Achievements

Padma Shri Awards

Prof. Sanjay G. Dhande, former Director and Prof. Manindra Agrawal, Department of Computer Science and Engineering have been conferred the prestigious Padma Shri Award (2013) by the Government of India for their distinguished contribution to the field of Science and Engineering.

Prof. Sanjay G. Dhande, Department of Mechanical Engineering was conferred the prestigious Padma Shri Award in the category of Science and Engineering. Prof. Dhande was born on 14th February, 1948. He did his BE in 1969 from the University of Poona from the Department of Mechanical Engineering and PhD in 1974 from IIT Kanpur from the Department of Mechanical Engineering. Prof. Dhande served as Dean, Research and Development from 1999 – 2001 and as Director of IIT Kanpur from 2001 – 2012.

Prof. Dhande was the founder director of PDPM Indian Institute of Information Technology Design and Manufacturing, Jabalpur. PDPM IIITDM Jabalpur is a beneficiary of the protocol signed by the Prime Ministers of India and Japan. Prof. Dhande has established another new Institute, the Indian Institute of Saddlery Technology and Export Management (IISTEM) at Banther near Kanpur under the aegis of the Indian Ministry of Commerce and Industry, in order to develop the traditional technology available in the region. He has been assisting the Indian government by preparing the vision documents and charters for the Indian Institutes of Science for Education & Research (IISER) at Pune and Kolkata. He served as a part-time member of the Telecom Regulatory Authority of India. Prof. Dhande has worked in the field of Computer Aided Design, Rapid Prototyping, Rapid Tooling and Reverse Engineering. AUTOLAY, an innovative CAD technology that he developed for the Indian Aeronautical Development Agency is used by several aircraft manufacturers around the world and is also used for the
Prof. Manindra Agrawal, Department of Computer Science and Engineering was conferred the prestigious Padma Shri Award in the category of Science and Engineering. Prof. Agrawal was born in Allahabad. He did his BTech (1986) and PhD (1991) from the Department of Computer Science and Engineering at IIT Kanpur. After a brief stint at Chennai Mathematical Institute, and the University of Ulm as a Humboldt Fellow, he joined the Department of Computer Science and Engineering at IIT Kanpur in 1996 and is the Dean of Faculty Affairs as well as the Dean of Resource Planning and Generation.

Prof. Agrawal works in theory of computation; specifically, in complexity theory, algorithmic number theory and algebra. His best known work is in algorithmic number theory: along with two of his students, he designed the first deterministic polynomial time algorithm for testing the primality of a number. He has also made important contributions to the Isomorphism Conjecture: a conjecture that postulates that all NP-complete sets are essentially identical. He has shown that for a large subclass of NP-complete sets the conjecture indeed holds, and that under a plausible hypothesis, the entire conjecture is true. More recently, he has been working on the Polynomial Identity Testing problem: given a polynomial as a sequence of addition and multiplication operations, check if the polynomial is non-zero. This problem has an efficient randomized algorithm, but no deterministic one is known. He has shown that a deterministic, black-box algorithm (a black-box algorithm ignores the input structure) for this problem yields a lower bound in arithmetic complexity, and has formulated a conjecture that results in separation of VP from VNP, the arithmetic analogues of the classes P and NP.

Prof. Agrawal is an editor of the journal “Theory of Computing and Computability”. He is a Fellow of several academies: Fellow of the Third World Academy of Sciences (FTWAS), Indian National Science Academy, Indian Academy of Sciences, National Academy of Sciences, and Indian National Academy of Engineers. He is a recipient of several awards including the Clay Research Award (2002), the ICTP Prize (2003), the Distinguished Alumnus Award of IIT Kanpur (2003), the S. S. Bhatnagar Award (2003), the Meghnath Saha Award (2003), the Godel Prize (2006), the Fulkerson Prize (2006), the Infosys Prize (2008), the G. D. Birla Prize (2009), Third World Academy of Sciences (TWAS) in Mathematics (2010), the Humboldt Prize (2011), and the H. K. Firodia Award (2011).

New Chair Professors

D. N. Wadia Chair Professor: Prof. S. K. Tandon, former faculty member, Department of Geology, University of Delhi has been selected as the D. N. Wadia Chair Professor, sponsored by the Ministry of Earth Sciences, Government of India.


Ministry of Steel Chair Professor: Prof. Dipak Mazumdar, Department of Material Science and Engineering has been selected for the Chair Professorship sponsored by the Ministry of Steel, Government of India. Homepage: [http://home.iitk.ac.in/~dipak/](http://home.iitk.ac.in/~dipak/)
Honours and Awards

Prof. Ashok Kumar, Department of Biological Sciences and Bioengineering has been selected for the TATA Innovation Fellowship from the Department of Biotechnology (DBT).

Prof. M. Ramamoorty, former faculty member, Department of Electrical Engineering, who is currently visiting the department received the Malviya Excellence Award in Power Systems.

Prof. Mukesh Sharma, Department of Civil Engineering has been awarded the Kong Ha Award for Excellence in Air Quality Management.

Prof. Vinod K. Singh, Department of Chemistry, currently Director IISER Bhopal has been awarded the Distinguished Alumnus Award by the Banaras Hindu University for the year 2012.

Prof. Arvind K. Sinha, Department of Humanities and Social Sciences has been elected a Fellow of the National Academy of Psychology.

Prof. S. C. Srivastava, Department of Electrical Engineering received the Academic Excellence Award 2012 at the 17th National Power Systems Conference held at IIT BHU, Varanasi, for his exemplary contribution in the field of power engineering.

PanIIT Alumni Global Conference 2012

PanIIT Alumni Global Conference 2012 was held from 7th – 9th December, 2012 at the Science City Convention Centre, Kolkata. The theme this year was: Excel, Transform, and Sustain. The Governor of West Bengal Mr. Mayankote Kelath Narayanan and Mr. Ajit Singh (Union Minister for Civil Aviation) took part in the inaugural session. More than 1,500 IIT delegates congregated from all over the world to interact, network, listen and learn from great iconic leaders and also to decide how they will contribute in India's nation-building efforts. The focus of the conference was to take the nation building mission forward with the active participation of every member present. The meet also focused on 'The Resurgence of the East' with the chief minister of West Bengal Ms. Mamata Banerjee addressing the delegates and interacting with them. She tried to capture the commitment and engagement of some of the best minds in nation building projects and initiatives with an emphasis on those in the eastern states, specifically West Bengal. The conference helped to bring about a meaningful dialogue between local talent and its prospective employers from the world over and provided a road map to help India secure its position in the new echelons of global power.
The PanIIT Global Conference 2012 also hosted a technology exhibition, in which all the IITs participated by showcasing their rich history and the activities in which they are currently engaged in various states. Several multinational technology leaders also exhibited their state-of-the art and futuristic technologies. The exposition covered the technology and innovations achieved by India's medium and small scale industries as well.

The conference provided an opportunity for the display of Bengal's wealth of culture, its heritage, and its many tourist attractions. Special programmes of classical and contemporary music and dance were also created for the participants. On the second night, the well-known pop singer Ms. Usha Uthup and the IITK band entertained the audience with their songs. There was also enthusiastic participation from the PanIIT's own fold.

A galaxy of brilliant speakers like Mr. N. R. Narayana Murthy (MT/EE/69), Mr. R. Gopalakrishnan, Director (Tata Sons), Ms. Nancy Powell (US envoy to India), Prof. Lord Kumar Bhattacharya (Chairman and founder of the Warwick Manufacturing Group), and Dr. Srikumar Banerjee (Director, Bhabha Atomic Research Centre) took part in the conference. Mr. Arvind Kejriwal, the new “crusader” for India's teeming masses, also made his presence felt at the Conference.

The members of the IIT Kanpur contingent were: Prof. Indranil Manna (Director), Prof. Sudhir Misra (Secretary Alumni Association), Prof. Manindra Agrawal (Dean, RPG), Mr. Mohammad Shakeel (Deputy Registrar, R&D) and Mr. O. P. Srivastava (Assistant Registrar, DRPG). Several students, a few faculty members and staff members of the DRPG office also participated in this conference.

PanIIT 2012 Photo gallery
The Golden Jubilee Reunion of the 1962 batch was formally inaugurated on 23rd November, 2012 by Prof. Indranil Manna, Director, at the outreach auditorium. Nearly 35 alumni from India and abroad took part in the reunion. There were presentations by Prof. Manindra Agrawal (Dean, Resource Planning and Generation and Officiating Dean of Faculty Affairs), Prof. Ajit Chaturvedi (Dean, Research and Development), Prof. Dheeraj Sanghi (Dean of Academic Affairs) and Prof. A. K. Ghosh (Dean of Student Affairs). The alumni were told about the changes that the Institute has undergone over the years, such as the construction of new hostels, academic buildings and sports complex. The alumni in turn shared knowledge of the latest advancements in their respective fields of work. The second day began with the planting of saplings on the campus followed by a group photography session in Park 67. The guests were then taken for a campus tour. The fun and frolic continued with lunch being served outdoors. This was not the end to the excitement and joy, as cultural programmes were organized during the evening. Before the day ended, the ex-students made it a point to speak with students presently studying in the institute. The message to students during the interactive session was that hard work and a die-hard spirit are necessary to achieve ambitions. The reunion came to an end on the third day with the felicitation ceremony and lunch for the former students and their families at the residence of the Director.

The Silver Jubilee reunion of the Batch-of-1988 was held from 26th – 29th December, 2012. The alumni were determined to enjoy every single minute of their much awaited reunion, and were undeterred by the icy winds and plummeting temperature. More than 75 alumni from across the globe took part in the reunion. A late night walk around the campus was followed by a late night bulla session at the Visitors Hostel Lawns on
On the 26th, the alumni went around the campus cycling, walking, running, and jogging after breakfast. They interacted with the Heads of Departments, visited their departments, and went around the academic area. In the evening, they played a soccer match between old-time Hall 2 and Hall 3 residents. Later, there was a concert by Ankita Mishra (finalist of Indian Idol 3) followed by the reunion dinner and an inevitable late night bulla session.

On the 28th morning, yoga, meditation, jogging, and cycling around the campus were arranged for the alumni and their families. After the inaugural function and the photo session, the alumni interacted with the Deans and went for a picnic lunch at the mango grove. They also interacted with the current students and gymkhana representatives while their families were taken on a bus tour of the academic area. In the evening, the alumni and their families were entertained by the IITK band. Some other activities enjoyed by the alumni were antakshari, a visit to the Astronomy Club's newly developed Planetarium, a trip to Bithoor, an Aloo Paratha breakfast, a visit to their hostel rooms, and phatta cricket.

The "batch of 88" has contributed more than one crore towards their batch fund to support their alma mater. This is the first time a batch fund has crossed the one crore threshold. Mr. Nishith Mohan (coordinator of the event) organized the batch reunion and helped in fund-raising with incredible energy and enthusiasm. The Batch-of-1988 have donated towards the following activities: Noida Extension Center, naming of a Squash Court (Batch of 1988 Squash Court—Contributed by Shiv & Uma Kapoor (Parents of Rishi Kapoor)), Opportunity School, Vivekananda Samiti, Students Emergency Fund, Prayas, and Tinkering Lab.
The 35th Year Reunion of the Class-of-78 was held from 4th – 6th January, 2013. Nearly 30 alumni from India and abroad took part in the reunion. After arrival they went on a campus tour and had lunch at the Visitors Hostel. Dinner that night was around a bonfire and was followed by a bulla session at the Visitors Hostel Lawns. There was a formal inaugural function on the 5th morning followed by presentations by Prof. Manindra Agrawal (Dean, Resource Planning and Generation and also Dean of Faculty affairs), and Prof. Dheeraj Sanghi (Dean of Academic Affairs). The various departmental heads were also invited during this session to interact with the visiting alumni. In the evening there was an interactive session with the students' gymkhana and a panel discussion with students on “India of my dreams” at the outreach auditorium. The reunion dinner was held at Hotel Royal Cliff. On the last day the alumni had breakfast in Hall-1 and then went for a trip to Bithoor. The reunion came to an end with lunch and a felicitation ceremony at the Director's residence.
New Faculty Members

Prof. Manindra Agrawal, Department of Computer Science and Engineering, took over as the new Dean, Faculty Affairs in December, 2012. His research interests are in the area of Complexity Theory, Computational Number Theory, Cryptography, Complex Analysis, and Combinatorics.

Homepage: http://www.cse.iitk.ac.in/users/manindra/

Dr. Somnath Bhowmick has joined the Department of Material Science and Engineering. He obtained his PhD from IISc Bangalore.

Homepage: https://sites.google.com/site/somnathbhowmick/

Dr. Sagar Chakraborty has joined the Department of Physics. He obtained his PhD from S. N. Bose National Center for Basic Sciences, Kolkata.

Homepage: http://www.iitk.ac.in/phy/New01/profile_Sagar.html

Dr. Nilesh Prakash Gurao has joined the Department of Material Science and Engineering. He obtained his PhD from IISc Bangalore.

Homepage: https://sites.google.com/site/nileshgurao/home

Dr. Puneet Prakash has joined the Department of Industrial and Management Engineering. He obtained his PhD from Georgia State University, USA.

Homepage: https://sites.google.com/site/puneetprakash/

Dr. Ketan Rajawat has joined the Department of Electrical Engineering. He obtained his PhD from the University of Minnesota, USA.

Homepage: http://home.iitk.ac.in/~ketan/

Dr. Sujeet Kumar Sinha has joined the Department of Mechanical Engineering. He obtained his PhD from Imperial College, London, UK.

Homepage: http://www.engineeringmaterials.org/sujeet

Dr. Naveen Tiwari has joined the Department of Chemical Engineering. He obtained his PhD from the University of Massachusetts, Amherst, USA.

Homepage: http://www.iitk.ac.in/che/faculties/tiwari_naveen/nt.htm
Distinguished Lectures

Dr. Devendra Shukla Distinguished Lecture: Prof. V. M. Sharma, Director, Associated Instruments Manufacturers India (Pvt.) Ltd. (AIMIL), New Delhi give a lecture titled “Dams- Incidents and Accidents” on 9th November, 2012. In his talk Prof. Sharma discussed various aspects of dam design and learning from their failures. Dams are capital intensive structures. It takes a long time to investigate, design and construct dams. While dams are essential for the economic development of the society as they provide storage for water supply, serve as a cushion to absorb the floods, produce clean hydroelectric power with little or no negative impact and water for irrigation, their failure can be catastrophic. Every failure provides a chance to learn from what went wrong and how to improve the system so that a similar failure does not take place again. The case histories of the Tigra brick masonry dam near Gwalior which failed due to sliding after the first filling, the Koyna dam which suffered during an earthquake due to a faulty design, the Francis dam which failed due to the increased height of the reservoir water level, the Vajont dam which suffered due to a slide in the reservoir area and the prestigious Teton dam which was designed by USBR, but not instrumented as there was 'nothing to learn anymore', were used to illustrate the lessons learnt.

About the Speaker: Prof. V. M. Sharma is one of the Directors of AIMIL Ltd. He did his BTech in Civil Engineering from IIT Kharagpur, Master's in Water Resources Development from the University of Roorkee, and PhD in Rock Mechanics from IIT Delhi. He served as the Director, Central Soil and Materials Research Station (CSMRS) for six years before starting a technical Consultancy Division with AIMIL Ltd. Prof. Sharma has wide experience in geotechnical investigations/ instrumentation and has contributed extensively to the practice of underground engineering, rock mechanics, and non-destructive testing in India. He has published about 250 papers and edited/co-edited nearly 10 books. He is a Fellow of the Indian National Academy of Engineering, an Honorary Fellow of the Indian Geotechnical Society, and the President of the Indian Society for Engineering Geology. He has also served on the editorial board of the prestigious journal, Materials and Structures of Reunion Internationale des Laboratoires et Experts des Materiaux RILEM.

About the Donor: The Dr. Devendra Shukla Distinguished Lecture in the Department of Civil Engineering has been made possible from the donation by Dr. Devendra Shukla (BT/CE/67). Dr. Shukla did his PhD in Structural Engineering from the University of Delaware, USA. Dr. Shukla is the Founder President and CEO, Innovative Technical Solutions, which is now a part of Gilbane Construction Company.

Professor K. R. Sarma Distinguished Lecture: Prof. Arindam Ghosh, School of Electrical Engineering and Computer Science, Queensland University of Technology, Brisbane, Australia gave a lecture titled Power Hardware in the Loop (PHIL) – Power Electronic Amplifier Application in Smart Grid Simulation on 21st December 2012. In his lecture Prof. Ghosh pointed out that modern power systems are very complex. Often digital computer simulations are performed for hypotheses testing. However the main deficiency of simulation is its dependence on the models of power system components, which are not often realistic. Power Hardware in the Loop (PHIL) simulation is made possible due to the availability of computers with fast parallel processing capability. In this, the part of the system for which accurate models are available can be simulated in near real-time and interfaced with those components for which accurate models are not reliable. A real time digital simulator (RTDS) is one tool that can simulate complex systems in near real time. However, to interface the RTDS with a specific piece of hardware, power amplifiers are required to convert signals from TTL signal level to power level. His talk highlighted how voltage source converters can be used
as power amplifiers. In addition, he also mentioned how PHIL simulation can deal with issues related to the stability and accuracy of the system.

**About the speaker:** Arindam Ghosh is a Professor of Power Engineering in the School of Electrical Engineering and Computer Science, Queensland University of Technology, where he joined as a research capacity building professor in 2006. Before this, he was a faculty member at IIT Kanpur for 21 years (since 1985). He obtained his PhD from the University of Calgary, Canada in 1983. His research interests are in power electronic applications in the control of power systems and pulsed power. Prof. Ghosh is an IEEE fellow and an author of several books.

**About the donor:** The Professor K. R. Sarma Distinguished Lecture in the Department of Electrical Engineering has been made possible from the donation by Dr. K. Sri Nageswari, wife of Prof. K. R. Sarma, former faculty member in the Department of Electrical Engineering.

**About Prof. K. R. Sarma:** Prof. Kalluri Ramlinga Sarma, affectionately known as ‘KRS’, can be best described as a creator of institutions. He joined IIT Kanpur in 1961 after completing his PhD from Cornell University in the USA. He started at IIT Kanpur at a time when foundations were being laid both of the buildings and of the UG program in various disciplines. Working in close collaboration with Prof. P. K. Kelkar, the visiting Professors from the KIAP program and young colleagues, Prof. Sarma put together a curriculum which became the benchmark for other institutions in the country. He developed and taught courses in the Electrical Engineering department and contributed to the successful evolution of the core program of the institution. He pitched in wherever there was a need and taught Graphics, Technical Arts and even History. After working in the Institute from 1961 to 1988 he moved to the Department of Science and Technology (DST) in Delhi. There he played a key role as an advisor in National Programs in Instrumentation, Laser and Robotics. From 1991-97 he directed the Central Scientific Instrument Organization (CSIO), Chandigarh, a CSIR laboratory. After retiring from CSIR in 1996, Prof. Sarma joined the Samtel Group of Industries and immediately set about initiating a culture of R&D in the company. In recognition of his outstanding contribution to IIT Kanpur and the larger world outside over the last five decades, the Board of Governors of IIT Kanpur conferred upon Prof. K.R. Sarma the title of Honorary Fellow of IIT Kanpur on March 16, 2007.

**Institute Lectures**

**Prof. Marek Behr,** Rheinisch-Westfälische Technische Hochschule Aachen (RWTH Aachen), Germany gave a lecture titled “Physiological Modeling in Computational Hemodynamics” on 5th November, 2012. Prof. Marek Behr obtained his PhD from the University of Minnesota in Aerospace Engineering and Mechanics in 1992. After that he was at the Army High Performance Computing Research Center, Minneapolis; Department of Mechanical Engineering and Materials Science, University of Houston, and at Technische Universität München. In 2004 Prof. Behr joined RWTH Aachen as the Chair for the Computer Analysis of Technical Systems (CATS). He is also an adjunct professor at Rice University and serves as the President of the German Research School for Simulation Sciences and the Scientific Director for the Aachen Institute for Advanced Study in Computational Engineering Science. Prof. Behr is on the editorial board of several journals. His areas of interest include high performance computing, finite element analysis, optimization, modeling moving boundaries and interfaces, complex fluids and hemodynamics.

For details of the talk please visit: [http://www.iitk.ac.in/dord/institutelecture/2012/Marek_Behr.pdf](http://www.iitk.ac.in/dord/institutelecture/2012/Marek_Behr.pdf)
Prof. J. N. Reddy, Department of Mechanical Engineering, Texas A & M University gave a lecture titled “Numerical Simulations of Problems Using the Finite Element Method in Science and Engineering” on 2nd January, 2013. Prof. Reddy is a Distinguished Professor and inaugural holder of the Oscar S. Wyatt Endowed Chair in Mechanical Engineering at Texas A&M University, College Station, Texas. He has authored over 450 journal papers and 17 text books on theoretical formulations and finite-element analysis of problems in solid and structural mechanics (plates and shells), composite materials, computational fluid dynamics, numerical heat transfer, and applied mathematics. Prof. Reddy is known for his research on the mechanics of composite materials and for computational methods. The shear deformation plate and shell theories that bear his name are well known in the literature. Finite element models developed by him have been implemented into commercial software like ABAQUS, NISA, and HYPERFORM. Prof. Reddy has had a profound influence on the careers of many students and young researchers around the world through his teaching, research papers, and well-received textbooks. Prof. Reddy has earned numerous national and international awards, and is one of the few researchers in engineering who is recognized by ISI Highly Cited Researchers.

For details of the talk please visit: http://www.iitk.ac.in/dord/institutelecture/2012/JNReddy.pdf

Workshops, Conferences and Meets

The Annual Global Conference on Entrepreneurship and Technology Innovation (AGCETI) was held from 7th – 9th December, 2012. AGCETI is an event organized annually with long term prospects in the field of entrepreneurship. The conference focuses on providing participants with real opportunities to help them find real growth. The 3rd AGCETI 2012 was held at IIT Kanpur in association with the International Management Institute, New Delhi, Rensselaer Polytechnic Institute (RPI), New York, USA and National Entrepreneurship Network, Bangalore. The conference saw active participation from a large number of countries including UK, Indonesia, Portugal, Norway and Austria. The conference was inaugurated by Prof. Ajit K. Chaturvedi (Dean, R&D).

For details about the conference visit: http://siic.iitk.ac.in/conferences/agceti2012/

A Workshop on Reliability Theory and Survival Analysis was organized by the Department of Mathematics and Statistics. The workshop was held from 3rd – 5th December, 2012 at the Pioneer Batch Continuing Education Centre Building (PBCEC Building, Visitor's Hostel). The purpose of the workshop was to provide an opportunity to researchers working in various sub areas of Reliability Theory and Survival Analysis to come together and discuss past, current and future developments in the area. The workshop also aimed to provide a joint forum for interaction between advance level PhD students and young researchers with senior established researchers.

For details about the workshop visit: http://www.iitk.ac.in/math/rtsa/ and http://www.iit.ac.in/math/rtsa/programme.html
The Inter IIT staff sports meet was held from 27th – 31st December, 2012. The Meet had the eight most popular sports in the country - Athletics, Badminton, Basketball, Cricket, Table Tennis, Volleyball, Tennis and Football in both individual and team based categories. In the men's events, IIT Kanpur won the Gold in Badminton and Basketball, Silver in Cricket, Shot put and Javelin throw and Bronze in Football, Volleyball, Discuss throw, 1500 m race and 4 x 100 Relay race. In the women's events, IIT Kanpur won the Gold and Silver in Shot put, Silver in Badminton, Bronze in the 200m Race and in Table Tennis. IIT Kanpur, however, won the second position while IIT Delhi won the General Championship.

Obituary

Prof. Manohar Prasad, Department of Mechanical Engineering, was born on 24th January, 1942 in a small village in Bihar. He got his BTech in Mechanical Engineering in 1965 from Bihar College of Engineering, Patna (now called NIT Patna). Thereafter, he joined the Mechanical Engineering Department of IIT Kanpur as Associate Lecturer in 1966. While serving at IIT Kanpur, he completed his MTech in 1969 and his PhD in the area of energy conversion in 1976. Prof. Prasad retired from the Institute in 2004.

Prof. Prasad passed away on 15th January, 2013 in Kanpur. He is survived by his wife, son, two daughters and grand-children.

The Institute expresses its deepest condolences to the bereaved family of Prof. Prasad and prays for the peace of the departed soul.
Institute Initiatives

Mobile App.: The Institute, along with the Alumni Association, launched a mobile app. on both iOS and Android platforms during the Pan IIT meet held in Kolkata in December 2012. The app. is meant for alumni, students and staff of the Institute and will have search for alumni (both local and global), news about IITK and alumni, information about Institute events like batch reunions, Antaragni etc., links to the institute Facebook and LinkedIn groups, facilities for updating one's profile, and making donations. The mobile app. has been made possible due to the efforts of Mr. Salil Dave (BT/EE/1986), of Microsoft Corporation who is also the vice president, Alumni Association and a team of professionals from Ever True (www.evertrue.com).

New York Office: The Institute has set itself an ambitious target to reach a strength of 500 faculty members from its current strength of 352 by the year 2020. This is a very important and essential requirement since the student population has grown from 3000 to nearly 6000 and will get close to 7000 over the next few years. The Institute has initiated a number of steps to achieve this target like the establishment of KIRAAN (Kanpur IIT Research and Academics Network), a network of alumni academicians to help identify potential faculty, led by Prof. Raj Bordia (University of Washington). Another initiative is the establishment of an IITK office in New York. This office will support KIRAAN, besides helping the Institute in a number of other activities, e.g., fund raising, R&D alliance with industry and universities, and student exchange, internships, and placement. The office is located on William Street (next to Wall Street) in Manhattan, and the space is generously provided rent-free to the institute by Mr. Sanjiv Khosla (BT/CSE/1986). He is also planning to use the office as an on-site tech accelerator for startups and project ideas by our students.

Noida Convention Center: The Institute had acquired 5 acres of land in Noida sometime ago with the aim of making a small convention center there for supporting outreach activities. The plans for the center are ready and the foundation laying ceremony was performed on 4th December in Sector 62, Noida. A detailed map of the location is at: http://goo.gl/WuVtb and the plan of construction at: http://goo.gl/WiH0h.

Bhoomi Pujan of a New Lecture Hall Complex was held on 17th January, 2013. Prof. Indranil Manna (Director), Prof. S. C. Srivastava (Deputy Director) and Prof. Dheeraj Sanghi (Dean, Academic Affairs) performed the puja. Several faculty and staff members were present on the occasion. This lecture hall complex will have 3 lecture halls, one with a 600 seats capacity and the other two with a capacity of 400 seats each.
Student Initiatives

Student Gymkhana Golden Jubilee Celebration

The Opening Ceremony was held on 9th September, 2012 at the NEW SAC. It had various events spread over the day, starting with a duathlon that comprised of running and cycling. It saw participation from around 350 students and a few faculty and staff members. The duathlon was followed by refreshments and an Air Show by the Aeromodelling Club. A stick-bomb was used for the inauguration of the ceremony by the then Director, Prof. Sanjay G. Dhande and Deputy Director, Prof. S. C. Srivastava. The council exhibitions were inaugurated and then the audience proceeded to see the nukkad naatak “Sab Chalta Hai” produced by the Dramatics Club. There were performances also by the Music Club, the Dance Club and Prayas. It was good to see seniors and juniors performing together at these events. Former Deans of students’ affairs were also invited and their blessings sought.

Laugh it out: A stand-up comedy event "Laugh it out" was organised on 25th September 2012. The idea behind the event was for it to act as a stress buster for the students after the midsems. For about three hours, comedians like Mr. Sunil Pal, Mr. Raja Rancho, Mr. Irfan Malik and Mr. Ali Hasan charmed the whole gathering with their jokes and punches. The event was hosted by comedian cum anchor Mr. Rajan Shrivastav and was attended by more than 5000 people, including a large number of faculty members as well. Although one of the invited performers, Mr. Nitin Gupta (Rivaldo), could not come due to medical reasons, the show managed to keep its audience in splits of laughter.

Visit by Dr. A. P. J. Abdul Kalam: The scale of the events marking the Gymkhana Golden Jubilee Year got considerably raised by former President of India Dr. A. P. J. Abdul Kalam's visit on 25th October, 2012. During his visit he also went to the airstrip to see the aerostat made by IIT Kanpur students, faculty and ADRDE. He spoke about his life both as a student and as a teacher and exhorted the audience to work towards the upliftment of society and the legacy they would like to leave behind. He also recited a small poem titled “I will fly and fly” and ended his speech with a solemn oath. The DM and the DIG, who happen to be our own alumni, were also present on the occasion. Despite the event being organised during the midsem break, the main auditorium was packed to capacity and the rest of the hopeful audience was directed to L7 and L16, where the event was being screened live. The session was followed by a high tea for everyone.
The 48th Inter IIT Sports Meet 2012 was held from 17th – 24th December, 2012 in Roorkee. The Aquatics meet was held from 2nd to 5th October. A 150 strong contingent participated in the meet. Mr. Subedar Major Vijay Kumar, Silver Medalist in London Olympics, 2012 was the Chief Guest at the inaugural ceremony. The Inter-IIT Sports Meet is held annually every December among the seven Indian Institutes of Technology and is hosted by any one of the IITs in turn. An Inter-IIT Aquatics Meet is held separately as part of the main Meet each year preceding the main Inter-IIT Sports Meet. A General Championship is awarded to the team that shows the best performance in both the Inter-IIT Sports meet and the Inter-IIT Aquatics meet combined. The event encompasses twelve of the most popular sports in the country, in both individual and team based categories.

With its eye on the GC every institute puts its players through a hard and rigorous selection and training program, as a result of which you see only the best pitting themselves against the best. IIT Kanpur stood 4th in the race for General Championship in the boys and the girls category, climbing up by one position from last year in both the categories. The Athletics team won the overall championship after a gap of nearly 20 years.

The final results of IIT Kanpur are as follows:

**Gold** - Athletics

**Silver** - Squash (boys team), Table Tennis (boys team), Badminton (girls team), Volleyball (girls team)

**Bronze** - Tennis (boys team), Swimming (boys team), Basketball (girls team), Table Tennis (girls team)
Being inside a planetarium and thus being closer to the heavens has been a memorable experience for most of us. It is an experience which is very close to watching the clearest of night skies. The planetarium is a room which has a large spherical dome to facilitate spherical projection which can showcase the animated night sky and the wonders of the cosmos. Accordingly a low cost planetarium was in our mind and it was proposed as a student project. We envisaged that we would use a mirror projector system, consisting of a single mirror and a projector for projecting over a curved surface as in the spherical dome, which would project a variety of images on the screen. This would be housed in a hall that can accommodate 20 people. The geodesic design, which is like the model of a football but has triangles as its basic building blocks, offered the best option for the construction of the dome. After constructing the dome, we decided to make triangular sections of cloths with laces to fit the cells by tying it to the connecting rods. The mirror projector system that we opted for consisted of a normal projector and a convex lens. The projection over almost the entire surface of the dome was achieved by placing the mirror projection system at the rim of the spherical dome. This allowed the light from the projector to fall on the surface of the mirror and then get projected over the surface of the dome as shown in the given ray diagram.

Our future plans include acquiring a better mirror for the projector to improve the quality of the images. We also plan to design the warping software, which will allow movies and documentaries to be projected on the screen. We also plan to project anaglyph 3D images on the screen. With the help of anaglyph 3D glasses, such a projection would give realistic images of various objects and photographs. We also have plan to automate the projection system. One of the dream projects is to build a simulator. The planetarium's curved screen can provide a 3 dimensional vie marking it seem as if you are a part of it. We plan to design maps in such a way that when projected on to the dome it will simulate some real world and by using a joystick we will be able to move inside it. The computers can aid us by allowing us to make any kind of virtual world we can think of from the microscopic scale to a galactic size. Using software, we can also determine how stars will appear from other planets, for instance from Mars.

The construction team consisted of the following students:
Akshat Singhal (MTH, MSc-5yrs), Nidhi Pashine (PHY, MSc-5yrs), Subham Gupta  (CE, BT-MT Dual), Karthik Vijaykumar (MTH, MSc-5yrs), Anupam Kumar (PHY, MSc-5yrs), Manjeet Kasotiya (ME, BTech), Puneet Bhatia (ME, BTech), Dibya Ranjan (CSE, BT-MT Dual), Anu Tripathi (CE, BT-MT Dual), Akanksha Nimesh (CHM, MSc-5yrs), Neha Singh (PHY, MSc-5yrs), Sangeeta Kumari (BSBE, BTech), Divyaratan Popli (BSBE, BTech), Vijin Venu (PHY, MSc-5yrs), Jitendra Doneria (ME, BTech), Himanshu Singh (ME, BT-MT Dual), Kundan Kumar (CSE, BTech), Rachita Sharma (BSBE, BTech), Kshetrimayum Diana Devi (MTH, MSc-5yrs), Rohitangsu Das (CSE, BTech), Shoubhik Gupta (EE, BTech)