Indian Institute of Technology Kanpur

Gangwal School of Medical Sciences and Technology

Gangwal School of Medical Sciences and Technology at IIT Kanpur: A New Frontier in MedTech Innovation

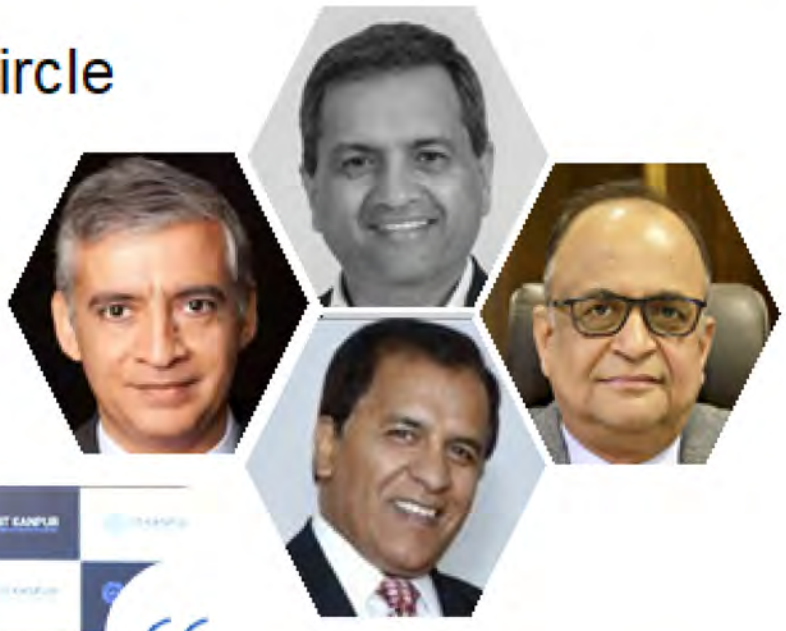
IIT Kanpur has a long history of successfully attempting innovative approaches in education, technology, and research projects impacting society. One such innovative and ambitious project of IIT Kanpur is the Gangwal School of Medical Sciences and Technology. The future innovations in medicine and healthcare are going to be driven by technology interventions. With its strong track record and infrastructure in MedTech Innovation, IIT Kanpur wishes to address this gap by establishing a one-of-its-kind Medical School to bring a paradigm shift in approach toward medical research and MedTech innovation in the country.

S. Ganesh, Deputy Director and Chair, Medical School Taskforce

This Medical School project is a unique initiative in the Indian context. The school is being established with support from philanthropists and corporates. The major emphasis of the school is on MedTech innovation and technological solutions to the country's health care needs. The hospital will be run by the Institute via a self-sustaining model. The school will have joint appointments of faculty members from across the discipline and joint supervision of students and research projects. Medical students will have the opportunity to earn minors in science and engineering disciplines.

Gangwal School Founders' Circle

Muktesh Pant (BT/CHE/1976)
Dev Joneja (BT/ME/1984)
Hemant Jalan (BT/CHE/1977)
Anil Bansal (BT/MSE/1977)



I am proud to see the Institution that produced thousands of leaders across various sectors is now paving the way in the healthcare sector

Rakesh Gangwal (BT/ME/1975)

We are overwhelmed by the support from alumni and well-wishers for the medical school project. We sincerely thank the benefactors for their trust in the Institute and the invaluable contributions of several of our alumni in executing this dream project.

Kantesh Balani, Dean of Resources and Alumni

> *The Gangwal School will strengthen the healthcare ecosystem in the country and establish Kanpur as an epicenter of affordable and futuristic solutions for emerging economies*

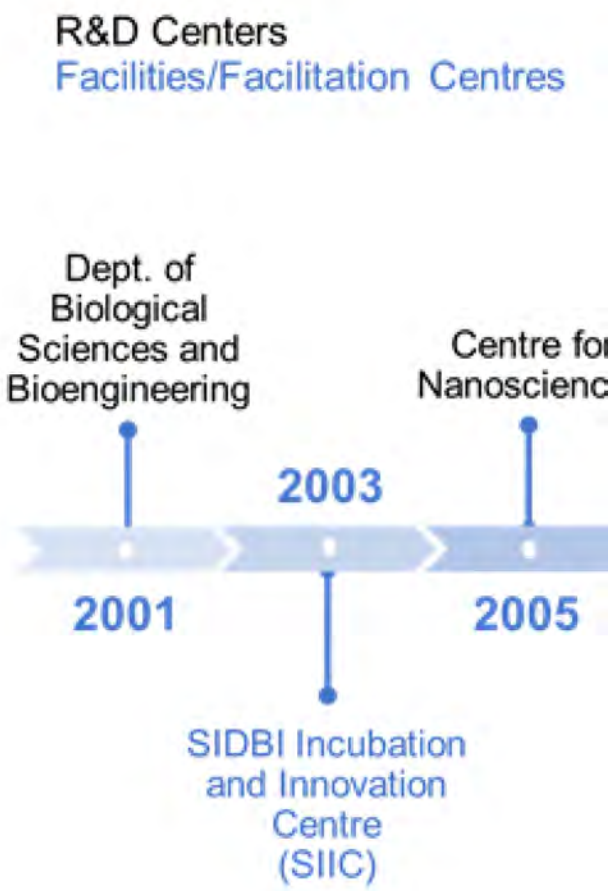
Minister of Education Dharmendra Pradhan, During the Foundation Laying Ceremony for the Gangwal School and Yadupati Singhania Superspeciality Hospital (July 16, 2022)

> *Biomedical research and MedTech innovations thrive in the transdis alone" colleges. In the existing medical education system in the cou medical disciplines, there is inadequate research infrastructure and heavy patient load. The future innovations in medicine and healthca that the medical education system should be integrated with techno establishing one-of-its-kind medical school in the country*

MedTech Ecosystem at IIT Kanpur

Engineering solutions play an integral role in the field of biomedical sciences. In view of this, IIT Kanpur established the Department of Biological Sciences and Bioengineering (BSBE) in 2001, which is among the centers of the country for fundamental & translational research in biomedical sciences. The Startup Incubation and Innovation Centre (SIIC) of the Institute nurtured over 30 start-ups in the Biotech and MedTech domains alone. Institute has established a Fabrication and Certification Centre for MedTech devices, a state-of--the-art Central Experimental Animal Facility, and the School of Biodesign to promote innovation and entrepreneurship in the biomedical domain. The Institute has already commercialized several products, including the high-end ventilator produced during the Covid-19 pandemic, and several products are in the pipeline.

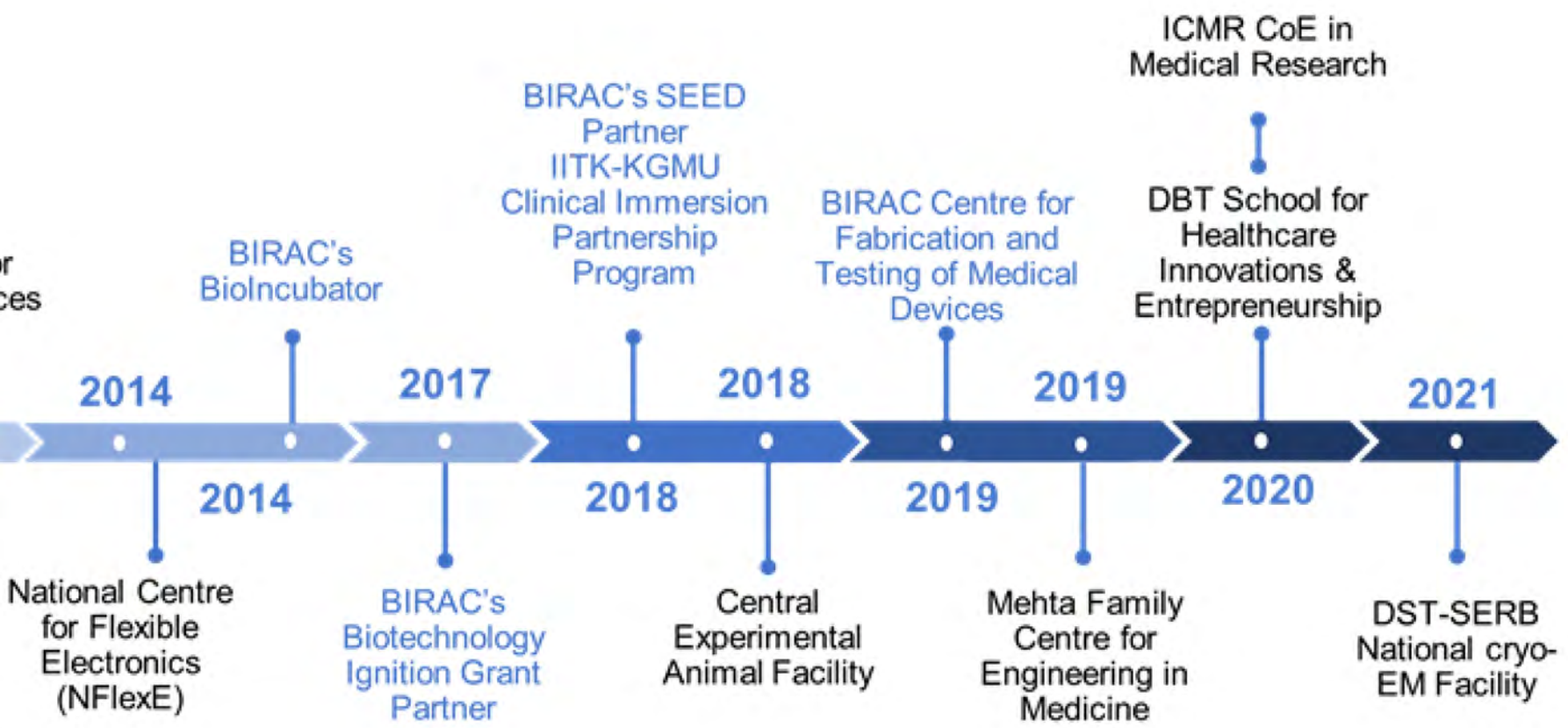
Milestones in Ecosystem E



sciplinary ecosystem. However, medical Institutions in India are mostly "stand-untry, there are no joint appointments as faculty for professionals from non- specialists, and doctors are not able to actively participate in research owing to are are going to be driven by technology interventions that emphasize the idea ology and research expertise. IIT Kanpur attempts to bridge this gap by

Abhay Karandikar, Director, IIT Kanpur

Building for Biomedical Research & MedTech Innovations at IIT Kanpur



Yadupati Singhania Super Speciality Hospital

The Singhania Hospital, with a world-class facility on board, will offer affordable treatment in super-specialties like cardiology, nephrology, oncology, neurology, neurosurgery, etc. to over 4 million people in the 300-km radius of Kanpur. Most of the patients in the region demand economical and quality tertiary care with either out-of-pocket expenditures or government-financed healthcare coverage scheme like Ayushman Bharat-PMJAY. The cross-subsidy model developed for this hospital will help in achieving this target.

> *This collaboration with IIT Kanpur is an important milestone in our endeavour to achieve the nation's vision of healthcare for all*
>
> Raghavpat Singhania, MD, JK Cement

The Medical School being a semi-independent campus, the resident doctors and research fellows will be housed in the REC studio apartments being constructed close to the hospital.

> *The Medical School will be a cutting-edge institution with contemporary facilities and preparedness for handling a COVID-like pandemic.*

Samit Ray Chaudhuri
Dean of Infrastructure and Planning

Gangwal School at a Glance

30 ACRES — Greenfield land on campus

500 BEDS — 250 beds dedicated for scheme patients

₹ 600 CRORES — Total project cost (excluding land, salaries and research grants)

R&D Centers of Excellence

- *Telemedicine and Robotics*
- *AI Application in Diagnosis and Disease Prevention*
- *Cardiovascular and pulmonary Disease Research*
- *Orthopaedics and Prosthetics*
- *Neuroscience, Neurotechnology and Mental Health*
- *Non-invasive Medical Imaging & Dlagnostics*
- *Therapeutics*
- *Tropical and Infectious Disease*
- *Cancer Research*

Clinical Departments

Cardiology | Cardiothoracic Surgery | Gastroenterology | Surgical Gastroenterology | Nephrology | Urology | Neurology | Neurosurgery | Oncology | Trauma Care | Pediatric Care

Flagship R&D projects of Gangwal School

The IBM Academic Block will house state-of-the-art research laboratories and academic units of the Medical School. The Institute has already launched, in collaboration with leading cardiologists in the country, an ambitious project, ***Hridyantra***, to develop the world's most advanced and yet affordable artificial heart (LVAD) to help the terminally ill patients requiring heart transplantation. Leading hospitals of the country are consortium partners in this project.

"The most complicated device, the LVAD, may save millions of lives worldwide if it is reasonably priced. The execution plan laid out for the project Hridyantra is unique and bound to succeed. This product in development will be a game-changer for the country's healthcare needs."

Devi Shetty, Chairman, Narayana Health, & Mentor, Hridyantra

"In order to achieve our goal of an Aatmanirbhar Bharat for Medical Technologies, the Gangwal School will encourage local talent with crucial R&D and business support."

Amitabha Bandyopadhyay, Professor-in-Charge, Incubator

Gangwal School Advisory Board

Prof Abhay Karandikar, Director, IIT Kanpur | Dr Devi Prasad Shetty, Chairman, Narayana Health | Dr Mammen Chandy, Director, Tata Medical Centre | Mrs Sudha Murty, Infosys Foundation | Mr S Ramadorai, Tata Trust | Mr Saurabh Chandra IAS, Former Secretary | Mr Arun Seth, Former Chairman, NASSCOM Foundation | Dr Kamal Sharma, Vice Chairman, Lupin Limited | Mr Rakesh Sharma, IITK Foundation, USA | Mr Muktesh Pant, Micky & Vinita Charitable Trust, USA | Dr Dev Joneja, Chief Risk Officer, Exodus Point Capital Management, USA | Mr Hemant Jalan, MD, Indigo Paints Ltd | Mr Anil Bansal, Chairman, vSplash TechLabs, USA | Mr Rakesh Gangwal, Co-founder, IndiGo Airlines

Learn more at <www.iitk.ac.in/gsmst> or contact: <head_gsmst@iitk.ac.in>