



# GRAPEVINE

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*A quarterly newsletter of the Indian Institute of Technology Kanpur for alumni and friends*



## Institute Milestones

**IIT Kanpur is going to play an important role in the Chandrayan-II project:** Dr. Phalguni Gupta, professor-in-charge of the Indian Space Research Organization (ISRO) cell at IITK, said that for Chandrayan-II, IITK has been asked to design and develop some sub-systems for the "Lunar Rover". The main function of the "Lunar Rover" will be to collect soil and other materials found on the Moon surface. These will be subjected to scientific studies by ISRO. In another space related activity, Prof. N. S. Vyas of the Mechanical Engineering Department at IITK has taken the lead in a joint IITK-ISRO program for developing and launching an indigenous nano-satellite. According to Dr. Vyas, the satellite is expected to weigh less than 5 kg and the work on the nano satellite is already in an advanced stage. The satellite will be launched in the polar orbit by ISRO. The satellite named 'JUGNU' will carry an indigenously developed Imaging System, a GPS system and a MEMS based Inertial Measurement Unit as payloads. A ground-station is being built at IIT Kanpur for monitoring its activities and for data communication. He added that the data from the nano-satellite will be used for multiple purposes. IIT Kanpur and ISRO envisage a long term association with more such satellite launches in future.



**DST Unit on Nanosciences:** Dr. T. Ramasami, Secretary, Department of Science & Technology (DST), Government of India, inaugurated the DST Unit on Nanosciences and launched the Indo-US Science & Technology Forum Initiative on Fabronics on 7<sup>th</sup> December, 2008. Dr. Samir K. Brahmachari, Director General, Council of Scientific & Industrial Research, Government of India was the guest of honour. This is a joint venture of IIT Kanpur and the Indo-US Science and Technology Forum. This nano science unit at IIT Kanpur is one of the eight centres supported by the DST across India with the objective of providing state-of-the-art facilities and resources for carrying out research and development activities in the area of soft nano technology. The Kanpur unit, which cost Rs. 15 crore, has several state-of-the-art fabrication and characterization facilities such as e-beam patterning, spin coating, nano-imprint, lithography, maskless lithography, laser ablation, small and wide angle X-ray etc. A core team of around 15 faculty members from all departments of engineering and sciences at IITK are conducting research on various fields related to nanosciences.



## Workshops and Conferences

**Mini-symposium on Indian Nuclear Power Programme:** A mini-symposium on Indian Nuclear Power Programme was organized jointly by the Nuclear Engineering & Technology Programme and Indian Nuclear Society (INS) on 18<sup>th</sup> October, 2008 at the Outreach Auditorium. The symposium was organized to mark the birth centenary of Dr. Homi Bhabha, a great visionary and founder of the Indian Nuclear programme. Inaugurating the mini-symposium, Prof. S. G. Dhande, Director, IITK, emphasized the need to popularize nuclear engineering among students. The faculty coordinators of the symposium were Prof. A. Sengupta, Prof. M. S. Kalra, Prof. Prabhat Munshi and Prof. S. Qureshi.



**Workshop on Patent Drafting:** A workshop on "Patent Drafting" was organised from 7<sup>th</sup> - 9<sup>th</sup> November, 2008 and was conducted by a team comprising of Prof. V. C. Vivekanandan, Professor of Law and Director, NALSAR Proximate Education, Hyderabad; Dr. Anindya Sircar, Global Intellectual Property Head, Biocon and Shri. T. V. Madhusudhan, Assistant Controller of Patents & Designs, Chennai Patent office. The workshop was intended for the faculty, staff, and students of IITK, who are interested in, or are engaged in, patenting.

**Association for Computing Machinery Inter Collegiate Programming Contest (ACM ICPC) 2008:** ACM ICPC was held at IIT Kanpur from 15<sup>th</sup> to 16<sup>th</sup> December, 2008. Prof. Phalguni Gupta of IIT Kanpur was the Contest Director, Asia, Kanpur Site. ACM ICPC is the largest computer programming contest in the world which provides college students with an opportunity to demonstrate and sharpen their problem-solving and computing skills. There are fifteen sites in Asia and Kanpur is one of them. This is the tenth year that IIT Kanpur has organized the ACM ICPC (Asia Region). The winning team of each site will be eligible to participate in the world finals which will be held in April, 2009 in Stockholm at "The Royal Institute of Technology". Team "brute force" from the Atal Bihari Vajpayee Indian Institute of Information Technology and Management, Gwalior was the winner at the Kanpur site.

## Lecture Series

### Institute Lectures

**Nobel Lecture Series in Chemistry:** Prof. R. Gurunath of the Chemistry Department, IITK delivered a lecture on, "The Nobel Prize in Chemistry 2008". This lecture was organized by the IITK Chemical Society. This year the Nobel Prize in Chemistry was awarded to O. Shimomura (b1928, Marine Biological Laboratory (MBL), Woods Hole, MA, USA and Boston University Medical School, MA, USA), Martin Chalfie (b1947, Columbia University, New York, NY, USA) and R. Tsein (b1952, Howard Hughes Medical Institute, University of California, San Diego, La Jolla, CA, USA) for their discovery and development of the green fluorescent protein (GFP).



O. Shimomura Martin Chalfie R. Tsein



**Popular Lecture:** Prof. V. S. Sunder who is currently a faculty member at IMSc, Chennai, gave a talk on "Braids" on 1<sup>st</sup> November, 2008. Through this talk he introduced the audience to the theory underlying Braids and showed how group theory is quite invaluable in various disciplines. Prof. Sunder is a fellow of all the three science academies in India. He was awarded the prestigious Shanti Swarup Bhatnagar Award for Mathematical Sciences in 1996. Prof. Sunder has authored several textbooks and research monographs on functional analysis, measure and probability, von Neumann algebra, subfactors and quantum field theory.

**Prof. Jagadishwar Mahanty Lecture series in Physics:** Under the Prof. Jagadishwar Mahanty Lecture series in Physics, Prof. Deepak Mathur delivered a talk on "Interaction of intense light with matter and of matter with intense light" on 7<sup>th</sup> November, 2008. Prof. Mathur is presently a Senior Professor at TIFR and concurrently is also the Director of the UM-DAE Centre for Excellence in Basic Sciences, a joint venture between the Department of Atomic Energy and the University of Mumbai. His present research interests are in strong field science, ultrafast phenomena and biological physics. In recognition of his pioneering contribution to the fields of atomic and optical physics, he received the prestigious Shanti Swarup Bhatnagar Award and the J. C. Bose National Fellowship. He is a fellow of the Indian National Science Academy, Delhi and the Indian Academy of Sciences, Bangalore.



**Hari Sahasrabuddhe Lecture Series:** Dr. Leslie Valiant of Harvard University gave a lecture titled, "When Biology is Computation" on 15<sup>th</sup> December, 2008. Dr. Valiant is a British computer scientist and computational theorist. He was educated at King's College, Cambridge, Imperial College, London and the University of Warwick where he received his Ph.D. in computer science in 1974. He started teaching at Harvard University in 1982 and is currently the T. Jefferson Coolidge Professor of Computer Science and Applied Mathematics in the School of Engineering and Applied Sciences. Prior to 1982 he taught at Carnegie Mellon University, Leeds University and the University of Edinburgh. Dr. Valiant is renowned for his work in theoretical computer science. He received the Nevanlinna Prize in 1986, the Knuth Prize in 1997 and the EATCS Award in 2008. He is a Fellow of the Royal Society (London), a Fellow of the American Association for Artificial Intelligence and a member of the National Academy of Sciences (USA).

**Dr. Mo Jamshidi** delivered a talk on "System of Systems Innovations for 21<sup>st</sup> Century" on 16<sup>th</sup> December, 2008. Currently, he is the Lucher Brown Endowed Chair Professor of the University of Texas Systems and is also working at the University of Texas, San Antonio, TX, USA. Dr. Jamshidi received his MS and Ph.D. degrees in EE from the University of Illinois at Urbana-Champaign in June 1969 and February 1971, respectively. He was the founding Director of the Center for Autonomous Control Engineering at the University of New Mexico in 1995 and then moved the Center to the University of Texas, San Antonio in 2006. He was a Senior Research Advisor at the US Air Force Research Laboratory, KAFB, NM from 1984-1990 and 2002-2005. He was also an advisor for the NASA Headquarters from 1998-2004 and was also on NASA JPL's Pathfinder Project mission and on their Surface Systems Track Review Board.



## Distinguished Lecture Series



**Prof. P. Balaram** (MSc/Chemistry/1969) is one of the foremost scientists of the country working in the area of Bioorganic Chemistry and Molecular Biophysics. He is currently the Director of the Indian Institute of Science, Bangalore. His research has won him accolades all over the world and he has been recognized by the prestigious Shanti Swarup Bhatnagar Award, Fellowships of various academies and several distinguished lecture awards. In addition to his prolific research Prof. Balaram is also well known for his incisive and provocative editorials in Current Science. The Government of India honoured him with the Padma Shri in 2002. Prof. Balaram has also won the IITK Distinguished Alumnus Award 2000. Under the distinguished lecture series, instituted by the Department of Chemistry, Prof. Balaram gave a talk entitled, "Probing conus venom peptide libraries by mass spectrometry" on 7<sup>th</sup> November, 2008.

## Student Achievements, Activities & News

**Best Paper Award:** Mr. Sajad A. Loan, a PhD student of the Department of Electrical Engineering, has been awarded the "Merit Student Paper Award" at the 2008 IEEE International Conference on Semiconductor Electronics held at Johor Bahru, Malaysia. The title of his paper is "A Novel Multizone Doped and Multistep Oxide High Breakdown Voltage Lateral Bipolar Transistor on SOI". Mr. Sajad is working with Prof. S. Qureshi and Prof. S. Sundar Kumar Iyer.



**Antaragni 2008:** The Annual Cultural Festival of IIT Kanpur, Antaragni started on 23<sup>rd</sup> October, 2008 with a dazzling performance by a troupe from the Russian Academy of Theatre Arts, Moscow. The first day of festivity ended with a sarod recital by maestro Habib Khan and his group who enthralled the audience with their classical music recital, which was further enlivened with a touch of jazz. Then there was the 'India Inspired' panel discussion on "Youth and Politics - The Perpetual Blame Game". The panelists included former the Chief Election Commissioner, J. M. Lyngdoh, Congress MP Navin Jindal and the BJP leader Rajiv Pratap Rudi. The Hasya Kavi Sammelan was, as always, a highly popular event. The kavis Mr. Surendra Sharma, Mr. Arun Gemini, Ms. Sarita Sharma, Mr. Shambu Shekhar and Mr. Utkarsh Srivastava kept the vast audience in splits with their ready wit and verse. The highlight of Antaragni-2008 was the live performance of the dynamic trio, Shankar Mahadevan, Ehsaan Noorani and Loy Mendonsa who performed live in the programme Blitzkrieg. They were accompanied by up coming playback singers Anushka and Raman and the surprise star of the evening was Farhan Akhtar, director, singer and actor. The grand finale of this cultural festival was the high-energy performance of the Irish rock band "Glyder" in Synchronicity.



**Inter IIT Aquatic meet 2008 :** IIT Kanpur students performed exceptionally well in the recently concluded Inter IIT Aquatic meet 2008 held at IIT Madras from 6<sup>th</sup> to 9<sup>th</sup> October, 2008. The IIT Kanpur women's team won the team championship and the men's team under Mr. Prateek Gupta's captaincy, got the third position in water polo. The stars of the meet were Prateek Gupta and Akanksha Gupta, both of whom won several medals each in various individual swimming events.



## Faculty News

### New Faculty Appointments

- ✦ Dr. Sri Sivakumar joined the Department of Chemical Engineering (Ph.D from University of Victoria, Canada).
- ✦ Dr. Nisanth N. Nair joined the Department of Chemistry (Ph.d from Hannover, Germany).
- ✦ Dr. Pratik Sen joined the Department of Chemistry (Ph.D from IACS, Kolkata, India)
- ✦ Dr. Subhas Chandra Misra joined the Department of Industrial and Management Engineering as visiting faculty.
- ✦ Dr. Anurag Gupta joined the Department of Mechanical Engineering (Ph.D from Berkeley, U.S.A).



**Sri Sivakumar**



**Nisanth N. Nair**



**Pratik Sen**



**Subhas. C. Misra**



**Anurag Gupta**

### Faculty Awards and Honours



Prof. Sanjay Mittal, Department of Aerospace Engineering, has been appointed the Dean of Academic Affairs for a period of three years. Dr. Mittal's areas of research interest are aerospace engineering, computation fluid dynamics, finite element methods, parallel computing and flow-induced oscillations. He has been honoured with many awards in recognition of his work, the most significant being the prestigious Shanti Swarup Bhatnagar Award in 2006, the Swarnajayanti Fellowship in 2003, the A. K. Bose Memorial Award of the Indian National Science Academy (INSA) in 2002 and the Indian National Academy of Engineering (INAE) Young Engineer Award in 2000.

- ✦ Prof. P. K. Bharadwaj, Department of Chemistry, has been elected to the Fellowship of the Indian National Science Academy, New Delhi. This is a singular honor which recognizes the seminal contributions of Prof. Bharadwaj in diverse areas of research including supramolecular chemistry, molecular devices and metal organic frameworks.
- ✦ Prof. V. Chandrasekhar, Head, Department of Chemistry, has been invited to be on the Board of Editors of the prestigious journal "Organometallics" published by the American Chemical Society.
- ✦ Dr. Bharat Lohani and his associates of the Civil Engineering Department have been awarded second prize in the CATCON competition during the recently concluded International Society for Photogrammetry and Remote Sensing Congress at Beijing for developing the LiDAR simulator.
- ✦ Prof. C. V. R. Murthy, Department of Civil Engineering and Prof. S. K. Gupta (retired), Department of Mathematics and Statistics, have been selected for the Distinguished Teachers Award 2008. They were felicitated for their achievement on 5<sup>th</sup> September, 2008 on the occasion of Teachers' Day.
- ✦ Dr. S. N. Tripathi, Department of Civil Engineering, has been invited to join the Editorial Board of the Indian Journal of Aerosol Science and Technology (IJAST) to be published by IASTA. He has also been invited to serve as a member in the Publications Committee of the American Geophysical Union.
- ✦ Dr. Bikramjit Basu, Department of Materials and Metallurgical Engineering, has been invited to join the Editorial Board of the "International Journal of Biomaterials".
- ✦ Dr. Krishanu Biswas, Department of Materials and Metallurgical Engineering, has been awarded the Young Metallurgist of the Year, 2008 Award (Indian Institute of Metals) by Ministry of Steel and Mines.
- ✦ Dr. A. Sengupta, Emeritus Fellow in the Department of Mechanical Engineering, has been appointed the Guest Editor of the Journal on Nonlinear Analysis, Theory, Methods & Applications and of the International Multidisciplinary Journal.
- ✦ Prof. R. C. Budhani, Department of Physics, has been elected to the Fellowship of the Indian National Science Academy, New Delhi.
- ✦ Prof. Debashish Chowdhury, Department of Physics, has been elected as a fellow of the National Academy of Sciences, India.
- ✦ Prof. M. Anandkrishnan, Chairman Board of Governors, IIT Kanpur has been honoured by the Chhatrapati Shahu Ji Maharaj University, Kanpur with an honorary degree of 'Doctor of Science'.
- ✦ Prof. T. K. Chandrashekar, Department of Chemistry, has been appointed as Director of the National Institute of Science Education and Research (NISER), Bhubaneswar.

## Felicitation Ceremony

The Institute felicitated Prof. Ashutosh Sharma (Department of Chemical Engineering), Prof. J. N. Moorthy (Department of Chemistry) and Dr. Yogesh Joshi (Department of Chemical Engineering) on 28<sup>th</sup> November, 2008: Prof. Sharma for receiving the TWAS award, Prof. J. N. Moorthy for receiving the Shanti Swarup Bhatnagar Award and Dr. Joshi for receiving the Indian National Academy of Engineering Science (Allahabad) and Young Scientist Platinum Jubilee Award in Physical Sciences. Prof. M. Anandakrishnan, Chairman Board of Governors, IIT Kanpur, presided over the function.



## Book Release

- ★ "Separatism in North East India: Role of Religion, Language and Script" by Prof. Kunal Ghosh and his associate Mr. Vikas Kumar, Department of Aerospace Engineering.
- ★ "Ghar - Parivar Ki Suraksha", the Hindi translation of "Family Safety" by Prof. J. P. Gupta, Department of Chemical Engineering, has been released. The translation was done by Dr. R. K. Dubey, a renowned Hindi writer of Delhi.
- ★ "Recent Advances in Linear Models and Related Areas" by Dr. Shalabh, Assistant Professor, Department of Mathematics and Statistics, has been published by Springer.
- ★ "Modeling of Metal Forming" by Prof. P. M. Dixit, Department of Mechanical Engineering and "Machining Processes by Finite Element and Soft Computing Methods" by Prof. P. M. Dixit and Dr. U.S. Dixit, Mechanical Engineering Department, IIT Guwahati has been published by Springer-Verlag London Limited.
- ★ "Physics and Applications of Negative Refractive Index Materials" by Dr. S. Anantha Ramakrishna, Associate Professor, Department of Physics and Dr. T.M. Grzegorzczak of MIT, USA. It has been published by the CRC Press (A division of Taylor and Francis) and co-published by SPIE Press.
- ★ "Introduction to Mechanics" by Dr. Mahendra K. Verma, Associate Professor, Department of Physics, has been published by Universities Press, Hyderabad. This book is intended for first year B.Tech. /B.Sc. students.

## Obituary



**Prof. P. C. Joshi:** Prof. P. C. Joshi, was born on 2<sup>nd</sup> December, 1942 in Ranikhet, Uttaranchal. He obtained his Ph.D from the University of North Carolina in 1969. Prof. P. C. Joshi joined IIT Kanpur (Department of Mathematics and Statistics) in 1970 and retired in 2004. His research areas were order statistics, detection of outliers and linear models. Prof. Joshi passed away on 3<sup>rd</sup> December, 2008, having suffered from cancer for the last two years. He is survived by his wife and two sons.

**Sid Agrawal (BT/EE/1974):** Mr. Sid Agrawal was shot dead by a laid-off worker in California on 14<sup>th</sup> November, 2008. Mr. Agrawal was the CEO of SiPort and had a very successful career in the Silicon Valley. He worked at various places including Intel, Alliance Semiconductors, Adobe and Bell Labs. He did his MS from Southern Illinois University and MBA from the University of Chicago. The IITK Alumni Association and the Class of 1974 has established the Sid Agrawal Memorial Fund in honour of his memory. This fund will be used to provide UG scholarships, an award for entrepreneurship, and to organize programs to promote entrepreneurship at IITK.



**Lalit Chaudhary (BT/ME/1983):** A mob of ex-employees stormed into the office of the Italian company, Graziano Transmissioni in Noida, near Delhi on 22<sup>nd</sup> September, 2008 and physically attacked company officials. Lalit Kishore Chaudhary, the Managing Director, was bludgeoned to death. Mr. Chaudhary played a vital role in starting the Indian subsidiary of Graziano Transmissioni which manufactures parts of power transmission systems for Automotive and Industrial applications. Prior to this he worked for 15 years for Harig-India, a manufacturer of hydraulic power systems for India's tractor industry. Mr. Chaudhary was well known for his personal courage, steadfastness and firm principles.

**Pramod Kumar Jha (BT/CE/84):** Gujarat police CID inspector general, Pramod Kumar Jha passed away on 7<sup>th</sup> September, 2008, at Ahmedabad's Sterling Hospital. Jha (47) was just recovering from cirrhosis of the liver when he had a brain haemorrhage which proved fatal. During his illustrious career, Jha cracked the famous RDX landing case; exposed the sinister goings on in the Sabarmati Central jail; and helped put several officers behind bars for corruption.



The Institute expresses its deepest condolences to the bereaved families of Prof. Joshi, Mr. Agrawal, Mr. Chaudhary and Mr. Jha and prays for the peace of the departed souls.