Indian Institute of Technology Kanpur

Institute Foundation Day

November 02, 2020
Director’s Message

The Covid-19 pandemic has disrupted our activities, including academic and research at IIT Kanpur. Even though the times are unprecedented, it is yet again the time of the year when we celebrate the formation of this esteemed institute, our ‘alma mater’. It is for the first time that we are forced to have a virtual ceremony on the occasion of The Institute Foundation Day. I am indeed saddened that we cannot host all of our distinguished guests and alumni on our beautiful campus to celebrate this momentous occasion this year.

As you all know, the Indian Institute of Technology Kanpur was established on 2nd November 1959 under the technical assistance of KIAP And declared to be an Institute of National Importance by the Government of India under the Institute of Technology Act. The institute’s formative years were guided by the visionary leadership of passionate educationist Prof. Purushottam Kashinath Kelkar as the founding Director. The strong foundation set forth by his vision continues to shape our path. Despite the fact that this year has been unprecedented in every sense of the word, the “Team IITK consisting of its outstanding faculty and dedicated staff continues to work hard to translate the vision of our founders to a reality.

I am immensely honored and humbled to mention a few of the significant technological advancements with tremendous societal impacts, which IIT Kanpur witnessed in the past year! Despite multiple challenges posed by the pandemic, Team IITK, with a commitment to excellence, was at the forefront in helping the nation fight this pandemic in all possible ways. Our faculty and researchers responded to this challenge by coming up with several innovations and research projects in a record time of one and a half months. As a fellow alumnus and Director, I take pride in mentioning about a few of the remarkable initiatives taken up by IIT Kanpur during these critical times.

Various challenging R&D projects that included the development of a disinfectant chamber, positive pressure respiratory system, PPE kits, oxygen concentrator, nano fiber based N95 masks, protective surface coating for N95 masks, and so on were undertaken. However, the most challenging project was developing an indigenous mechanical invasive ventilator by a consortium of IIT Kanpur faculty, alumni, industry experts, and our incubate Nocca Robotics. The story of IIT Kanpur Ventilator has shown how innovative medical products can be developed in India with passion and commitment. Apart from innovation and technological initiatives that are hallmark of IIT Kanpur, the campus community also came forward to help the plight of the needy during these difficult times. A team of many IIT Kanpur faculty and staff, relentlessly worked for preparing cooked meal packages and ration to the needy nearby villagers and migrant workers. Further, I am delighted to share that E-Spin Nanotech Pvt Ltd (founded by our alumnus) has set up a Swasa mask manufacturing facility at the IIT Kanpur campus. The completely automated manufacturing can produce 25,000 masks daily.

It is my great pleasure to reiterate that, even with all the challenges the pandemic brought, it indeed has been an eventful year. My heartfelt congratulations to the respective Institute Fellows and awardees of ‘Distinguished Alumnus Award’, ‘Distinguished Services Award’, ‘Young Alumnus Award’, and ‘Satyendra K Dubey Memorial Award’. Undeniably, the outstanding IIT Kanpur alumni with their spectacular achievements in various fields continue to hold the IIT Kanpur flag flying higher and higher.

It is rightly said that difficult times test our strengths and togetherness as a community. Since the teaching had to be completely shifted to online mode, some of the students with the difficult economic background needed to be supported with laptop and broadband connections. In an attempt to achieve the same, a #OneAlumnusOneStudent fundraising drive was launched. I am indebted to our generous alumni all over the world who contributed to the cause immensely.

With the hope to meet you all someday on our beloved campus when things return to normal! Stay healthy, and stay safe.

"Tamasoma Jyotirgamaya”– “From Darkness lead me to light”.

Best Wishes, Jai Hind! 

-Abhay Karandikar
Mr. Umang Gupta

A 1971 B. Tech. graduate in Chemical Engineering from IIT Kanpur, Mr. Umang Gupta has positively impacted the world around him on multiple dimensions. He has been a pioneer and leader in enterprise software for microcomputers, personal computers and the Internet and mobile platforms. He has transformed multiple IIT alumni organisations globally. From his home in San Mateo, California, Mr. Gupta has been engaged his local community in Silicon Valley and remains a devoted husband to Ruth, proud father to Anjali and Kashi and three grandchildren.

After completing his MBA from Kent State University and working for IBM, Mr. Gupta moved to California and was asked by Larry Ellison to write the first business plan for Oracle Corporation in 1981. Later, Mr. Gupta’s work ushered in the era of Client-Server computing via Gupta Technologies, a software company that he founded in 1984 and led to a successful IPO in 1993, thus becoming the first Indian American to take a software company public on the NASDAQ. After writing that company, he became the Chairman, CEO and largest shareholder of Keynote Systems, an Internet measurement and testing startup that he built into one of the world’s first Software-as-a-Service (SaaS) companies and which he took public in 1999. Keynote acquired 14 other companies over the next 15 years until it was sold to a private equity firm.

When IIT Kanpur alumni in California banded together to establish the IITK Foundation as a nonprofit charity in 2000, Mr. Gupta graciously agreed to be its founding chairperson and expanded its reach across the United States. He donated significant funds to the Foundation and his leadership enabled many others to commit to funding and growing the foundation. After the 50th anniversary of the IIT System, alumni from Bombay, Delhi, Guwahati, Kharagpur and Madras rallied with Kanpur graduates to support him as the founding chairman Pan IIT USA, Inc. Pan IIT Global was created as a loose affiliation of IIT Alumni organizations in Canada, India, Europe, the United States and other parts of the world. Mr. Gupta also served as its chairperson from 2009 to 2016.

As a philanthropist, Mr. Gupta served on the board of what is now the Silicon Valley Community Foundation, which has raised billions of dollars for regional and national causes in the United States. In addition, Ruth and he were donors to, and served as board members of PARCA, a California nonprofit organization that serves the developmentally disabled and their families. He served on the board of the Smithsonian Institution’s Asian Pacific American Center, and as Chairman of the San Mateo County History Museum where he and Ruth have attended the Immigrants Gallery celebrating the contributions of immigrants to California from all over the world.

IIT Kanpur takes great pride in honouring Mr. Umang Gupta as an Institute fellow.
Prof. Ashutosh Sharma

Prof. Ashutosh Sharma is a visionary academicians who has made some exceptional interdisciplinary contributions in nanosciences and nanotechnology fields. Since January 2015, he has been serving as the Secretary, Department of Science and Technology, Government of India where he has helped in initiating several new programs related to infrastructure and human capacity building, innovation and startups, R&D in advanced manufacturing, waste processing, clean energy and cyberphysical systems, industry-academia cooperation, science communication, women scientists and instigated major international collaborations in the areas of priority for the nation.

Prof. Sharma received his B.Tech. in Chemical Engineering from IIT Kanpur in 1982. He obtained his master’s from Pennsylvania State University and later joined the doctoral program at the State University of New York, Buffalo, and obtained a Ph.D. under the supervision of Prof. Eli Ruckenstein in 1987. For the next three years, he worked as a research scientist with the Department of Ophthalmology, School of Medicine and Biomedical Sciences, State University of New York. In 1991, he moved back to India and joined IIT Kanpur as an Assistant Professor in the Department of Chemical Engineering. He later served as Head, Chemical Engineering from 2003 to 2005.

Prof. Sharma’s research contributions are highly interdisciplinary, spanning a wide range of nanotechnology areas: carbon based nanocomposites and NEMS/NEWS in energy, health and environment, functional interfaces, mechanics of soft matter, nanotexturing and nanofabrication, colloid and interfacial engineering, biomaterials & bio surfaces, wetting, adhesion and thin polymer films. He has made original contributions to the understanding of the behavior of thin films and other highly confined nanoscale systems. He has explained the instability and evolution of morphology of thin films on homogeneous substrates by 3D nonlinear stability theory and experiments. He has proposed a new theory for dewetting of thin films on heterogeneous and patterned substrates leading to a novel method for the nanofabrication of polymer films by templating. His works on nanofabrication using carbon based materials have led to the development of hierarchically micro to nano structures which are expected to have applications in energy storage devices, sensors in the domain of health care, filtration and so on. He has, so far, published 350 peer reviewed papers, filed over 15 patents, given over 150 invited or keynote conference presentations and mentored a successful nanotechnology start-up.

Prof. Sharma is a recipient of numerous national and international honor and awards including the prestigious Shanti Swarup Bhatnagar award (2002) in engineering sciences for his “original pioneering contribution to the understanding of the behavior of thin films and other highly confined nanoscale systems”. He is also the recipient of the UNESCO medal for outstanding contributions to the development of nanoscience and nanotechnologies (2017), Distinguished alumni award, State University of New York, SUNY Buffalo (2016). In 2010, the Infosys Science Foundation awarded him with the Infosys Prize in Engineering and Computer Science for his “scholarly scientific contributions in the broad areas of nanoscale surface pattern evolution, instability, and the dynamics of thin liquid and solid films and soft matter.” Prof. Sharma was bestowed with the TIAWS Prize in the engineering sciences (2008) for his fundamental contributions to nanomechanics, instabilities and soft organization in soft thin films; nanoscopying, wetting, adhesion and interfacial interactions. In 2007, he received the IIT Kanpur Distinguished Alumni award in 2006, the inaugural Bessel Research Award of the Humboldt Foundation. Other special awards include Homi J. Bhabha Award (2007) for Applied Sciences, University Grants Commission (UGC), Kapsita Gold Medal from Russian Academy of Natural Sciences (2010), Firodia award (2017), Herdillia award (2003), J. C. Bose National Fellowship, DST (2006), National Hari Om Ashram Trust Awards (2007) and R. C. Mehrotra Memorial Lifetime Achievement Award (2010). He is an elected fellow of the Indian National Academy of Engineering, National Academy of Sciences and Indian Academy of Sciences. He has also been an INAE Chair Professor from 2011 to 2013, and C. V. Seshadri Chair Professor, 2012. IIT Kanpur takes great pride in honouring Professor Ashutosh Sharma as an Institute Fellow.
Prof. Vishwanath Sinha

Prof. Vishwanath Sinha was born on January 07, 1943 at Bhagalpur, Bihar and did his B.Sc. Engineering in Telecommunication from Bihar Institute of Technology Sindri (then under Ranchi University) and MS and D.Sc. from University of Ljubljana (pronounced as Lyubljana), Slovenia. He joined the Institute on December 15, 1971, as an Assistant Professor jointly in the Advanced Centre for Electronic Systems (ACES) and Electrical Engineering and superannuated on January 31, 2005. During his more than three decades of service, besides his various academic roles he also served the Institute in several capacities, notably as a Warden, Advisor Administration, Professor-in-charge Students’ Affairs (DOSA), IEEE Chairman, Head of the Department, and as Deputy Director for more than two terms.

On leave of absence he was a Researcher at INPE (Brazilian Space Research Institute), Sao Jose dos Campos, Brazil; a Visiting Professor at University of Puerto Rico, Mayaguez Campus, USA; and several short assignments as a Guest Professor at RWTH-Aachen University of Technology, Germany, and also as a Visiting Professor at Swiss Federal Institute of Technology, Lausanne, Switzerland.

As a faculty member of ACES he was involved in several R&D projects like ‘cutter rejection platform’, ‘troposcatter communication system’ and ‘defence digital satellite communication’ of which, he was the coordinator. He was also the principal investigator for GIST (Graphics and Indian Script Terminals). Yet another project was the Nationally Coordinated Telematics Project of MHRD run at all the then five IITs and IISc Bangalore. He was the National Coordinator of the JTG (Joint Telematics Group) from 1992 till 2003.

During his stay in IIT Kanpur he organised several national and international conferences. As a part of the JTG activity, the group organised ‘National Conference in Communication’ (NCIC) in 1995 and at the start of next cycle again in 2001. This Conference, a leading one in the country in area of ‘communication and networking’ is organised every year by rotation in the five IITs and IISc. He was quite active in technical societies and had held the position of Council Member of IETE, Chairman of IETE Kanpur Centre, Chairman of IEEE UP Section. He is a Life Fellow of all these Societies.

He was the Founding Director of the LNM-IIT Jaipur, first ever public-private University in the country, set up by Government of Rajasthan and the Foundation of Mr LN Mittal. He continued there as a Distinguished Professor and Advisor after his term as Director was over. Subsequently he was an Emeritus Professor at MNIT Jaipur and later became Academic Chair of E & ICT. He continues to be associated with the Academy in a honorary capacity.

In Recognition of his significant contributions to this Institute, IIT Kanpur is pleased to confer upon Prof. Vishwanath Sinha, the Institute Fellow for the year 2020.

IIT Kanpur takes great pride in honouring Professor Vishwanath Sinha as an Institute Fellow.
The Mehta Family Centre for Engineering in Medicine at IIT Kanpur is poised to set up a Centre for Engineering in Medicine with the generous support from Mr. Rahul Mehta of Mehta Family Foundation. The vision of the Centre is to generate significant impact in health care in India in terms of research/technology output in addition to the grooming of next generation leaders who are well trained in these interdisciplinary areas.

National Technology Hub for Cyber Security of Cyber Physical Systems

The National Mission on Interdisciplinary Cyber Physical Systems under the auspices of the Department of Science and Technology has declared IIT Kanpur as the site for Technology Innovation Hub (TIH) in Cyber Security of Cyber Physical Systems. The Hub will be a single point source for all information related to the cyber security and applications.

Rice-IITK Collaborative Centre

Rice-IITK Collaborative Centre is the first of its kind set up in India where a leading US university has set up a physical center at an Indian university. The Center was inaugurated on 9 January 2020 when the MoU was signed between William Marsh Rice University and IIT Kanpur. The Center’s research focuses on developing the right materials and suitable processes for solar photovoltaics, energy storage, alternative fuels, electro-catalysis, and water treatment and remediation.

Pseudo-dynamic test facility

Pseudo-dynamic test facility (PDTF) has been set up at IIT Kanpur with the generous support from Department of Science and Technology. This state-of-the-art facility, the first of its kind in India, will be used for testing of prototype structures for evaluation of seismic performance.
IT Kanpur and CDAC signed an MoU to establish a 1.3 peta FLOP supercomputing facility ‘PARAM Sanganak’ at Indian Institute of Technology Kanpur under the National Supercomputing Mission (NSM). The facility shall be connected over National Knowledge Network and is made available to the scientific and academic community to strengthen the research and development in the country.

Multiple Slit Nozzle-Based High Volume PM2.5 Impactor Assembly

As part of an initiative for boosting local manufacturing, IIT Kanpur developed a Technology titled “Multiple Slit Nozzle-Based High Volume PM2.5 Impactor Assembly”. The technology has been licensed to a startup company Airshed Planning Professionals Private Limited for local manufacturing. The technology is developed to study different parameters of air pollution.

Padmavati - an ecofriendly water quality testing device

A cost effective eco friendly water quality testing device, ‘Padmavati’ was developed by two incubated start-ups Earthface Analytics Pvt. Ltd & Kritsnam Technologies Pvt. Ltd. The device is for analysing and monitoring water quality through easy to use colorimetric teststrip, based on smartphone technology that screens multiple important water quality parameters in less than 2 minutes.

Med Tech Facility & EMI/EMC Testing Facility

As a part of National Biopharma Mission (NBWM), a MedTech facility and EMI/EMC testing facility are being established at IIT Kanpur. The MedTech will establish a cost-effective and efficient fabrication facility at IIT Kanpur which will benefit from utilizing the resources under industrial-academia collaborative efforts to increase the indigenisation of Biopharma and medical devices in India. The EMI/EMC testing facility would provide extensive compliance tests of all types of medical instruments starting from low frequency to RF range.
One of the incubated companies, GARV Toilets, is selected among the 28 companies in the Sustainable Development and Growth sector chosen by the United Nations Development Programme.

Swasa (N95) mask manufacturing at IIITK

The Director, IIIT Kanpur, inaugurated the Swasa (N95) mask manufacturing facility. E-Spin Nanotech, founded by an IITK alumnus, and Indeema Fibres, incubated at IIITK, have set up this facility in the campus.

Indigenous, High-End, Portable Invasive Ventilator

Nocca Robotics, designed and developed an high-end yet affordable, indigenous ventilator necessary for providing life support to critically ill COVID patients. Bharat Dynamics Ltd., leading defence PSU under the Ministry of Defence, Govt. of India, has joined hands for the large-scale production of the device.

IIT Kanpur’s incubator was declared the Best Incubator in India at the International Innovation Fair, Hyderabad. Representatives from 40 countries attended the event. IIITK displayed 11 featured technologies and won 3 gold & 2 silver medals in different categories. IIIT Kanpur also received STEM Impact Award 2019 for Impactful Technology Transfer Activities in the Institute.
Prof. V. K. Stokes
Awarded in 2014

Prof. A. Ghosh
Awarded in 2014

Prof. D. Chakravorty
Awarded in 2014

Prof. R. Sharan
Awarded in 2016

Prof. Somenath Biswas
Awarded in 2017

Prof. S. P. Mehrotra
Awarded in 2017

Prof. R. N. Biswas
Awarded in 2015

Prof. A. K. Mallik
Awarded in 2015

Prof. D. Balasubramanian
Awarded in 2015

Prof. H. S. Mani
Awarded in 2017

Prof. Mohini Mullick
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Awardees of Institute Fellows
(2005-2018)