

*A brief history of
Research & Innovation*

IIT Kanpur

Office of Dean Research & Development
January 2026



Director's Message

The position of Dean Research and Development (DORD) was established at IIT Kanpur in January 1966. From its inception, the Dean R&D office has played a pivotal role in the development of cutting-edge areas of science and technology at the Institute by continuously facilitating in-house grants, sponsored research projects, and research consultancies. The office has also played a key role in establishing the start-up ecosystem on the campus, encouraging both faculty members and students of IIT Kanpur.

As we mark the Diamond Jubilee of the office, we look ahead with renewed purpose. In alignment with the national vision of **Viksit Bharat 2047** and **Atmanirbhar Bharat**, the Institute is committed to advancing frontier research, strengthening indigenous technological capabilities, and translating knowledge to achieve technological sovereignty. Some of the focus R&D areas of national importance are Artificial Intelligence (AI), Cybersecurity, MedTech, AgriTech, Unmanned Aerial Vehicles (UAVs), Sustainability, Semiconductor Technologies, and Quantum Technologies. Interdisciplinary research, deep-tech innovation, and effective technology transfer in these areas will remain central to the Institute's vision for the future.

This volume chronicles six decades of achievement shaped by dedicated faculty, talented students, and committed staff. While honoring this legacy, I extend my best wishes for the office to move forward and continue to shape the technological future of the Institute by facilitating research, innovation, and responsible engineering.

Jai Hind!

Manindra Agrawal



AT-A-GLANCE

2010-2015

- High Performance Computing Facility
- Solar Energy research Enclave
- SIMRAN, GPS based Real Time Train Information System
- JUGNU Micro Satellite launched
- Bio Incubation Centre
- Rural Technology Action Group (RuTAG)

2015-2020

- National Centre for Flexible Electronics (NCFlexE)
- Advanced Imaging Centre
- Design Innovation Centre
- Technopark@IITK
- Centre for Technology & Sustainable development
- Ranjit Singh Rozi Siksha Kendra
- National Aerosol facility

2020-2023

- Research related to Covid
- National Centre for Geodesy
- C3i Hub
- Mehta Family Centre for Engineering in Medicine (MFCEM)
- Gangwal School of Medical Sciences & Technology (GSMST)
- DRDO Industry Academic Centre of Excellence (DIA-CoE)
- Centre of Excellence for UAV

2023-2024

- Kotak School of Sustainability
- NMtronics Centre of Excellence for Electronics Manufacturing and Skill Development
- IITK-EIL Clean energy Research Centre
- Centre for Excellence in Advanced Technologies for Monitoring Air Quality Indicators (CoE-ATMAN)

2024-2025

- Wadhvani School of AI and Intelligent Systems (WSAIS)
- Coordinating National Quantum Mission (NQM)
- Interface Office for Technology and Applications (IOTA)
- National Cryo-EM Facility
- Centre of Excellence in Specialty Chemicals

2005-2010

- Focused Ion Beam Facility
- Centre for Environmental Sc.& Engineering
- Centre for Nanotechnology
- BSNL-IITK Telecom Centre of Excellence

2000-2005

- Samtel Centre
- National Information Centre for Earthquake Engineering
- Railway Technology Mission
- Media Technology Centre
- Space Technology Cell

1990-2000

- Flight Laboratory
- National Centre for Single Crystal X-ray Diffraction Facility
- First Parallel Computer (PARAM)
- Facility for Ecological & Analytical Testing
- National Wind Tunnel Facility
- Institute Research Magazine 'Directions' launched

1959-69

- IIT Kanpur founded on 14th December, 1959
- Computer centre created
- Dean Research & Development post created (January 1966)
- IBM-7044, one of the largest computer in India at that time arrived campus

1969-80

- Advanced Centre for Materials Science (ACMS)
- Advanced Centre for Electronics Systems (ACES)
- 3MeV Van De Graff generator established

1980-90

- Centre for Mechatronics
- Centre for Laser Technology
- CAD projects

2024 - 2025

- » Coordinating body for the National Quantum Mission
- » Interface Office for Technology and Applications (IOTA) to elevate technologies
- » Wadhvani School of AI & Intelligent Systems (WSAIS)
- » Centre of Excellence in Specialty Chemicals
- » DBT SAHAJ Centre for Biosensing Technologies
- » Centre of Excellence in Antimicrobial Resistance
- » National Cryo-EM Facility

Centre & Facility

**National IP Award
2024**



Bhu-Parikshak: Soil Nutrient Sensing Device



Shape-morphing Quadcopter Drone



Device for Detecting Oral Cancer

The thought of writing a few words about the Office of Dean of Research and Development brings back fond memories of the ethos of the place, crafted by several visionaries and being carefully nurtured by the R&D team. The coordinated efforts of the team, combined with empathy for all stakeholders, created a supportive and resilient environment that helped provide effective support for our research activities. Especially during the COVID-19 challenges, with severely limited access to infrastructure, the team responded to each challenge with innovative solutions. My sincere thanks and deep gratitude to the entire R&D team for its outstanding dedication. Wishing the team the momentum and success in driving our Institute's research forward.

***Prof. A.R. Harish**
Dean Research & Development (2020 - 23)*



Convertible School Bag



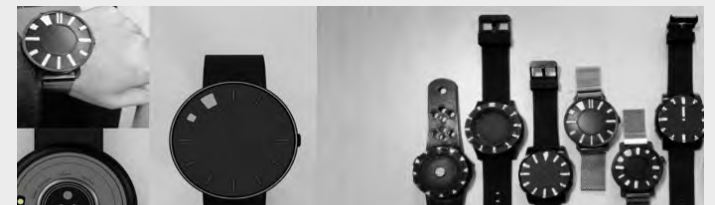
**Lateral Flow Immunoassay (LFIA) Strip
to detect Bovine Mastitis**



Artificial Heart



Sub Station Inspection Mobile Robot



TacVibes: A Novel Watch for the Visually Impaired

It is heartening to celebrate 60 years of the Office of Research and Development at IIT Kanpur. With dedicated staff managing diverse responsibilities, the division has continually evolved to support researchers, facilities, and sponsors. As faculty for over two decades and Dean of R&D, I take pride in witnessing this transformation. Serving the division has been a true privilege, and I wish it continued success in advancing research and shaping the institute's future.

Prof. S. Ganesh
Dean Research & Development (2017 - 2020)



Air Sampling Device



Anālākṣhya - Advanced Stealth Technology

2023 - 2024

School & Centre

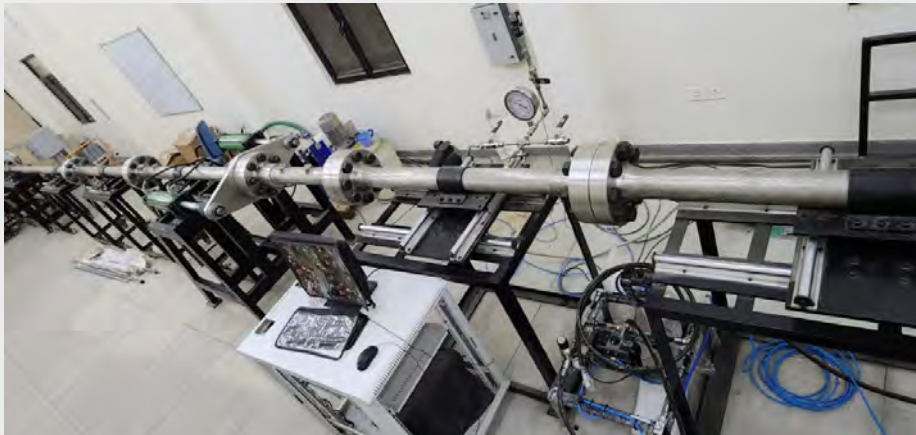
- Kotak School of Sustainability
- NMTronics Centre of Excellence for Electronics Manufacturing & Skills Development
- IITK-EIL (Engineers India Ltd.) Clean Energy Research Center
- Centre of Excellence for autonomous Unmanned Aerial Vehicles (UAV)
- Centre of Excellence in Advanced Technologies for Monitoring Air quality indicators (CoE-ATMAN)
- Air Sampling Device, licensed technology, launched in the market
- IIT Kanpur, IIT Madras and SAMEER Collaborate to License 5G RAN to Tejas Networks, a Tata Group Company
- India's first Hypervelocity Expansion Tunnel Test Facility



Autonomous Unmanned Aerial Vehicles



Svan M2 - quadruped (four-legged) robot



Hypervelocity Expansion Tunnel Test Facility

I am very glad to learn that the R&D office is bringing out a commemorative coffee table book on the occasion of 60th anniversary of the R&D office. For me, the deanship at R&D office was a very pleasant experience. It was loaded and very hectic, still we could manage to do a lot of things without any major controversy! To recollect a few such efforts: We took up REO and PDF cadres to R&D office and carried out a large number of REO selection committee meetings, took SURGE program in its expanded form to R&D office, handled ranking exercises for QS, THE, NIRF etc., carried out a major analysis of the project situation of all 400+ faculty members, put many policy matters in place such as handling of projects by retired faculty, leave policy for Inspire Faculty Fellows, Innovation and Incubation policy document etc. It was indeed a pleasure to work with such a very dedicated team of colleagues in the R&D office. I must say that the R&D office has remained one of the best offices in the Institute.

Prof. Amalendu Chandra
Dean Research & Development (2014 - 2016)



Electrochemical Sensing Strip



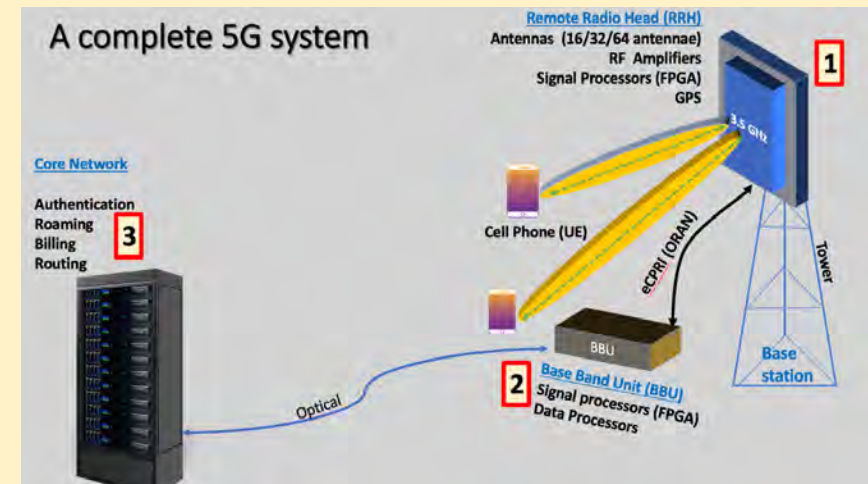
Checko: Anti-Counterfeiting Solutions



SATVAM: Streaming Analytics Over Temporal Variables from Air Quality Monitoring



Pipe Health Monitoring Robot



Indigenous 5G/5Gi Network System

2020 - 2023

Centre & Facility

- » Establishment of C3i Hub
- » National Centre for Geodesy
- » Chandrakanta Kesavan Centre for Energy Policy & Climate Solutions
- » Mehta Family Centre for Engineering in Medicine (MFCEM)
- » Gangwal School of Medical Sciences and Technology (GSMST)
- » DRDO Industry Academia Centre of Excellence (DIA-CoE)
- » Smart Grid Control Centre
- » EMI/EMC & Electrical Safety Testing Facility
- » Lead Integrated Clean Energy Material Acceleration Platforms (ICMAP)
- » Participated at first inter IIT Research fair IInvenTiv 2022



National Centre for Geodesy



C3i Hub

Research & Innovation

Covid 19

PPE Kit, UAVs for Surveillance, Fake news verification App, Positive pressure respiratory system, Low cost invasive/non-invasive ventilator, Oxygen concentrator, Reusable N95 and N99 masks, Preventive and cost-effective coating, Chemical and thermal disinfecting system, Novel electrostatic sprayers, Solar-powered Natures Box Smart Bin system, Vaccines against Covid-19 and modelling and broadcasting Covid 19.



Reusable N95 and N99 Masks



Low Cost Ventilator



PPE Kit

2015 - 2020

Centre & Facility

- Centre of Excellence for Large Area Flexible Electronics (NcFlexE)
- Advanced Imaging Centre
- Design Innovation Centre
- Centre for Technology for Sustainable Development
- Ranjit Singh Rozi Siksha Kendra
- National Aerosol Facility
- Integrated Computational Materials Engineering (ICME) National Hub
- Energy Analytics Lab (EAL), a CSR initiative by Indian Energy Exchange Ltd.
- Single Crystal X-Ray Diffractometer, Mass Spectrometry and a Cell Culture Facility
- Technopark@IITK formally inaugurated
- IMPRINT (IMpacting Research, Innovation and Technology) led by IIT Kanpur



FlexE Centre

Initially I was reluctant to take up the position of Dean, Research and Development. The reason for the reluctance was the fact that one year of my tenure as Head of the Department of Electrical Engineering was still remaining and I felt that several more things need to be done in the department before I complete my tenure as Head. With the benefit of hindsight I must say that the R&D office provided me a ring-side view into the various aspects of academic research being carried out in government funded institutions in India. The first few months were a learning experience with the office staff hand holding me to make me understand the nuances of office work. With the help of my predecessor, moving on to the institutional stage from the Headship of a department happened smoothly. As a result, the R&D office proved to be a fertile ground for rolling out initiatives in response to the needs of faculty members and research scholars. It has been twelve years since I demitted the Deanship and I have no hesitation in saying that it provided me the right platform for the subsequent opportunities for institution building at different institutions. It is good to see that the R&D office at IIT Kanpur has never ceased to grow, may it continue to bloom in the years to come.

Prof. A.K. Chaturvedi
Dean Research & Development (2011 - 2014)



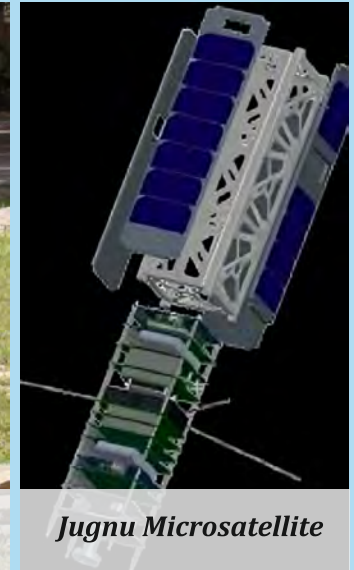
2010 - 2015

Centre & Facility

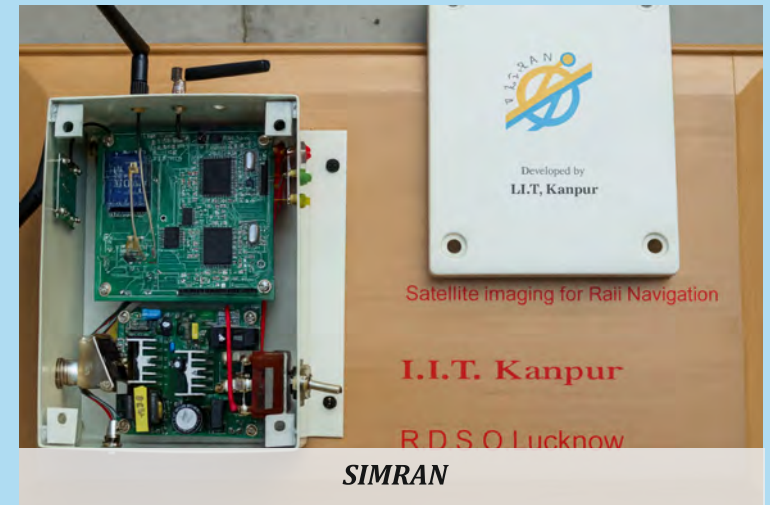
- » A time capsule was lowered down by the then President of India, Shrimati Pratibha Devisingh Patil
- » SIMRAN, a GPS-based real-time train information system jointly developed by IITK and RDSO
- » Jugnu Microsatellite launched with the PSLV C18
- » Nano-scale Imaging Facility
- » Installation of High Performance Computing (HPC) Facility
- » Solar Energy Research Enclave (SERE)
- » Photovoltaic (PV) Field Performance Test Station
- » BIRAC scheme of DBT launched Bio Incubator Centre
- » Establishment of Rural Technology Action Group (RuTAG)
- » Centre for Mathematical Sciences (CMS)
- » Formation of Ganga River Basin Management Plan
- » Zero Discharge Toilet System installed in Kumbh Mela of Prayagraj



Time Capsule



Jugnu Microsatellite



SIMRAN

2005 - 2010

- Centre for Environmental Science & Engineering
- Centre for Nanotechnology
- Centre for Uttar Pradesh Power Transmission Corporation Ltd. (UPPTCL)
- Centre for Archaeology & Cultural Resource Management
- BSNL-IITK Telecom Centre of Excellence
- Focused Ion Beam Facility, Tandem Accelerator, 500 MHz Nuclear Magnetic Resonance (NMR) Spectrometer
- IGCAR-IITK cell

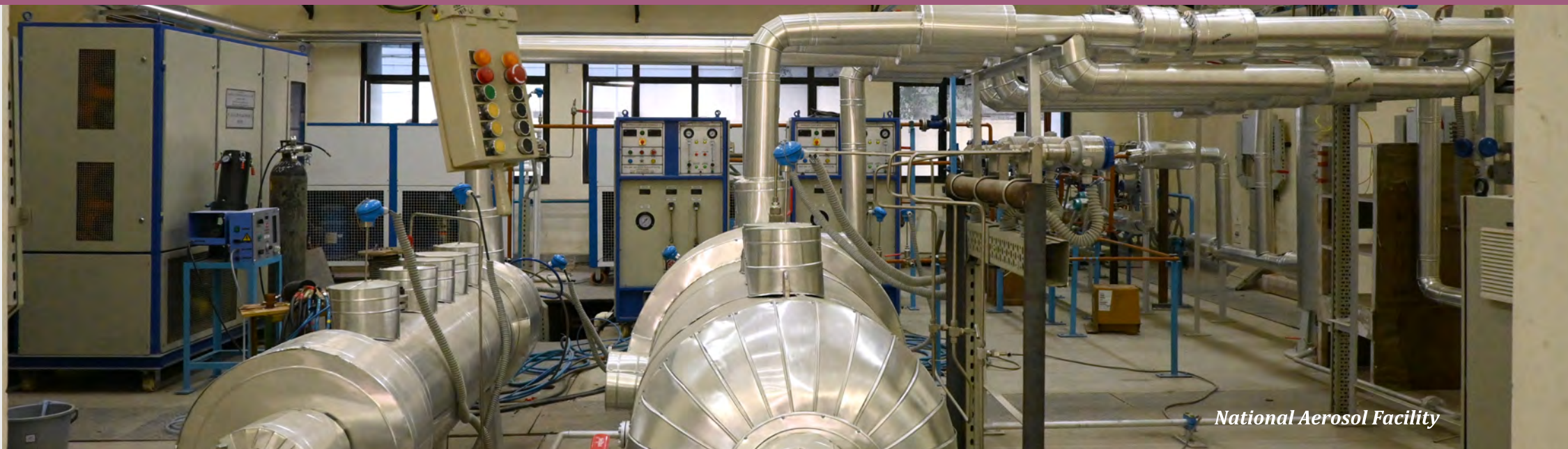
- ✓ Students launched NERD - a technical magazine
- ✓ Students regrouped into a body called POWER and enter into the domain of independent research



Centre for Environmental Science & Engineering

I have delightful memories of my tenure as Dean, Research and Development, during which the institute visibly transformed itself. Research funding, collaborative projects, internationalization, major facilities, and centers of excellence showed significant growth. It was the time when patents, intellectual property, technology transfer, and start-ups took flight. Research penetrated the undergraduate space while postgraduate students organized global events, staking a claim over their future. Research management was automated, and administering projects was substantially streamlined. It was clearly the dawn of a new era.

*Prof. K. Muralidhar
Dean Research & Development (2008 - 2010)*



2000 - 2005

- » Railway Technology Mission
- » Space Technology Cell, ISRO
- » Samtel Center
- » Media Lab Asia established Digital Mandi
- » Technology developed at the Resource Center for Indian Languages transferred to eight centers for machine-aided translation from English to Oriya, Bengali, Marathi, Assamese, Manipuri, Konkani, Urdu, Punjabi, Malayalam and Sanskrit
- » Global Indus Technovator Award 2003 for the work done on nano-sciences
- » TV Center transformed into Media Technology Center
- » Prabhu and Poonam Goel Center for Internet and Computer Security
- » National Information Center for Earthquake Engineering



Advanced Imaging Centre



Vibhram: Unmanned Helicopter

1990 - 2000

- » National Wind Tunnel Facility (NWTF)
- » 6-seater aircraft was acquired for Flight Laboratory
- » Department of Civil Engineering developed a traffic simulation package adopted by CRRI & the Ministry of Surface Transport
- » Antenna shield for conducting SODAR experiments was installed in Antarctica
- » Department of Computer Science & Engineering developed Anusaarak, a simple machine translation system
- » CW dye laser pumped by Argon ion laser was developed for the first time in India
- » Introduction of ERNET project
- » The first parallel computer (PARAM) from CDAC Pune was introduced
- » Facility for Ecological and Analytical Testing (FEAT) laboratory
- » CARE scheme for procurement of large equipment introduced
- » First webpage of IIT Kanpur
- » 'Directions' - Institute Research Magazine launched
- » SIDBI Innovation and Incubation Center (SIIC)



National Wind Tunnel Facility



PARAM Sanghanak

1980 - 1990

- Centre for Mechatronics
- CAD project was initiated
- Centre for Laser Technology
- MHRD provided special funding for the areas of emerging technology and modernization of Laboratories
- A group of researchers, in collaboration with Florida State University, USA develop mathematical models to study the complex monsoon phenomenon
- To ease pressure from rapid urbanization and industrialization, the Institute focused on projects aimed at developing efficient public transportation systems



1969-1980

- Advanced Centre for Materials Science
- Advanced Centre for Electronics System
- In the area of Nuclear Engineering and Technology, 3MeV Van De Graff generator was established. The facility was intended for training and research in Nuclear Physics and Engineering
- A stand alone R&D Office was created

First ever B.Tech Programme in Computer Science in India was launched



Advanced Centre for Materials Science

1959-1969

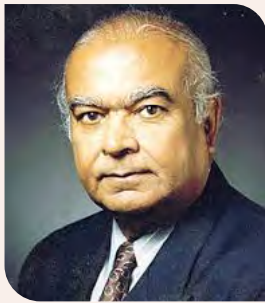
- » IIT Kanpur started on **December 14, 1959**
- » Registered as a society under the Societies Registration Act in Jan 1960
- » KIAP program was initiated
- » Engineering Science was adopted as the basis of curriculum development
- » Foundation stone was laid for the library
- » Computer Center was created
- » First solid-state computer (IBM – 1620) arrived
- » IBM-7044, one of the largest computers arrived on campus
- » TV Centre, the second biggest in India, became functional

Post of Dean Research & Development was created (January 1966)



IBM 1620 arrived at IIT Kanpur

Meet Our Previous Deans & Associate Deans



Prof. H.K. Kesavan
Electrical Engineering
Dean (1964-67)



Prof. C.N.R Rao
Chemistry
Dean (1968-71)



Prof. T.R. Viswanathan
Electrical Engineering
Dean (1972-73)



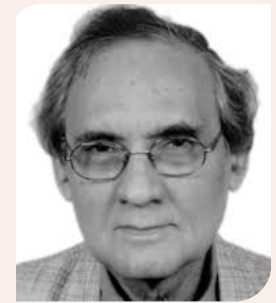
Prof. N.C. Nigam
Aerospace Engineering
Dean (1974-75)



Prof. M.A. Pai
Electrical Engineering
Dean (1976-77)



Prof. K.R. Sharma
Electrical Engineering
Dean (1978-79)



Prof. D. Chakravorty
Metallurgical Engineering
Prof-in-charge (1980-81)



Prof. P. Dayaratnam
Civil Engineering
Dean (1982-84)



Prof. R.N. Biswas
Electrical Engineering
Dean (1985-87)



Prof. B.D. Agarwal
Mechanical Engineering
1988-90



Prof. A.K. Mittal
Industrial Management &
Engineering
Dean (1991-93)



Prof. Sachchidanand
Electrical Engineering
Dean (1994-96)



Prof. H.C. Karnick
Computer Science &
Engineering
Dean (1997-98)



Prof. S.G. Dhande
Mechanical Engineering
Dean (1999-2001)



Prof. Deepak Kunzru
Chemical Engineering
Dean (2002 - 2004)



Prof. S.C. Srivastava
Electrical Engineering
Dean (2005 - 2007)



Prof. K. Muralidhar
Mechanical Engineering
Dean (2008 - 2010)



Prof. A.K. Chaturvedi
Electrical Engineering
Dean (2011 - 2014)



Prof. Amalendu Chandra
Chemistry
Dean (2014 - 2016)



Prof. S. Ganesh
Biological Sciences &
Bioengineering
Dean (2017 - 2020)



Prof. A.R. Harish
Electrical Engineering
Dean (2020 - 23)



Prof. B.V. Phani
Management Sciences
Associate Dean for
Innovation & Incubation
2014 - 2015



Prof. Sameer Khandekar
Mechanical Engineering
Associate Dean for
Innovation & Incubation
2015 -2017



Prof. Siddhartha Panda
Chemical Engineering
Associate Dean for
Industrial Collaboration
2014 -2016



Prof. Animangsu Ghatak
Chemical Engineering
Associate Dean for
Industrial Collaboration
2016 - 2019



Prof. Tarun Gupta
Civil Engineering
Associate Dean of
Research & Development
2019 - 2021



Prof. Jayandharan G. Rao
Biological Sciences & Bioengineering
Associate Dean of
Research & Development
2021 - 2024



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