Resource Development has launched a major and unique initiative of online professional development of 1.5 million higher education faculty using the MOOCs platform SWAYAM. In the first phase, 75 discipline-specific National Resource Centre's have been identified which are tasked to prepare online training material with focus on latest developments in the discipline, new & emerging trends, pedagogical improvements and methodologies for transacting revised curriculum.

IIT Kanpur will develop courses in Aerospace Engineering Discipline.

We are yet to receive funds from the ministry

Design Program and HSS

Student of the Communication Design in the Design Program have an academic relevance to the resources of the centre. Students continue to exhibit their ample creative talents by producing social ad campaigns, documentary films, radio jingles and various web applications exploiting the varied domains of media arts. Besides, there are undergraduate students of HSS Level 1 and 2 courses who utilize the resources to work on video assignments.

Revamping of the Production Studios and Editing facilities

We have adopted a multiple-camera mode of production for shooting our programs. It is typically a three camera set up employed on the set that simultaneously record a scene. Generally, the two outer cameras shoot close shots on the set at any given point of time, while the central camera shoots a wider master shot to capture the overall action. In this way, multiple shots are obtained in a single take without having to start and stop the action. The live audio and video feed from the cameras onthe production floor are sent to the production control room that ensures mixing and switching of the multiple footage at the original and at the highest-quality through the Video Switchers and Audio Mixers and recorded on HD Recorders. The digitized video and audio data are then imported to hard disks from the digital tapes, through these recorders. Once on the disk they are edited on a computer, using a wide range of software. Compared to the linear method of tape-to-tape editing, the non-linear editing offers a flexibility of film editing with random access on the source material and easy project organization. The non-linear editing platforms provide numerous options and effect for assembling video clips, audio tracks, graphics and other source material into a presentable package. Once this process is over, the edit footage is recorded back to tape or disk and delivered to the clients. The recordings of video lectures created under NPTEL are now being converted into a streaming format for the benefit of students of the institute.

The co-operation and synchronized team work by the members of our team is helping us put a steady foot forward in achieving our targets and giving education a new dimension.

Financial Report of the Sponsored Projects at the Media Technology Centre

CSS MOOCS		
Time Period	**Course Count**	**Amount**
April 2016 - March 2017	60	3,61,05,444
April 2017 - March 2018	82	4,00,98,000
DTH		
Time Period	**Course Count**	**Amount**
1st August 2016 – 1st August 2018	25	40,00,000
90.4 FM		
Time Period	**Course Count**	**Amount**
April 2016 - March 2017	Not Applicable	10,23,000
April 2017 - March 2018		9,61,000

Innovation

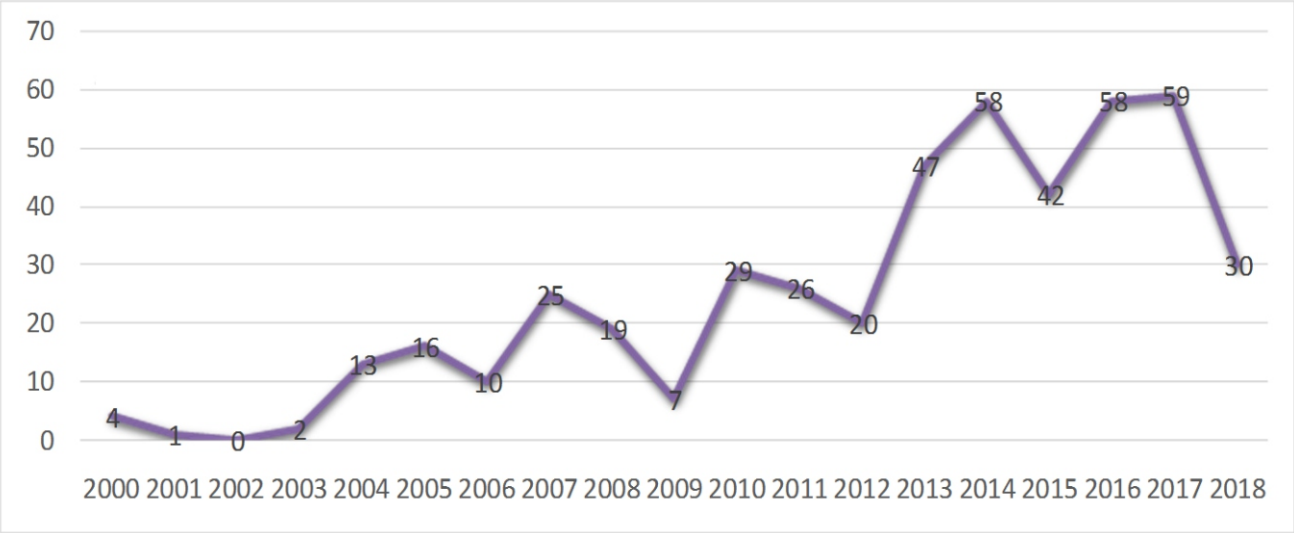
During the year 2017-18, 53 Indian patents including 6 design patents were filed and 22 earlier filed patents were granted.

Till date, 470 Patents have been filed, out of which 96 patents have been granted so far. Altogether 56 technologies have been licensed till date.

The Institute logo of IIT Kanpur has been secured through Trademark protection in 7 different classes and the same has been granted by the Trademark office in all the mentioned classes, a success story about the same has been mentioned below.

Patent Filing graph of IIT Kanpur

Establishment of Innovation Facilitation center sponsored by NRDC



An Innovation Facilitation Center has been established at IIT Kanpur, the Innovation Facilitation Center has been established by the support of NRDC. The primary objective of setting up of Innovation Facilitation Centre at IIT Kanpur was to guide promote & Increase in the number offilings of IPR at the Institute and other target beneficiaries regarding utilization of IP tools and technologies for better management of their intellectual property related needs.

Outreach Programs under Innovation Facilitation Center

The Institute has been actively involved in creating IPR awareness programs in & outside the campus as part of its outreach activity, also as part of the recently established NRDC-Innovation Facilitation Center at the Institute.

IPR Awareness seminars organized by IPR Cell, IIT Kanpur

IPR seminar organized in Collaboration with MSME

IPR Seminar in Collaboration with EBTC & European Patent Office

Seminar at SATI, Vidisha, M.P

IPR Awareness at IIT Kanpur

Seminar at GLA, Mathura

Seminar at Amity University, Lucknow

Seminars/Workshops organized by NRDC-IITK-IFC in 2017-18

Sr. No.	Programme Title	Venue	Participants	Date & Time	Topics covered
1.	Awareness of IPR protection and commercialization of technologies	SATI Auditorium, Vidisha, M.P	Students & Faculty Members of SATI (Around 200 Participants)	8th Sep, 2017	Awareness of IPR protection and commercialization of technologies
2.	Protection of Agricultural Innovation through IPR prospects	BBAU, Lucknow	Students & Faculty Members of BBAU (110 Participants)	31st Aug, 2017	Protection and Efficient Management of Agricultural Innovations through IPR prospects
3.	Promotion of Agricultural Innovations	CSAUAT, Kanpur	Students & Faculty Members of CSAUAT (80 Participants)	17th Aug, 2017	PPVFRA application filing, successful stories of Agri based Innovations
4.	Patent CapacityBuilding Programme	Outreach Auditorium, IIT Kanpur	All Faculty Members, E-Cell Coordinators, Budding Entrepreneurs,Incubation Centre Managers or CEOs, Accelerator Managers, Industry Participants and EPO Coordinators (100 Participants)	03.02.2018, 09:30 AM	Basics of IPR, Foreign Patent Filing, EPO Tools, FilingProcedures, and Technical Deliberations on Drafting for IP Professionals in Academia and Industry in India
5.	Importance of Intellectual Property inInnovation Management	IME Building Seminar Hall, IIT Kanpur	MSMEs, PHD-KAS Chamber Coordinators, Local IndustryClusters, Artisans, Start-ups and Academics (50 Participants)	16.02.2018, 03:00 PM	Very Helpful in Adopting the Best Practices in Generation, Protection and Efficient Management of their Intellectual Assets, Innovation Strategies and Business Planning
6.	Bootcamp for Bioentrepreneurs	Outreach Auditorium, IIT Kanpur	Faculty Members, BCIL Executives, Start-ups and Academic Research Scholars (150 Participants)	23.03.2018 & 24.03.2018, 10:00 AM	Product Development Pathway, Validation of Business Idea, Strategic Business Modelling, Brief Description on Bio Entrepreneurship

SUCCESS STORY OVER TRADEMARK FILING OF IITK LOGO

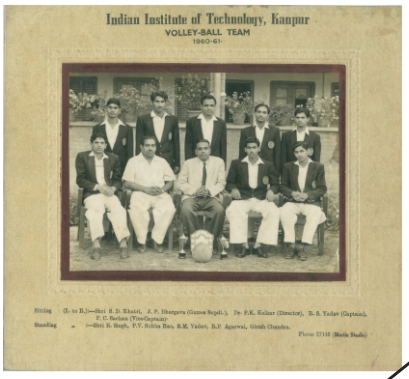
Today Trademark registration has become a necessity to establish an identity for an Organization or a private company, IITK has been using the logo1 since many decades, but had not registered any trademark. The need for trademark registration was discussed during an IPEC (Intellectual Property Evaluation meeting) held at SIDBI Innovation & Incubation Center on 8th May, 2017.

It was decided to register the logo of IITK as soon as possible. The attorneys asked for the specific date of first usage of the IITK logo as a preliminary requirement for the trademark filing.

®

In order to establish the date of first usage of IITK logo, the Registrar office was approached for finding any old records. The search eventually leads to the P. K. Kelkar Library at IITK, where the "National Archive Center" section contained old records since the inception of the Institute.

The search initiated with finding old letter heads, but it was found to be of no use. Eventually an old photograph2 was found in the records, which was captured with the first Director of the Institute Prof. P. K. Kelkar with the then Volleyball team of the Institute. After zooming the photograph it was found that the volleyball team players were wearing the blazers with IITK logo and the date on the photograph was mentioned as 1960-61.



Magnified view

Figure 2. Old Photograph containing the IITK Logo, at the blazer of the volleyball team players

The Trademark application has been filed on 23rd May, 2017, covering 7 different classes of trademark sections for broader scope, the different classes covered are as follows:

1. Class 41- Education; providing of training; entertainment; sporting and cultural activities. (Application no. 3555540)

2. Class 42- Scientific and technological services and research and design relating thereto; industrial analysis and research services; design and development of computer hardware and software. (Application no. 3555541)

3. Class 16 which includes all kinds of stationery items including pens, pencils and paper.(Application no. 3555542)

4. Class 18 which includes backpacks, etc. (Application no. 3555543)
5. Class 21 which includes cups/mugs (Application no. 3555544)
6. Class 25 which includes T shirts, shirts, caps (Application no. 3555545)

7. Class 09. Which includes Scientific, nautical, surveying, photographic, cinematographic, optical, weighing, measuring, signaling, checking (supervision), life-saving and teaching apparatus and instruments; apparatus and instruments for conducting, switching, transforming, accumulating, regulating or controlling electricity; apparatus for recording, transmission or reproduction of sound or images; magnetic data carriers, recording discs; automatic vending machines and mechanisms for coin-operated apparatus; cash registers, calculating machines, data processing equipment and computers; fire-extinguishing apparatus (Application no. 3555546).

The Patent & Trademark office has granted all the above 7 applications in different categories. Now the Institute can use the IITK logo super scribed with ®. It can also negotiate the use of logo with other entities.

Incubation

For the year 2017-18 a total of 44 companies were in the portfolio of current incubate Companies at SIDBI Innovation and Incubation Centre (SIIC), IIT Kanpur

BIRAC

under its various flagship programs supported funding for promoting entrepreneurs and start-ups in the area of Bio-Technology in the financial year 2017-18

(a) BIG (Biotechnology Ignition Grant)

SIDBI Innovation & Incubation Centre (SIIC) at IIT Kanpur has been selected as the 6th BIG Partner of DBT for BIRAC's flagship programme BIG (Biotechnology Ignition Grant) in July 2017. This program is offered by BIRAC for budding entrepreneurs to convert their ideas into functional prototypes.

BioIncubator, SIIC, IIT Kanpur acts as a partner for disbursement of funds. Anyone, individual or start-up, with a commercial idea can apply. Proposals are called twice a year, in the month of January and July. It's a grant-in-aid up to Rs. 50 Lakh and every bio-entrepreneur must avail.

(b) BioNEST (Bioincubators Nurturing Entrepreneurship for Scaling Technologies)

This grant-in-aid was sanctioned to SIIC, IIT Kanpur under Bioincubator in November 2017 for facility expansion and creation of an 'In-house MedTech Centre'. Using this fund Bio-Incubator is also going to conduct multiple conclaves, collaborative hospital visits, competitions and training programs for Bio-entrepreneurs in MedTech domain.

(c) SEED Fund (Sustainable Entrepreneur and Enterprise Development Fund)

This grant was sanctioned to SIIC, IIT Kanpur in October 2017. This is another flagship scheme by BIRAC to financially support bio-start ups. It provides capital assistance up to Rs 30 Lakh to start ups against equity (depending on case-case basis). This fund can act as a bridge between company's initial investment (personal, friends and family) and angel/VC investment round.

Tally of Entrepreneurs/start-ups supported in 2017-18

Funding Support under various programs				
Serial no.	Funding program	Type of fund	No. of entrepreneurs supported	Amount Sanctioned (Rs. In lakhs)
1	NIDHI EIR	Fellowship Grant	5	13.20
2	NIDHI PRAYAS	Proto-type Grant	9	76.64
3	INVENT	Social enterprise	17	432.00

Some Success Stories

The Incubator

SIIC, IIT Kanpur won the **I S G F Innovation Award 2018** under the category pf Smart Incubator of the Year. The award was given by India Smart Grid Forum (ISGF). ISGF is a Public Private Partnership initiative of Ministry of Power (MoP), Government of India for accelerated development of smart grid technologies in the Indian power sector.

IIT Kanpur has filed the application for **trademark registration** of its logo on 23 May, 2017. The application has covered seven different classes of trademark sections for broader scope. Now the Institute can use the IITK logo super scribed with TM. It can also negotiate the use of logo with other entities.

IIT Kanpur was also the recipient of **Melting Pot2020 Innovation Award** for 2017**The Start-ups PROMORPH SOLUTIONS** played a vital role in changing the Educational Landscape of Government Schools of Giridih District in Jharkhand by developing monitoring and governance solution for *Quality Education* leveraging *Technology and Analytics*. They have developed "DISHA" mobile app and analytical web application for this purpose. This initiative has received high appreciation. The company has presently covered 1300 government schools for middle and high school in the first phase. In the second phase, it will be extended to 2200 more schools and will also cover the primary schools. Link for media coverage is https://www.youtube.com/watch?v=E_sq7jqYb1I&feature=youtu.be

Delmos Research have been chosen winners in Agri sector of the Villgro iPitch contest at an event in Hyderabad today. Delmos are manufactures of fabric strips for testing adulteration in milk. They were selected after several rounds of pitching and due diligence.

Kanpur Flowers Private Limited

Helpusgreen® a flagship of Kanpur flowers is revolutionizing the way India handles the 'million-ton flower waste disposal' .They are the world's first 'temple-waste' solution with 6 patents in the pipeline. They collect floral-waste (4.4 Tons) daily from 29 temples & 2 mosques from 3 cities in India. The waste is hand-processed by manual scavengers women self-help group to produce –Mitti®- Organic fertilizer, Sticks & stones®- Charcoal-free Natural Incense , Florafoam®- Biodegradable alternate to EPS/Styrofoam. The Company owns the IP for all its products. Their bio-degradable Florafoam® is 27% cheaper than its non-biodegradable petroleum counterparts. The company has employed 7000 marginalized woman in its factory unit based in the Industrial area of Rania, Kanpur. The Company has got recognition from all fronts and has attracted funding of $ 356,000 till date from various funders Social Alpha, Greenfield Ventures & Echoing Greeninvestments, Tata Trust, Balmer and Lawrie and others. The Company was also featured in Forbes 30/30, CNBC Awaaz and Stanford Special Review.

Aarav Unmanned Systems

Aarav Unmanned Systems recently raised a second round of funding wherein existing investors StartupXseed, 3one4 Capital and Sanjay Jesrani also participated in the funding round. AUS plans to use this capital to expand its business reach and focus more on R&D.

Some articles of our incubate Companies published during FY17-18.

1. "Agri-Tech Startup KrishiHub Raises Seed Funding from IIT Kanpur INVENT Accelerator and Villgro Innovation Fund" - http://bwdisrupt.businessworld.in/article/Agri-Tech-Startup-KrishiHub-Raises-Seed-Funding-from-IIT-Kanpur-

INVENT-Accelerator-and-Villgro-Innovation-Fund/24-11-2017-132756/

2. "How one man's initiative turned 25k people with disabilities into micro-entrepreneurs" https://yourstory.com/2017/12/alok-misra-socents/
3. "Two ex-IIT-BHU students develop reverse osmosis-based water purifier" - https://timesofindia.indiatimes.com/city/kanpur/two-ex-iit-bhu-students-develop-reverse-osmosis-based-water-purifier/articleshow/59590139.cms
4. "IIT-Kanpur extends Rs25-lakh seed funds to job hunt startup in UP" - https://www.business-standard.com/article/companies/iit-kanpur-extends-rs-25-lakh-seed-funds-to-job-hunt-startup-in-up-117053101316_1.html
5. The Story Of A 22-Year-Old Woman Entrepreneur Who Refused To Give Up On Her Dreams - https://www.youthkiawaaz.com/2017/01/the-story-of-pooja-shahi-a-22-year-old-woman-who-refused-to-give-up-on-her-dreams/

News Articles on outreach activities

1. The 12 Amazing Indian Startups Inc42 Discovered During BIGShift - https://inc42.com/startups/12-bigshift-indian-startups/
2. SMC: IIT-Kanpur to host two-day start-up conclave from tomorrow - https://www.thehindubusinessline.com/news/education/iitkanpur-to-host-twoday-startup-conclave-from-tomorrow/article10051658.ece

Patent data from 1st April 2017 to 31st March, 2018:

(I) Patent filed	- 53
(ii) Patents granted	- 22
(iii) Patents licensed	- 1 (IPA No. 201611015765 to Transpacks Technologies Pvt Ltd. on 15% equity consideration)
(iv)New Startups	- 44

INTERNAL COMPLAINT COMMITTEE

The Internal Complaints Committee (ICC), IIT Kanpur, first constituted under the Office Order No. DIR/IITK/2016/OO-04, dated March 9, 2016, has been undertaking its investigations under the Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013 and IIT Kanpur (Prevention, Prohibition and Redressal of Sexual Harassment of Students) Rules, 2017.

During the period from 1 April 2017 to 31 March 2018, the ICC received 10 complaints. Of these complaints, 02 were withdrawn by the complainants citing various reasons. In 01 case, the assailant could not be identified and hence the investigation had to be closed. Wrongdoing could not be conclusively established in 01 case, and 02 complaints were found to be without any basis. Action was recommended in 04 cases. Recommendations of the ICC ranging from suspension for two semesters to collective grade demotion were implemented by the Institute.

WOMEN CELL

Women's Cell has been set up by the Institute to deal with sensitizing the Campus community to gender-related issues, and also to offer advice on available courses of action to women on campus who may be in distress. Women's cell seeks to ensure a climate free of implicit and explicit forms of gender discrimination. Following channels are available to women at Institute for grievance redressal:

a) A website maintained by the Women's Cell provides links to the Act and other documents relevant to sexual harassment at http://www.iitk.ac.in/wc/.
b) The Institute has engaged the services of a Specialized Counsellor who is available for persons involved in the cases of sexual harassment either as complainants or respondents.
c) A policy document specially pertaining to students, on prevention, prohibition and redressal of sexual harassment, was adopted by IIT Kanpur Senate in July, 2017. The document, available at http://www.iitk.ac.in/wc/internal-complaints-committee/iitk-guidelines.pdf, contains the finer details of the guidelines for implementation of the Sexual Harassment of Women at Workplace (Prevention, Prohibition, and Redressal) Act, 2013.
d) Posters in Hindi and English have been designed, listing, in brief, unwelcome acts that

legally constitute sexual harassment, and giving help lines. These are displayed at conspicuous places across the Institute, as mandated by the Act, under "Duties of Employer".

e) Different issues related to the campus girl students or women at work, ranging from requirements in women's washrooms to handling of sexual harassment cases by the Institute security personnel, are brought to the notice of the Institute administration from time to time.

Activities

a) July, 2017: Survey of all PG girl students on the prevalence of sexual harassment and gender discrimination in campus was conducted.

b) July, December 2017: Orientation sessions on the Sexual Harassment of Women at Workplace (Prevention, Prohibition, and Redressal) Act 2013 were held for new UG and PG students. Apart from these, special awareness sessions have been held with new girl students on the issues of sexual harassment and gender discrimination.

c) November, 2017: Open house session was held with women staff members to create awareness on the Act, and to assess the problems they face at work.

d) February 2018: Orientation session about the Act was held with new faculty of the institute.

e) Awareness and Sensitization programs open to all IITK community:

- March 2018: International Women's Day program, 5 km Run and 5 km Walk with theme "Don't be a Bystander, Stand against Sexual Harassment".
- March 2018: Two day programme was held and eminent legal scholar Ms. Flavia Agnes, was invited for Talk and Interaction sessions on "Gender and Law in Contemporary India: Exploring Some Critical Issues".

SC/ST/OBC/PWD CELL

The cell consists of Prof. Kamal Poddar (Deptt. of Aerospace Engineering), Liaison Officer (w.e.f. July 01, 2015) and Shri Surajit Das, Assistant Registrar, Hall Affairs, Coordinator, in addition to their normal duties. Prof. Kamal Poddar is available on Phone No. 259-7843/7293 and Shri Surajit Das is available in Room No. 272, 2nd Floor, Faculty Building at the Institute on Phone No. 2596866.

Implementation of reservation orders

The effective date of implementation of reservation for SCs and STs in the direct recruitment is 5th September 1974 in this Institute and the implementation of reservation for OBCs and PwDs are w.e.f. the year 1995 and 1996, respectively.

Maintenance of rosters/ Percentage of reservation

The Board of Governors had approved, in its meeting held on July 27, 1995, maintenance of 120 points vacancy-based roster for Group A [other than exempted posts (Points reserved in favour of SCs-20, STs-9, OBCs-31)] & B posts; and 100 points roster for Group C & D posts (Points reserved in favour of SCs-21, STs-1, OBCs-27) for direct recruitment at the Institute. On the basis of Judgment passed by the Constitution bench of Supreme Court, the Government of India, Deptt. Of Per. & Trg., issued O.M. 36012/2/96- Estt.(Res.) dated July 02,1997 vide which the above vacancy- based rosters have been revised into post- based rosters for the different category of employees in direct recruitment. The Board after du e consideration accorded its approval, in its 1997/5th meeting held on December 05, 1997 for maintenance of post-based rosters.

Further, the Board of Governors of the Institute (in its meeting held in May 2004, vide item no. 2004.2.13) has considered and approved the proposal for grouping of staff for the purpose of reservation and separate grouping of technical and non-technical posts. The proposal was as follows – the posts under Group-A, B, C & D would be grouped separately for technical and non-technical posts. However, there would be a single group under Group-D. Under this dispensation, there would be seven groups in all and as for as possible efforts would be made to provide adequate representation of SCs/STs/OBCs/PwDs to each post under the group. The proposal was approved in the context that grouping of posts would provide greater leverage for purpose of securing adequate representation for SCs/STs/OBCs/PwDs in the Institute

The Modified Assured Career Progression Scheme (MACPS) is in operation at present.

Concessions/ Relaxations

(a) For Regular employees of IITs who are educationally qualified and otherwise eligible, can be considered for direct recruitment across the whole IIT system up to a maximum of 50 years of age. The due relaxation in upper age is made available for SC/ST/OBC/ PwD and Ex-servicemen candidates as per Central Govt. Rules;

(b) SC/ST and PwD candidates are fully exempted from payment of application and registration fees;

(c) To and fro TA is being paid to the candidates of all

categories out of Kanpur to attend the interview [for Group-A –AC-II rail fare (Rajdhani Exp. also)/Chair car in Shatabdi Exp. And for Group-B (Grade Pay of Rs.4600/-) – AC-III rail fare (Rajdhani Exp. also) / Chair car in Shatabdi Exp. rail fare];

(d) Experience requirement is relaxable at the discretion of competent authority.

Infrastructural facilities provided to PwD candidates:

Ramps are been constructed in lecture hall complex, tutorial block, P K Kelkar Library, Faculty Building, IME building, CSE Building from ground level to floor level. Barrier free accessible toilets are constructed in lecture hall complex, DOAA, IME, new lecture hall complex, towards DOSA office.

On the basis of Judgment passed by the Constitution bench of Supreme Court, the Government of India, Deptt. Of Per. & Trg., issued O.M. 36012/2/96-Estt.(Res.) dated July 02,1997 vide which the above vacancy-based rosters have been revised into post- based rosters for the different category of employees in direct recruitment. The Board after consideration accorded its approval, in its 1997/5th meeting held on December 05, 1997 for maintenance of post-based rosters.

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For full details click the following link

https://drive.google.com/file/d/1CUx5Xd9Cc8VadtYRdjjHDtL22bnBMzW/view?usp=sharing

Concessions/ Relaxations

(e) For Regular employees of IITs who are educationally qualified and otherwise eligible, can be considered for direct recruitment across the whole IIT system up to a maximum of 50 years of age. The due relaxation in upper age is made available for SC/ST/OBC/ PwD and Ex-servicemen candidates as per Central Govt. Rules;

(f) SC/ST and PwD candidates are fully exempted from payment of application and registration fees;

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(h) Experience requirement is relaxable at the discretion of competent authority.

For full details

Visit URL :

https://www.iitk.ac.in/dord/data/Annual_Report_201718/SC_ST_OBC_PWD_Cell.pdf

STUDENTS PLACEMENT

The Indian Institute of Technology Kanpur is known for its academic excellence and is often the 'first stop' for under graduate and post graduate student placements for top ranked industries and research organizations. Students' Placement Office (SPO) functions as a facilitator for placement related activities and provides assistance to recruiters and students in all placement related processes. The services rendered by SPO include recruiter selection, student training, resume short listing, conducting screening tests, infrastructure arrangements, scheduling and conducting job interviews, hospitality, etc. for both internship and recruitment processes. Our hiring partners range from consulting firms to FMCGs to core industries, software giants, e-commerce and engineering companies.

Activities of the Student Placement Office is coordinated by the "Student Placement Committee (SPC)" which is an advisory body headed by the Chairman SPO. SPC committee is constituted with faculty representatives from individual departments and inter disciplinary programs. SPC is assisted by SPO office staff and a student team comprising of Overall Placement Coordinators, Internship coordinators and student volunteers who coordinates all placement activities organized by Student Placement office and Career Development Cell. Representatives from student body also participate in SPC meetings as invited guests and contribute to the decision making process. In addition to taking care of UG and PG placements, SPO also assists job pursuits of PhD scholars by disseminating information on potential job opportunities in reputed academic institutions, research and development centres and in public and private sector consultancy firms across the globe. In addition, SPO/IIT Kanpur also encourages innovations and entrepreneurships ventures. SPO is actively engaged in building and maintaining long term relationships with

corporate sector and constantly working towards building illustrious and rewarding careers options for IIT Kanpur students.

Placement Office Activities

SPO activities in 2017-18 can broadly be divided into three sectors (1) facilitating the hiring of current students for internships (academic and industry) (2) organizing professional training towards interview preparations and (3) organizing and conducting job interviews for graduating students through Campus Recruitment Drive. In the first quarter of 2017-18, the focus of SPO team was on attracting potential employers for participation in placement and internship processes. Potential recruiters were identified based on input from SPO team, departmental recommendations and student feedback from previous placement seasons. Short listing of potential employers were carried out based on pre-defined screening criteria (in accordance with SPO guidelines) and the recruiters were invited to campus for student – employer interactions through Pre-placement Talks (PPTs). Efforts of SPO team was instrumental in bringing in a total of 46 new recruiters for internship and full time employment hiring during the year 2017-18.

Internships for Current Students

SPO strongly encourages pre-final year students to participate in summer internship programs. IIT Kanpur boasts of a well-structured internship programme that carries the reputation of earning post internship/pre-placement offers (PPO's) for a large percentage of students. A total of 289 students were offered industry internships in year 2017-18 which is approximately 12 percent more than the number of offers received in the previous year. A total of 123 students received pre-placement offers after their internship program which is approximately 15 percent higher than PPO offers received in year 2016-17. Some of the prominent recruiters who participated in 2017-18 internship program include Adobe Systems, Citicorp Services, Credit Suisse, General Electric, Goldman Sachs, Jindal, KPIT Technologies, Reliance Industries Limited, Samsung, Schlumberger, Texas Instruments, LinkedIn, JP Morgan Chase, EXL Services etc. In addition to regular clients, 13 new firms visited campus for internship hiring which include MNC's like Blackrock, Nomura, Ford Motors etc.

Apart from industry oriented internships, SPO also facilitated academic internship for students interested in pursuing a career in academia and R&D sectors through programs run by IITK-NYC office. Approximately 70 students were offered academic internships through IITK-NYC office during the year 2017-18. In addition, SPO office also assisted students in securing various academic internships extended through IITK-Office of International Relations. Selected few examples of these internships are TAMU-IITK intern program, Mitac Global link research internships, IIT-DAAD internships etc. A total of 35 students were offered academic internships through these programs. Selected institutions where IITK students have received academic internships include University of Texas at Austin, Texas A&M University, Max-Planck institute, University of California Berkeley, U-T Arlington, Imperial College London, Cornell, University of Illinois etc.

Placement Preparations

Student Placement Office has revamped its placement preparation programs which now provide 360 degree career solution for students. Placement preparation programs are organized in coordination with Career Development Cell along with support from IIT-K Student Gymkhana. Through these training sessions, SPO provides guidance and support to students in their job pursuits through career counselling sessions, resume preparation workshops, soft skill development programs, providing learning materials for placement preparations, organizing professional training services, providing assistance in offer finalization, documentation etc. Training and career orientation programs were intended towards developing professional ethics among students and guiding them in making educated career decisions. Students were also encouraged to pursue their careers in respective sectors of interest which often vary from core engineering sector to IT, Financial, Banking, Analytics, Consulting jobs, Research and Development, Academia etc.

Student Placement Office in association with Career Development Cell organized three professional training sessions during academic year 2017-18 for students participating in placement and internship processes. Training sessions were conducted my M/s. Prepleaf Private Limited, M/s. Knowlens Solutions Private Limited (web based program) and M/s. KOAK Education Private Limited at different time periods during the academic year. SPO team also organized training sessions intended towards improving resume writing skills, conducted multiple practice/guidance sessions for aptitude tests, group discussions and personal interviews at the beginning of placement season. SPO team along with volunteers from Student Gymkhana also conducted personal guidance and soft skill enhancement sessions for selected student groups in improving personality and interpersonal skills required for job interviews. Discussions/ career awareness workshops/talks by invited alumni members working in various sectors were also organized as part of placement preparations. The following preparation activities were conducted for placement season (2017-18).

- Career counselling by professional agencies/experts soft skills development, professional communication and personality development
- Organized resume writing workshops for assistance on preparation of professional resumes
- Management development programs
- Collecting corporate feedback on employee expectations for different job sectors
- Feedback on companies and interview experiences from students who participated in

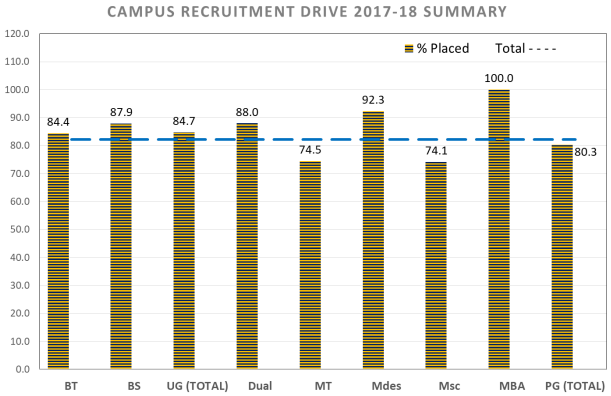
last year placement for use as orientation/information material for current students

- Resume verification by the SPO team/student volunteers whom have already secured a job
- Student sessions on internship experiences at various industry sectors
- Invited alumni members (last 3 years) conducted sessions on group discussions and personal interviews as part of placement preparations. Relevant study materials (video, links, PPT etc.) were uploaded on preparation portal for future references
- Career awareness talks by invited Alumni and sharing their corporate working experience
- Organized aptitude tests for students through professional organization like Pariksha
- Development of further interaction pattern

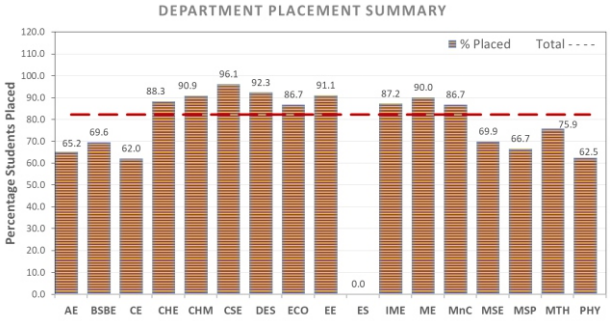
Campus Recruitment Drive

982 students registered with Student Placement Office for Campus Recruitment Drive 2017-18. As with previous years, recruitment drive for the academic year 2017-18 was held in two phases. Phase 1 of recruitments officially started on December 1st and extended till 16th of December, 2017. Approximately 240 recruiters visited campus during Phase 1 to hire students for full time employment. 33 top tier firms from various sectors visited campus for interviews on day 1 where an unprecedented 256 job offers were extended to IITK students. Based on hiring numbers, the top recruiter for placement season was Intel Corporation who visited campus on day one and hired 59 students. Other top recruiters for the season were Tata Motors, Goldman Sachs, EXL Services and HSBC. As with previous years, "one student one job" policy (single offer acceptance policy) was continued to ensure equal opportunity to all students registered with SPO. Phase 2 of recruitments started in January and extended till April, 2018. More than 260 companies visited IITK campus for student hiring during the two phases of placements.

More than 82 % of the graduating batch (807 out of the 982 registered students) were placed through Student Placement Office during the academic year 2017-18. This includes students in both UG and PG levels. 354 out of 418 registered students in B. Tech and B.S. degree programs (approx. 85%) were placed during the season. UG placement count also includes 80 Pre-Placement Offers (PPO's) extended to IITK students as part of academic internship provided through Student Placement Office. Approximately 80 % of registered PG students (449 out of 563) were also placed through SPO during campus recruitment drive. A summary of program wise placement record for the current season is included in figure below.



Amongst the various post graduate programs, the MBA recorded the highest percentage of placements at 100% followed by Master of Design program at 92%, Dual Degree at 88%. Student placements in other program levels are included in figure above. A summary of department level placement record for the current season is included in figure below.



Among various departments, Computer Science and Engineering, Design Program, Electrical Engineering, Chemical Engineering and Mechanical Engineering recorded 90 percent and above in terms of students placed. Percentage students placed in other departments are given in figure above. The percentage calculations given above are derived based on the number of graduating students whom have registered with the placement office. A good number of graduating students do not register for placements as they are interested in pursuing higher studies or entrepreneurships options. In addition, an appreciable number of IIT Kanpur students pursue Civil Services jobs or take-up career options in public sector companies and therefore abstain from participating in the recruitment process.

Students of IIT Kanpur continued to demonstrate a strong commitment to their core educational background in their choice of employment. Placement season 2017-18 also saw an increase in the number of hires in "core" engineering sectors where close to 40 percent of students received job offers. Some of the top recruiting firms that visited IIT Kanpur for hiring students in core engineering sector include Intel, Honeywell, Schlumberger, Eaton, L&T Constructions, Tata Steel, Tata Motors, Jindal Stainless Limited, Indian

PUBLICATION AND OUTREACH ACTIVITIES

In addition to undergraduate and postgraduate teaching, the faculty members of the Institute are also actively involved in research and the dissemination of the knowledge gained through it. This is manifested in the large number of publications in refereed journals, several books and participation in various national and international conferences. The following table lists the number of publications and the details are available at the link given below:

https://iitk.ac.in/dord/data/Annual-Report-2017-18/Publication-and-Outreach-activities.pdf

SERVICES AND AMENITIES

For full details visit following URL:

https://iitk.ac.in/dord/data/Annual-Report-2017-18/Services-and-Amenities.pdf

IIT Kanpur to lead projects on Air Quality and Water Quality Monitoring under Research Initiative for Real Time River Water and Air Quality Monitoring (WAQM) by IUSSTF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