

## ACADEMIC CALENDAR FOR AUTUMN SEMESTER 2011-12

EVENT	DATE	DAY
Welcome, Orientation and Registration Programme for all new UG entrants	July 25, 2011	Monday
Registration for new PG entrants (for PhD students)	July 26, 2011	Tuesday
Registration for all existing UG & PG students	July 27, 2011	Wednesday
First day of Instruction	July 28, 2011	Thursday
Last date for late registration with fine	Aug 02, 2011	Tuesday
Last date for course adjustment	Aug 05, 2011	Friday
<b>Mid Semester Examination (MSE)</b>	<b>Sep 19 – 24, 2011</b>	<b>Monday to Saturday</b>
Last date for showing mid-semester answer copies to students	Sep 30, 2011	Friday
Last date for sending list of courses to be offered in Autumn semester 2011-2012	Oct 28, 2011	Friday
Last date for General Time Table slot allocation for Autumn Semester 2011-2012	Nov 11, 2011	Friday
Course pre-registration and submission of fee for Spring Semester 2011-2012 (but registration in next semester is subjected to the qualifying criterion of minimum CGPA in current semester as per the Institute rules.)	Nov 14 -18, 2011	Monday to Friday
Last day of Instruction	Nov 22, 2011	Tuesday
<b>End Semester Examination (ESE)</b>	<b>Nov 23 – 26, 28 – 29, 2011</b>	<b>Wednesday to Saturday and Monday to Tuesday</b>
Make-up-Examination	Dec 05 and 07, 2011	Monday and Wednesday
Last date for submission of Grades	Dec 08, 2011	Thursday
Winter Break begins (Only for UG students)	Nov 30, 2011	Wednesday
Winter Vacation (Only for Teachers)*	Dec 13 – 21, 2011	Tuesday to Wednesday
*Teachers can avail their vacation leave according to the Institute rules.		
IAPC meeting	Dec 09, 2011	Friday
Declaration of Results	Dec 12, 2011	Monday
Registration for all existing UG & PG students and Registration for all new PG entrants (PhD students) for spring semester 2011-12	Dec 26, 2011	Monday
First day of Instruction for spring semester 2011-12	Dec 27, 2011	Tuesday

### Institute Holidays for the Year 2011

S.No.	Holiday	Date	Day of Week
01	Republic day	26-Jan-2011	Wednesday
02	Milad-Un-Nabi	16-Feb-2011	Wednesday
03	Maha Shivratri	02-Mar-2011	Wednesday
04	Ram Navami	12-Apr-2011	Tuesday
05	Mahavir Jayanti	16-Apr-2011	Saturday
06	Good Friday	22-Apr-2011	Friday
07	Buddha Purnima	17-May-2011	Tuesday
08	Independence Day	15-Aug-2011	Monday
09	Janamashtami	22-Aug-2011	Monday
10	Idu'l Fitr*	31-Aug-2011	Wednesday
11	Mahatma Gandhi's Birthday	02-Oct-2011	Sunday
12	Maha Navami	05-Oct-2011	Wednesday
13	Vijaya Dashami	06-Oct-2011	Thursday
14	Diwali	26-Oct-2011	Wednesday
15	Chhatth Puja	01-Nov-2011	Tuesday
16	Idu'l Zuha(Bakrid)*	07-Nov-2011	Monday
17	Guru Nanak's Birthday	10-Nov-2011	Thursday
18	Muharram*	06-Dec-2011	Tuesday
19	Christmas Day	25-Dec-2011	Sunday

### Announcement for Anwasha'11

Anwasha is a techno-cultural fest organized by the students of Indian Institute of Technology Patna. Following the grand success of the first festival in 2010, it is back this year in a bigger and better avatar. Anwasha which literally means 'quest' is a quest for every individual to reach his full potential. Anwasha brings together a splendid collection of events. This 3 day fiesta promises to be a truly enthralling experience to one and all. Anwasha'11 will be held in the first week of February, 2011. The faculty in charge for this event is Dr Aditya Raj of the Department of Humanities and Social Sciences. We invite you to visit our website: <http://www.anwasha.info/>

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# Newsletter from IIT Patna **Impulse**

### From the Director's Desk



Dear Friends,

2010 was a successful year for IIT Patna. We have added many research and teaching laboratories. New faculty members have joined in various departments. We have a collaboration with the University of North Texas, USA. There were many visitors from India and abroad who spent time with us. We added a new Boys' Hostel and there were many programmes and recognition by the students. Based on this background, we hope that 2011 will be better year for us. Our aspirations require that we continue to build on the accomplishment of last year. We have strengthened and broadened our capabilities to contribute not only to the nation but also to the world. We have created an environment in which our faculty, staff and students are able to thrive and make their best contributions to IIT Patna's mission. Our efforts to improve best practices and follow ethical values will continue. We plan to develop the campus at Bihta this year. The boundary wall is almost complete and the concept design and master plan have been finalized. We expect that many more bright and energetic faculty members will choose IIT Patna as their destination during 2011. We hope that our students and faculty will bring laurels to the institute this year. We also plan to develop a few more laboratories and facilities. Our endeavor to reach rich potential and discover the passion of each and every person in this campus will gain momentum. This Newsletter will give you a broad overview of the achievements of IIT Patna during the last semester and I am sure that you would enjoy reading the newsletter.

Wishing you a very happy and prosperous NEW YEAR!

Anil K. Bhowmick

### Index

Directors Message	1
Board Meeting, International Collaboration, New Appointments	2
Workshop, PAN IIT, Industrial Tours	3
Celebration, New Laboratories	4
New Hostel, New Classrooms, Training & Placement Cell	6
Publications	7
Invited lectures, Sponsored Projects	10
Visits Abroad, Lectures & visitors	11
Student's Activities, Research Scholars	12
Research Scholar's Conference Presentations	14
Student's interacting with visitors, Sports	15
Celebrations, Literary Corner	16
Academic Calendar	19



It gives us great pleasure to bring you another issue of the Impulse - bi-annual newsletter of IIT Patna. It presents to you a summary of the wide range of academic, administrative, fun, and social events at the institute. We are happy to present to you the academic growth of the faculty and students of IIT Patna. We are committed to the community around the institute. We organized a symposium on Right to Education Bihar Rules in collaboration with the Unicef Office of Bihar. We also organized several other workshops such as Applications of Video Processing, Campus Classele: A Social Learning Platform, and Intelligent Transportation Systems too. We sincerely acknowledge the cooperation of all the members of IIT Patna for sending information.

Rajesh Kumar  
Nalin Bharti

## Board Meeting



For the first time Board of Governors meeting was held in Patna on August 17, 2010. BoG Chairman Dr. G. Madhavan Nair chaired the meeting.

## International Collaboration



The IIT Patna signed a memorandum of understanding with The University of North Texas at Denton for collaborations in the areas of teaching and research.

Vish Prasad visited IIT Patna on the June 3, 2010. Dr Prasad gave a talk on 'Higher Education in the West'. Dr Vish Prasad is the Vice President for Research and Economic Development at the University of North Texas (UNT), the largest university in the Dallas-Fort Worth area and fourth largest university in the State of Texas, with 34,000 students. At UNT, Dr. Prasad is responsible for promoting the University's mission in research, original scholarship and artistic creativity, building a research park (UNT Discovery Park), and fostering partnerships with government agencies and various industries.

## New Appointments



Professor A. T. Khan from the Department of Chemistry at the IIT Guwahati was appointed the Dean of Faculty Affairs at the IIT Patna.

### New Faculty



Professor Suresh Prasad joined IIT Patna as Professor-in-charge in Training and Placement Cell. Dr. Prasad comes to Patna from IIT Kharagpur. Dr. Prasad graduated with a PhD from IIT Kharagpur in 1979 where he taught for the last 40 years. He received advanced training at various American and Canadian Institutes. Dr. Prasad has published more than 250 research papers and articles in international and national journals, Proceedings and guided 15 doctoral, 84 masters and 42 bachelors level research projects.



Dr. Awalendra Kumar Thakur is an Assistant Professor the Physics Department. Dr. Thakur came to Patna from IIT Kharagpur. He holds a doctoral degree from North Eastern Hills University Shillong. He is a member of the editorial board of The Open Energy & Fuels Journal. His research interests include solid state ionics, renewable energy sources, dielectrics & ferroelectrics, and EMI shielding.



Dr. Anindya Sundar Das joined the Department of Mechanical Engineering as an Assistant Professor. He obtained his doctoral degree from IIT Kharagpur in the year 2009. His area of research is rotor dynamics and rotor vibration control. Previously he was an Assistant Professor in NIT Rourkela.



Dr. Yatendra Kumar Singh joined the Department of Electrical Engineering. For his doctoral dissertation, he has worked on the application of Higher-Order Legendre Polynomials as Basis Functions in Magnetic Field Integral Equation Formulation of Waveguide Discontinuities.



Dr. Samrat Mondal joined the Department of Computer Science & Engineering as an Assistant Professor at IIT Patna. He received the PhD degree from IIT Kharagpur in 2010. His research interests include information security, access control and database systems. He has more than three years of teaching and research experience.

### New Staffs



S. Narendra Babu joined as PS to Director



Mr. Shyam Kumar joined as Assistant Coach.



Kumar Pankaj Anand joined as Executive Engineer (Civil)



Mr. Ashutosh Kumar joined as Junior Engineer (Civil).



Mr. Swatantra Kumar joined as PA to Registrar.



Ms. Neha Vinayak joined as Scientific Officer in the Department of Computer Science and Engineering.



Rajarshi Banerjee joined as Assistant Registrar (Finance & Accounts)

## Institute Symposium

### RTE State Rule

Department of Humanities and Social Sciences in collaborations with the Unicef office of Bihar organized a day long workshop on Right to Education Act (Bihar Rules). Several professionals, MHRD officials, school principals, teachers and activists from all parts of the city and neighboring districts of Patna participated in the workshop. Professor Anil K Bhowmick, the Director IIT Patna welcomed the participants. Ms Nisha Jha, Chairperson of the State

Council for the Protection of Child Right was the chief guest of the workshop. Mr Rajesh Bhushan the State Project Director of the Bihar Education Project Council Anandpuri and Mr Hasan Waris, Director of the State Council for Educational Research and Training were among the speakers at the workshop. The resource person for the workshop included Mr Vinod Raina, Mr Vinay Kanth of the East & West Patna, Mr Gyandeomani Tripathy, Principal Tapindu Education Institute and Ms Shweta Sandilya, the education specialist at the Unicef Office of Bihar.



In the picture from left to right Mr Hassan Waris, Dr Rajesh Kumar, Mr Rajesh Bhushan, Ms Nisha Jha, and Professor Anil K Bhowmick

## Workshop

### Applications of Video Processing

Dr Maheshkumar Kolekar of the Department of Electrical Engineering at the IIT Patna organized a day long workshop on, "Applications of Video Processing (WAVP)" on December 24, 2010. Prof. K. Palaniappan, of the University of Missouri, Columbia, MO, USA was a facilitator for this workshop. The institute Director Professor Anil K. Bhowmick inaugurated the workshop. Faculty, research scholars and students from various Engineering Colleges of the State of Bihar, West Bengal, Punjab, Maharashtra and from industries participated in the workshop. Mr Sabrinath, Cranes Software, Bangalore demonstrated various applications of Video Processing.



Prof Anil K. Bhowmick (Director) and Dr. Maheshkumar Kolekar presenting memento to Prof K. Palaniappan

### Workshop on Campus Classle: A Social Learning Platform (Dec 28, 2010)

Campus Classle is a social learning platform using Technology Enhanced Learning (TEL) as part of education delivery process. It engages students through challenging collaborative environment that facilitates visualization, simulation and investigation. The workshop was inaugurated by the institute Director Professor A K Bhowmick. The speakers included Mr Vaidya Nathan Founder and CEO, Classle Knowledge Pvt. Ltd and Anantha K Raman Senior

Manager Education Operations, Classle Knowledge Pvt Ltd. Dr Rajiv Misra of the IIT Patna conducted the workshop.

### Winter Internship Programme on ITS

Intelligent Transportation System (ITS) aims at an integrated system comprising of number of technologies (including information processing, communications, control, and electronics) with the goal to improve the transportation system. The students were exposed to research area in Intelligent Transportation System Problem during the internship programme. The fellowship were awarded to the participants from DIT (Government of India) sponsored research project.

## PanIIT 2010

IIT Patna participated in the PanIIT 2010 Conference held on Oct 29-31 at the Exposition Center in Greater Noida, UP. The Institute Director Professor Anil K. Bhowmick participated in the higher education roundtable at the PanIIT meet. Dr Rajesh Kumar and Dr Maheshkumar Kolekar represented the faculty of IIT Patna. Krish Mangal, Shiladitya, Vivek Chandel, Vishal Kabra, Lawrence Kumar represented students of IIT Patna as the PanIIT volunteers. The IIT Patna displayed all the stages of it's developments in its stall. It attracted all kinds of visitors. They visitors demonstrated their willingness to help the growth of the institute.



Visitors thronged the stall of IIT Patna at Pan IIT conclave 2010

## Industrial Tours

### Mechanical Engineering

The Department of Mechanical Engineering organized an industrial tour to Steel Plant in Bokaro Steel City October 2010. The students were led by Dr. Subrata Kumar and Dr. S.S. Panda. The idea behind the visit was to show the students the working of a real plant. This has helped them to understand the concepts of manufacturing engineering and power plant engineering in a better way. The students got a chance to see the working and implementation of iron ore collection, sintering plant, blast furnace and continuous casting. This trip brought them an opportunity to see and analyze manufacturing implementations such as hot rolling and cold rolling.

## Electrical Engineering

The Department of Electrical Engineering organized an industrial tour to Kanti Thermal Power Station, NTPC Ltd. Muzaffarpur on 31<sup>st</sup> October 2010 for 5th Semester Electrical Engineering Students as part of EE380 course. The accompanied faculty members are Dr. R.K.Behera, Dr.A. Ali, and Dr. S.K. Parida.

## Celebrations

### Foundation Day

IIT Patna celebrated its second foundation day in August 2010. The day long celebration began with a lecture by Prof. S.K.Guha. The sports competition was organized in the hostel followed by a grand dinner for guests, faculty, staffs, and students. The chief guest on this occasion was Mr. Ravi Kant, Principal Secretary of Science & Technology for the Government of Bihar and a Member of Board of Governors for IIT Patna.



2nd Foundation Day Celebrations on 06-08-2010

### Independence Day



On the occasion of the Independence Day, the students of IIT Patna singing National Anthem

### Hindi Diwas

Hindi Diwas was organized at the IIT Patna on 14<sup>th</sup> September 2010. On this occasion Hindi Knowledge Competition was organized by Hindi Officer Sri Sanjay Kumar, Assistant Registrar. A lot of students, faculty members & staff participated in this competition. Prizes were distributed by the Registrar to the winners (Mr. Santosh Kumar and Mr. Swatantra Kumar).



Hindi Diwas on 14-09-2010

## New Laboratories

### Bioscience Laboratory

Recently Bioscience Lab is being developed in the Science Building at IIT Patna. Research pertinent to biochemistry and biological sciences will be conducted here with particular focus on DNA damage repair studies, construction of DNA related nanometer sized structures and others. IIT Patna got its Institute Biosafety committee (IBSC) approved from Department of Biotechnology, Govt. of India and is ready to conduct experimental research in Biology and Chemistry interface. State of the art instruments like various gel electrophoresis equipments, Gel documentation system, Polymerase Chain Reaction (PCR) machine, mini centrifuge, -30°C refrigerator are present in the Bioscience Lab. Refrigerated Microcentrifuge, Autoclave, Laminar Flow, CO<sub>2</sub> incubator and few others are due to arrive in the Bioscience Lab shortly and add to the list.

### Language Laboratory



IIT Patna has recently developed language laboratory with the capacity of thirty-five students. It will be a great asset for effective and machine aided language instruction. The laboratory is well equipped with audio-visual presentations and has acquired language learning software.

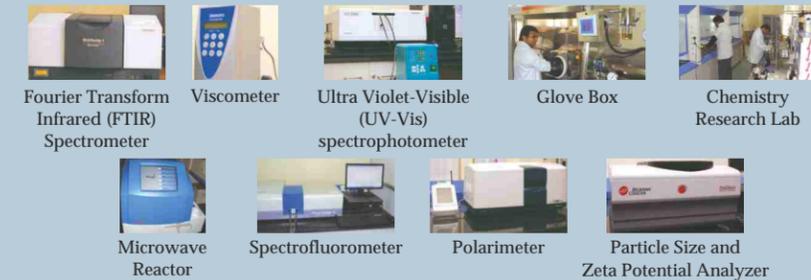
Dr. G. Madhavan Nair (Chairman, BoG IIT Patna) visiting Language Lab.

### Digital Signal Processing Laboratory

Digital Signal Processing Lab is located in Software Technology Park of India building. We have Matlab and Lab-view softwares for DSP experimentation. On December 24, 2010, DSP group conducted workshops on Applications of Video Processing for which faculty from University of Missouri, Columbia USA was invited. Cranes software, Bangalore demonstrated many DSP kits in the lab.

### Chemistry Laboratory

Recently Department of Chemistry installed several sophisticated instruments in its research laboratory. Some of them are shown in the picture below.



### Material Research Laboratory

The newly developed Materials Research Laboratory in the Science Building at IIT Patna is a central facility that caters to the specialized needs of material researchers from all the Departments at the Institute. The pictorial overview of the laboratory along with the instruments installed is given below.



### Instruments in Polymer Engineering Laboratory

Recently developed Polymer Engineering Laboratory at IIT Patna installed several instruments for polymer processing and polymer testing. Some of them are shown in pictures below.



### VLSI Design Laboratory

VLSI Design Laboratory at the IIT Patna is well equipped with high performance computational servers, client systems, and storage area network with high bandwidth LAN connectivity. The lab has Electronic Design Automation tools such as cadence, synopsis, mentor graphics, Xilinx. It now has prototyping and development boards such as Xilinx FPGA boards (Spartan 3E, Vertex-5, Vertex-6, Spartan-3A video starter kit boards, EDK boards, universal trainer kits). The lab has following test and measurement equipments such as arbitrary function generator, digital storage oscilloscope, mixed signal oscilloscope, logic analyzer, spectrum analyzer.

### Embedded System Laboratory

The embedded system laboratory is well equipped with high performance computational systems and software KEIL, winC, RTOS, The lab has development boards like ARM with 7 and 9 processors, PIC microcontroller, Intel 8051 microcontroller, microprocessor (Intel 8085 and 8086) and Interfacing Modules (12 bit ADC-DAC interface, four floor elevator simulator interface, stepper motor controller interface, traffic light controller, DC motor controller, temperature controller with sensors, The lab has add on modules for ARM development board, Wi-Fi module 802.11, GPS module, RF-ID module, servo motor module, USB camera module, I2C bus protocol module, CAN bus protocol module.

### Computer Science & Engineering Laboratory - I



The Department of Computer Science & Engineering has set up an advanced computational laboratory for its undergraduate and research students. This modern laboratory is equipped with sixty-six desktops running latest version of Windows and Linux operating systems. All these desktops are of Make: DELL. A Local Area Network connects all the desktops to the central network of IIT Patna. This lab also has a unit setup of seven Blade Servers with chassis, SAN Storage, Robotic Tape Library and a central KVM display unit. This entire unit is of Make: IBM. Latest version of Red Hat Enterprise Linux is installed on these blade servers. These servers are used for advanced computational simulations and coursework for Computer Science and Electrical Engineering departments. Students of 2<sup>nd</sup> and 3<sup>rd</sup> Year (B.Tech) from the CSE department carry out their lab course work and assignments in this laboratory.

## New Hostel



The IIT Patna has now a third Hostel. The new batch of 2010-13 and some doctoral students are housed in this hostel. This is equipped with a new mess as well as wi-fi system. Dr. Sahid Hussain is the associate warden of the new hostel.

## New Classrooms

### Three virtual NKN (National Knowledge Network) Classrooms

IIT Patna has recently developed three highly sophisticated classrooms equipped with ultra modern electronic gadgets funded by National Informatics Center New Delhi under NKN Project. These classrooms add to the concept of virtual classroom where one can learn something from the teacher who is very far away and also vice versa. These classrooms have interactive writing and visualization system with recording facility. This project was inaugurated nationwide by Honorable President of India Smt. Pratibha Devi Singh Patil in 2009.

Photo courtesy: Dr. Neeladri Das



## Training and Placement Cell

The Training and Placement Cell is actively involved in establishing industrial relation and cooperation for the training and placement of the students. It was installed in January 2010. Eight weeks of summer practical training at the end of 3<sup>rd</sup> year B. Tech degree of Computer Science and Engineering, Electrical Engineering and Mechanical Engineering is a compulsory part of B. Tech. degree curriculum at IIT Patna. Second year students of the above said discipline were interested to undertake training during May-July 2010. Hence, the Training Placement Cell arranged summer practical Training for students who were interested. All interested students have taken summer practical training and research projects in the different organizations in India and abroad. They include industries like Tata Motors, Bharat Heavy Electrical Limited, Rastriya Ispat Nigam Limited, Indian Railway, and Hindustan Aeronautical Limited; and academic institutions like University of Houston, Houston, USA, Louisiana State University, Baton Rouge, USA, and IIT Guwahati, India.

It has developed various facilities in order to assist companies for training and recruitment process such as Training and Placement brochure, high speed wireless internet connectivity, video conferencing facility, seminar room and auditorium. Prof. S. Prasad is the Professor-in-charge of the Training and Placement Cell.

## New E-Journal Acquisitions

The following e-journals have been acquired in the last couple of months in the Central Library of IIT Patna. The library has acquired a huge number of books as well.

- Scifinder Database [www.cas.org]
- SCOPUS [www.scopus.com]
- SIAM Online Journals [www.epubs.siam.org]
- ASME Journals [www.asmedl.org]
- ACM Digital Library [www.portal.acm.org]
- IEEE (IEL) [www.ieeexplore.ieee.org]
- ASTM Standard & Digital Library [www.enterprise.astm.org]
- OSA Journals [www.osa.org]
- Springer Link [www.springerlink.com]
- DEL [www.accessengineeringlibrary.com]
- APS Journals [www.aip.org]
- AIP Journals [www.aps.org]
- ACS Journals [www.pubs.acs.org]
- Science [www.sciencemag.org]
- Nature [www.nature.com]
- Elsevier Science Direct [www.sciencedirect.com]
- ASME Archives [www.asmedl.org]
- Proquest Database [www.proquest.umi.com]
- Proquest Journals [www.proquest.umi.com]
- Ebrary e-books [www.site.ebrary.com]
- World Scientific e-books [www.ebooks.worldscinet.com]
- Taylor & Francis e-Books [www.iitp.etailer.dpsl.net]
- Lecture Notes on Computer Science [www.springer.com/computer]
- Cambridge University Press e-books [www.cambridge.org]
- CRC Press e-books [www.crcnetbase.com]

## PUBLICATIONS

### Journal Publications

A. K. Bhowmick, M. Bhattacharya, S. Mitra, 'Exfoliation of nanolayer assemblies for improved natural rubber properties: methods and theory', *Journal of Elastomers & Plastics*, 42(6), 517-537, 2010

A. Choudhury, A. K. Bhowmick, M. Soddemann, 'Effect of organo-modified clay on accelerated aging resistance of hydrogenated nitrile rubber nanocomposites and their life time prediction' *Polymer Degradation and Stability*, 95(12), 2555-2562, 2010

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N. Roy, A. K. Bhowmick, 'Novel in situ polydimethylsiloxane-sepiolite nanocomposites: Structure-property relationship', *Polymer*, 51(22), 5172-5185, 2010

G.C. Basak, K.D. Kumar, A. Bandyopadhyay, A. K. Bhowmick, 'Elegant way of strengthening polymer-polymer interface using nanoclay', *ACS Applied Materials & Interfaces*, 2(10), 2933-2943, 2010

M. Bhattacharya, A. K. Bhowmick, 'Correlation of vulcanization and viscoelastic properties of nanocomposites based on natural rubber and different nanofillers, with molecular and supramolecular structure', *Rubber Chemistry and Technology*, 83(1), 16-34, 2010

M. Bhattacharya, A. K. Bhowmick, 'Synergy in carbon black filled natural rubber nanocomposites Part II: Abrasion and viscoelasticity in tire like applications', *Journal of Materials Science*, 45(22), 6139-6150, 2010

M. Bhattacharya, A. K. Bhowmick, 'Synergy in carbon black-filled natural rubber nanocomposites Part I: mechanical, dynamic mechanical properties, and morphology', *Journal of Materials Science*, 45(22), 6126-6138, 2010

P. K. Guchhait, S. Pradhan, K.D. Kumar, P. K. Maji, A. K. Bhowmick, 'Influence of nanoclay on the morphology, adhesive and mechanical properties of polysulfide modified epoxy resin', *Polymers & Polymer Composites*, 18(3), 123-131, 2010

M. Ray, J. J. George, A. Chakraborty, A. K. Bhowmick, 'An investigation of the electromagnetic shielding effectiveness of ethylene vinyl acetate elastomer reinforced with carbon nanofillers', *Polymers & Polymer Composites*, 18(2), 59-65, 2010

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trichloroisocyanuric acid and their adhesion behavior with natural rubber', *Journal of Adhesion*, 86(3), 306-334, 2010

A. Choudhury, A. K. Bhowmick, C. Ong, 'Effect of different nanoparticles on thermal, mechanical and dynamic mechanical properties of hydrogenated nitrile butadiene rubber nanocomposites', *Journal of Applied Polymer Science*, 116(3), 1428-1441, 2010

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J. J. George, S. Bhadra, A. K. Bhowmick, 'Influence of carbon-based nanofillers on the electrical and dielectric properties of ethylene vinyl acetate nanocomposites', *Polymer Composites*, 31(2), 218-225, 2010

A. Biswas, N. K. Singha, A. K. Bhowmick, 'Effect of polar modifications on cure characteristics, solvent resistance and thermo-mechanical properties of metallocene-based polyolefinic elastomers', *European Polymer Journal*, 46(2), 364-373, 2010

Z. Ahmad, K. D. Kumar, M. Saroop, N. Preschilla, A. Biswas, J.R. Bellare, A. K. Bhowmick 'Highly transparent thermoplastic elastomer from isotactic polypropylene and styrene/ethylene-butylene/styrene triblock copolymer: structure-property correlations', *Polymer Engineering & Science*, 50(2), 331-341, 2010

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F. R. Costa, S. Pradhan, U. Wagenknecht, A. K. Bhowmick, G. Heinrich, 'XNBR/LDH nanocomposites: effect of vulcanization and organic modifier on nanofiller dispersion and strain-induced crystallization', *Journal of Polymer Science, Part B: Polymer Physics*, 48(22), 2302-2311, 2010

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S. Roj, A. Das, V. Thakur, R.N. Mahaling, A. K. Bhowmick, G. Heinrich, 'Preparation and properties of natural nanocomposites based on natural rubber and naturally occurring halloysite nanotubes', *Materials & Design*, 31(4), 2151-2156, 2010

Aditya Raj 'Representation of Indian society in western media- from brothels, of slumdogs, and the pinks' Diasporic Consciousness: Literatures from the Postcolonial World, Smriti Singh and Achal Sinha (eds.) Germany: VDM Verlag, 2010

I. Smagin, M. Pathak, O. M. Lavrenteva and A. Nir, 'Motion and shape of an axisymmetric viscoplastic drop slowly falling through viscous liquid', Rheologica Acta, DOI 10.1007/s00397-010-0478-1, 2010

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M Kaleem Khan 'Metastable flow inside capillary tubes- A critical review', ASHRAE Transactions, 116 (1), 478-487, 2010

M. H. Kolekar, 'Bayesian belief network based broadcast sports video indexing', Springer International Journal on Multimedia Tools and Applications, 2010

M. H. Kolekar, S. Sengupta, 'Semantic concept mining in cricket videos for automated highlight generation', Springer International Journal on Multimedia Tools and Applications, 47, 545-579, 2010

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Nalin Bharti, G. Ganesh, 'Public-private partnership in India's urban water public utilities: A case of Sonia Vihar water project-Delhi', Journal of Management and Public Policy, 1 (2), 2010

Nalin Bharti, 'Post global financial crisis monetary strategy: Case studies in South Asia and United States', IST Journal on Business and Technology, 2(2), 2009 (Published in December, 2010)

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Preetam Kumar, Saswat Chakrabarti, 'Overloading scheme for cellular CDMA using quasi-orthogonal sequence', International Journal of Signal Processing, 6, 55-60, 2010

R. K. Behera, W. Gao, 'A novel controller design for grid side converter of DFIG for wind power interface: An experimental investigation', International Journal of Electric Power Components and Systems, 38 (6), 1531-1545, 2010

Rajesh Kumar 'Morphosyntax of Hindi infinitives', Problematizing Language Studies, Imtiaz Hasnain and S Chaudhary (eds.), 328-342, New Delhi: Aakar Books 2010

Rajesh Kumar 'Two types of NPIs in Hindi with one licensing condition' Annual Review of South Asian Languages, 19-48, Berlin/New York: Mouton deGruyter, 2010

Rajiv Misra, Chittaranjan A. Mandal, 'Minimum connected dominating set using a collaborative cover heuristic for ad hoc sensor networks', IEEE Trans. Parallel Distribution System, 21(3), 292-302, 2010

Ranjan K. Behera, S. P. Das, 'Multilevel converters fed induction motor drive for industrial and traction drive', IEEE Potential, 29 (5), 28-32, 2010

S. K. Gupta, Anurag Jaiswal, 'Multiobjective higher-order symmetric duality involving generalized cone-invex functions', Computers and Mathematics with Applications, 60, 3187-3192, 2010

S. K. Gupta, Debasis Dangar, 'Duality in fuzzy quadratic programming with exponential membership functions', Fuzzy Information and Engineering, 4, 327-336, 2010

S. K. Gupta, N. Kailey, 'Nondifferentiable multiobjective second-order symmetric duality', Optimization Letters DOI 10.1007/s11590-010-0196-8, 2010

S. K. Gupta, N. Kailey, M. K. Sharma, 'Higher-order symmetric (,,)Fdar-convexity and symmetric duality in multiobjective programming', Computers and Mathematics with Applications, 60, 2373-2381, 2010

S. K. Gupta, N. Kailey, M. K. Sharma, 'Multiobjective second order nondifferentiable symmetric duality involving convex functions', Journal of Applied mathematics and Informatics, 28, 1395-1408, 2010

Saurabh Garg, Karali Patra, Vishal Khetrpal, Surjya K. Pal, Debabrata Chakraborty, 'Genetically evolved radial basis function network based prediction of drill flank wear', Engineering Applications of Artificial intelligence, 23, 1112-1120, 2010

Smriti Singh, Pooja 'Money, nature and patriarchy in Hardy's Tess of the D'Urbervilles', Contemporary Discourse, 1, 2010

Smriti Singh, 'Tarabai Shinde -A 19<sup>th</sup> century feminist', Novel and Society Ashok Kumar Singh and Navin Kumar Singh (eds.), AMS publications, Patna, 2010

## Conference Publication

Aditya Raj, 'Diaspora and education: Community, culture, and capital' Indian Institute of Management Ahmedabad, 2010

Aditya Raj, 'Migration and development: assessing the impact on the 'sending' milieu' All India Sociological Conference, Cuttack, 2010

Akhilendra Singh and I. V. Singh, 'Simulation of non-linear heat transfer problems by EFGM' 5<sup>th</sup> International Conference on Theoretical, Applied Computational and Experimental Mechanics (ICTACEM), IIT Kharagpur, India, 517-522, 2010

Amit. K. Singh and S. K. Parida, 'Optimal placement of DGs using MINLP in deregulated electricity market', Proc. of PEA-AIT International Conference on Energy and Sustainable Development: Issues and Strategies (ESD 2010), Chaing Mai, Thailand, 2010

Ashok Singh Sairam, Ashish Subramaniam and Gautam Barua, 'Defeating reflector based denial of service attacks using single packet filters', Fifth International ICST conference on Communications and Networking China, 2010

Karali Patra, 'Strategies for intelligent tool wear prediction in a machining process' 23<sup>rd</sup> International congress on Condition Monitoring and Diagnostic Engineering Management (COMADEM 2010), Nara, Japan 623-626, 2010

M. Pathak, 'Simulation of a micro-fluidic membrane emulsification process', SMART ANSYS India Conference, Bangalore, 2010

M. R. Ansari and N. K. Nishchal, 'Securing watermarked information using fractional Fourier transform', Ninth International Conference on Fiber Optics and Photonics (PHOTONICS'10), IIT Guwahati, 11-15, 2010

Manoj Kumar Rastogi, Yogesh Mani Tripathi, 'Estimating the parameters of a bathtub distribution under progressive Type II censoring' International Conference on Development and Applications of Statistics in Emerging Areas of Science & Technology, Jammu, 2010

Manoj Kumar Rastogi, Yogesh Mani Tripathi, 'Estimating a Parameter of Burr Type XII Distribution using hybrid censored observations' Ninteenth International Conference on Interdisciplinary Mathematical and Statistical Techniques, Patna, 2010

Manoj Kumar Rastogi, Yogesh Mani Tripathi, 'Estimating the parameters of a Burr distribution under hybrid censoring' International conference on Recent Developments in Statistics, Applied Econometrics and Forecasting, Allahabad, 2010

Marin Bertier, Francois Bonnet, Anne-Marie Kermarrec, Vincent Leroy, Sathya Peri, Michel Raynal, 'D2HT: The best of both worlds: Integrating RPS and DHT', European Dependable Computing Conference, 135-144, 2010

Mithun Mukherjee, Preetam Kumar, 'A new iterative soft decision subcarrier PIC scheme for CI/MC-CDMA system', IEEE PIMRC (The 21<sup>st</sup> Personal Indoor and Mobile Radio Conference, Turkey, 2010

N. K. Nishchal, T. J. Naughton, 'Reconstruction of fresnel digital hologram using fractional fourier transform algorithm', Ninth International Conference on Fiber Optics and Photonics (PHOTONICS'10), IIT Guwahati, 11-15, 2010

N. K. Nishchal, 'Fractional fourier domain optical image watermarking', Proc. of 16<sup>th</sup> Microoptics Conference, Hsinchu, Taiwan, 84-85, 2010,

N. K. Nishchal, 'Wavelet-based distortion-invariant correlation filters; A review', Proc. of 16<sup>th</sup> Microoptics Conference (2010 MOC), pp. 326-327, Oct. 31-Nov. 3, Hsinchu, Taiwan, 2010

N. K. Nishchal, T. Pitkaaho, and T. J. Naughton, 'Digital fresnel hologram watermarking', Proc. of 9<sup>th</sup> Euro-American Workshop on Information Optics (WIO 2010), Helsinki, Finland, 2010

Nalin Bharti, 'Has life become cheap when drugs are costly?: An enquiry in the issue of public health in the post Doha round' Pharmaceuticals in Developing and Emerging Economies Conference jointly organised by Deakin University, Australia and University of Hyderabad, 2010

Preetam Kumar and Saswat Chakrabarti, 'An accurate analytical model for overloaded DS-CDMA under imperfect synchronization', IEEE Vehicular Technology Conference-Spring (VTC-Spring), Taiwan, 1-5, 2010

R. K. Behera, S. P. Das, 'Space vector modulation for a three-level NPC ac-dc converter system: An experimental investigation', Proceedings of IEEE-ICPCES, MNNIT, Allahabad, 2010

R. K. Behera, S. K. Parida and S. P. Das, 'A forced switching technique for current controlled three-level NPC AC-DC converter', IEEE-PEDES 2010-Power India, Indian Institute of Technology Delhi, 2010

R. K. Behera, S. K. Parida and W. Gao, 'Performance improvement of a wind power distribution station using a dynamic voltage restorer', Proceedings of North American Power Symposium (NAPS-2010), The University of Texas, Arlington, USA, 51-57, 2010

R. K. Behera, S. K. Parida, S. Behera and S. P. Das, 'Implementation of a reduced order stator-flux observer for three level NPC inverter-fed induction motor drive', Proceedings of IEEE-IPEC, Suntech Singapore International Convention & Exhibition Centre, Singapore, 95-101, 2010

Raj Kumar Sahu, Munshi Imran Hossain, Karali Patra and Shovan Bhaumik, 'Dielectric elastomers: Materials for future actuators', 10th National Conference on Industrial Problems on Machines and Mechanisms (IPRoMM 2010), MNIT, Jaipur, 17-18, 2010

## Invited Lectures

Anil K. Bhowmick participated and delivered Plenary Lecture in MACRO 2010- International Conference – Frontiers of Polymers and Advanced Materials, New Delhi, 15 December, 2010

Anil K. Bhowmick was invited as Chief Guest at the International Conference on Carbon Nanotechnology: Potential and Challenges, IIT Kanpur, 14 December, 2010

Anil K. Bhowmick was invited as Guest of Honor at Research Scholar Day, IIT Kharagpur, 6 December, 2010

Anil K. Bhowmick was invited as keynote speaker at the Conference on Polymer Science & Engineering (PSE-2010), Chandigarh, 2010

Anil K. Bhowmick was invited as keynote speaker at the International Rubber Conference and Exhibition, Mumbai, 2010

Aditya Raj invited for lectures in Contemporary Development Discourse & State, Society, and Development, Central University of Bihar 2010

N. K. Nishchal was invited to deliver a lecture on 'Laser and its applications', Motivation Programme for Talented School Students of +2, at the Mahavir Cancer Sansthan, Patna, 24 September, 2010

N. K. Nishchal was invited to deliver a lecture on 'Optoelectronic techniques of 3D information security', at Industrial Technology Research Institute, Hsinchu, Taiwan, 4 November, 2010

Nalin Bharti participated as a resource person at the Orientation Workshop of 2010 Knowledge community on children in India (KCCI) organized by UNICEF India, 2010 and closing Workshop, New Delhi, 2-3, August, 2010

Rajesh Kumar was invited for a talk (Representation of culturally sensitive information in language: Implications for resolving ambiguities) at the Department of Humanities at the IIT Delhi, New Delhi, 15 July, 2010

Rajesh Kumar was invited for a talk (What makes a sentence: Implications and reflections) at the Special Center for Sanskrit Studies at JNU, New Delhi, India 30 August, 2010

Rajiv Misra was invited for a talk (Domination Algorithms for Lifetime Problems in Ad hoc and Sensor Networks) at the First International INDO-US Workshop on Issues in Computing over Emerging Mobile Networks (C-EMNs'2010)

Ranjan Kumar Behera was invited for a lecture on 'Green Energy Technology: Absolutely Wireless' at National Institute of Science and Technology (NIST), Berhampur, Ganjam, Orissa, India, 20 December 2010

Ranjan Kumar Behera was the keynote speaker (Recent

Advancement on Multilevel Converter Technologies in High Power Industrial Application) in a Workshop on Emerging Trends in Power Electronics Drives and Technology (ETPEDS-2010) at Aditya Institute of Technology and Management, Tekkali, Srikakulam Andhra Pradesh, India, 9 March, 2010

Smriti Singh was invited as a keynote speaker (The Role of English Language in Personality Development) for a national conference on Presentation and Interpersonal Skills for Effective Communication: Old Traditions and New Challenges organized by Allenhouse Institute of Technology Kanpur, 17 July, 2010

## Books Published

Aditya Raj, Indian diaspora in Canada: Community, culture, and capital Germany: VDM Verlag 2010

Smriti Singh and Achal Sinha (eds.), Diasporic consciousness: Literatures from the postcolonial world, Germany: VDM Verlag Dr. Muller, 2010

## Completed Project

Nalin Bharti, supervised a project on Knowledge community on children (KCCI) in India, Funded by UNICEF office of Bihar, (with Rajesh Kumar, Smriti Singh, and Aditya Raj as co-PIs)

### KCCI Interns at Humanities & Social Science :



Georgina Heaslop  
University of Queensland  
Australia



Udayan Rathore  
Gokhale Institute of  
Politics & Economics Pune



Dr. Darinka Souza  
D.Y.Patil University  
Mumbai

## Sponsored Project

Akhilendra Singh was awarded a DST sponsored project on Design Analysis of Composite Patch Repair of Structural Members by Meshfree Method

Ashok Singh Sairam was awarded a DIT sponsored project on Development of a System to identify, filter and trace back network security attacks using new packet marking techniques

Karali Patra was awarded a DST sponsored project on Mechanistic model for prediction of cutting forces in mechanical micro-drilling process

N. K. Nishchal was awarded a CSIR project on the 'Study on Digital Holography based Information Security Schemes for 3 yrs duration. (Rs. 13.0 Lakh)

Nalin Bharti started the project on Knowledge centre on child women and gender funded by UNICEF office of Bihar, (with Rajesh Kumar, Smriti Singh, and Aditya Raj as co-PIs)

Rajiv Misra was awarded a DIT sponsored project on Vehicular Sensor and Mesh Networks Based Future Intelligent Transportation System

Sahid Hussain was awarded a DST sponsored project on Fabrication of Highly Fluorescent Quantum Dots for Biomedical Applications

Shovan Bhaumik was awarded a DST sponsored project on Multiple Target Tracking Using Nonlinear Filters

Somnath Sarangi was awarded a DST sponsored project on Inelastic effects in Elastomers- Theoretical and Experimental Study Visits Abroad

## Visits Abroad

Anil K. Bhowmick visited University of North Texas for signing MoU & other US universities from 27<sup>th</sup> July – 30<sup>th</sup> July 2010

Anil K. Bhowmick visited Jeonju, Korea for attending 3<sup>rd</sup> International Conference on Multi-Functional Materials and Structures from 14<sup>th</sup> Sep – 18<sup>th</sup> Sep 2010

Ashok Singh Sairam visited Beijing, China for CHINACOM 2010 conference from 25-27 August 2010

Karali Patra visited Japan for International Conference on COMADEM 2010 from 28<sup>th</sup> June to 2<sup>nd</sup> July 2010

Neeladri Das visited Technische Universitaet Dortmund, Germany from June 1, 2010 till July 15, 2010

Ranjan Kumar Behera visited Singapore from 27-29 September 2010

Rajesh Kumar visited University of Illinois at Urbana-Champaign for collaborative project funded by National Science Foundation (NSF), and University of California at Los Angeles for a meeting with the Dean, College of Engineering and Vice-Provost, International Relations for institutional collaboration during June 27- July 12, 2010.

Sathya Peri visited Boston, USA to attend Workshop on Theory of Transactional Memory 2010 on 16<sup>th</sup> September

Somnath Sarangi visited Sunteck Convention Center, Singapore from 01-06 August 2010

Somanath Tripathy visited Netherlands for presentation in 5<sup>th</sup> Benelux Workshop on Information and System Security held in Nijmegen (netherland) 29<sup>th</sup> Nov 2010

Somanath Tripathy visited University of Siegen (Germany) from 19<sup>th</sup> Nov to 29<sup>th</sup> Nov 2010

N. K. Nishchal visited University of Oulu, Finland for collaborative research work on Digital Holography and its application from 17<sup>th</sup> May-7<sup>th</sup> July 2010

N. K. Nishchal visited Hong Kong & Taiwan, ROC (Oct. 30 – Nov. 6, 2010)



Dr. Naveen Nishchal (left) and Professor Theodor Hansch, 2005 Nobel Prize Winner in Physics, during Microoptics Conference, October 31-November 3, 2010 at Hsinchu, Taiwan

## Book Release

A book by Akhilendra Singh and I V Singh, Element Free Galerkin Method for Heat Transfer: Fundamentals and Formulations, Lambert Academic Publishing, Germany, 2010 was released by Professor S K Guha of the IIT Kharagpur on the Foundation Day of IIT Patna.

## Lectures and Visitors

6/8/2010

Dr. Sujoy K. Guha, Professor, School of Medical Science and Technology, IIT Kharagpur gave a lecture on the topic "Engineering and Human Life - The Interface" on the occasion of Foundation Day of IIT Patna

19/8/2010



Dr. G. Madhavan Nair, Chairman, BoGs, IIT Patna and former Chairman, ISRO visited IIT Patna on 19<sup>th</sup> August, 2010 and delivered an Institute Lecture on "Technological Challenges for Developing India".

6/9/2010

Dr. Nishiith Prakash, Post Doctoral Research Associate, Charles H. Dyson School of Applied Economics and Management, Cornell University, visited IIT Patna on 6<sup>th</sup> September, 2010 and delivered a talk on "The Returns to English-Language Skills in India."

9/9/2010



Dr. Miki Nishioka, Associate professor, Research Institute for World Languages, Osaka University, Japan visited IIT Patna on 9th September, 2010 and delivered a talk on "Common Features in Hindi and Japanese Language".

27/9/2010

Dr. Rakesh Kumar, Senior Research Fellow, CSIR MSM, Port Elizabeth, South Africa visited IIT Patna on 27th September, 2010 and gave a lecture on "Soy Protein as Biopolymer-Potential and Challenges".

11/10/2010

BK E.V. Gireesh, Faculty Member of Brahma Kumaris World Spiritual University visited IIT Patna on 11th October, 2010 and spoke in the Seminar on "Stress Management and Positive Thinking".

12/10/2010

Dr. Amulya Singh noted Orthopaedic Surgeon visited IIT Patna and gave a lecture on the latest solutions for various ailments relating to joints and spines.

15/11/2010



Prof. J.C. Misra, Pro Vice-Chancellor, SOA University, Bhubaneswar delivered a lecture on "Flow of a viscoelastic fluid: Some physiological applications".

16/11/2010



Prof. Braj Sinha Head of the Department of Religion and Culture, University of Saskatchewan, Canada and President Elect of the Shastri Indo-Canadian Institute visited IIT Patna and spoke on the topic 'Culture, Technology & Public Policy in contemporary context'.

23/11/2010

Professor Ashok.K. Ganguli, Department of Chemistry, IIT Delhi visited IIT Patna and delivered a lecture on "Microemulsion -based synthesis of nano- structures: Application in photo and electro-catalysis".

30/11/2010

Dr. Satish Kumar, Max-Planck Unit for Structural Molecular Biology, Hamburg Germany visited on 30th November, 2010 and talked on "Protein misfolding and aggregation: Tale of two proteins".

1/12/2010

Dr. Jitendra Kumar, Electrochemical Power Group, Metals and Ceramics Division, University of Dayton, Ohio visited IIT Patna on 1st December, 2010 and gave a lecture on "

### Development of Solid-State Lithium-Air Battery"

7/12/2010

Dr. Soumitra Biswas, Scientist, Technology Information, Forecasting and Assessment Council delivered a lecture during the Seminar on "Innovation Management- Approaches, Models & Successes

24/12/2010

Prof. K. Palaniappan from University of Missouri, USA delivered a lecture during one day Workshop organised by Electrical Engineering Dept. of IIT Patna on "Applications of Video Processing " on 24/12/2010

28/12/2010

Mr. Vaidya Nathan from Classle Network Pvt. Ltd., Chennai visited IIT Patna and delivered a lecture in the Workshop on the subject " Campus Classle – a Social Learning Environment.

## Students' Activities

### Post Doctoral Students



Dr. Bandana Talukdar is a Post doctoral researcher in Chemistry at the IIT Patna. She has a PhD from Okayama University, Japan. She has another Post doctoral experience at the Japan Synthetic Rubber Company, Kinki University, Fukuoka, Japan

## Research Scholars

### SCHOOL OF ENGINEERING

#### COMPUTER SCIENCE AND ENGINEERING



Arka P. Majumdar  
Wireless Networks\*  
(Dr. Ashok Singh Sairam)\*\*



Rakesh Matam  
Network Security\*  
(Dr. Somnath Tripathy)\*\*



Shailendra Shukla  
Adhoc Networks\*  
(Dr. Rajiv Misra)\*\*



Debasis Das  
Wireless Networks\*  
(Dr. Rajiv Misra)\*\*

\* Area, \*\* Advisor/Co-advisor in parentheses

### ELECTRICAL ENGINEERING



Vikas Kumar  
VLSI Signal Processing\*  
(Dr. Kailash C. Ray, Dr. Preetam Kumar)\*\*



Amit Kumar Singh  
Microgrid, Renewable Energy, Power System Operation and Control\*  
(Dr. Sanjoy Kumar Parida)\*\*



Mithun Mukherjee  
Multicarrier Communication\*  
(Dr. Preetam Kumar)\*\*



Moina Ajmeri  
Robust Controller Design\*  
(Dr. Ahmad Ali)\*\*



Prasant Kumar  
Wireless Communication\*  
(Dr. Preetam Kumar)\*\*



Swati  
Estimation and Filtering\*  
(Dr. Shovan Bhaumik)\*\*



Suman Kumar Dey  
Optical Network\*  
(Dr. Aneek Adhya)\*\*



Rajesh Babu Mallela  
Control\*  
(Dr. Ahmad Ali)\*\*



Bishanka Brata Bhowmik  
Fiber Optic Communication and Photonics\*  
(Dr. Sumanta Gupta)\*\*



Saifullah Payami  
Power Electronics and Drives\*  
(Dr. Ranjan Kumar Behera)\*\*



Alok Kumar Verma  
Fault Diagnostics\*  
(Dr. Shovan Bhaumik, Dr. Mahesh Kumar H. Kolekar)\*\*



Sudhanshu Verma  
Antennas for Broadband Wireless Access\*  
(Dr. Preetam Kumar)\*\*



Tajuddin Ali Ahmad  
Estimation\*  
(Dr. Shovan Bhaumik)\*\*

\* Area, \*\* Advisor/Co-advisor in parentheses

### MECHANICAL ENGINEERING



Himanshu Patha  
Computational Mechanics\*  
(Dr. Akhilendra Singh)\*\*



Soumen Mondal  
Plasma Deposition\*  
(Dr. Subrato Kumar)\*\*



Tanveer Alam  
Clad Failure Analysis\*  
(Dr. Mohd. Kaleem Khan and Dr. Manbendra Pathak)\*\*



Rupesh Kumar Pandey  
Intelligent Manufacturing\*  
(Dr. S. S. Panda)\*\*



Firozud Tauheed  
Continuum Mechanics\*  
(Dr. Somnath Sarangi)\*\*



Raj Kumar Sahu  
Smart Materials\*  
(Dr. Karali Patra)\*\*



Md Ashique Hassan  
Non-Newtonian Fluid Mechanics\*  
(Dr. Manbendra Pathak and Dr. Mohd. Kaleem Khan)\*\*

\* Area, \*\* Advisor/Co-advisor in parentheses

### SCHOOL OF SCIENCES

#### PHYSICS



Lawrence Kumar  
Magnetic Nanomaterials\*  
(Dr. Manoranjan Kar)\*\*



Ajay Kavala  
Organic Electronics\*  
(Dr. A. K. Mukherjee)\*\*



Sudheesh Rajput  
Optical Holography\*  
(Dr. Naveen K. Nishchal)\*\*

\* Area, \*\* Advisor/Co-advisor in parentheses

**CHEMISTRY**

 Sourav Chakraborty Coordination driven Supramolecular Chemistry* (Dr. Neeladri Das)**	 Vandana Singh DNA damage and repair studies of multicomponent clusters* (Dr. Prolay Das)**
 Suman Pal Synthesis of Bioactive molecules using multicomponent reactions* (Dr. Md. Lokman Hakim Choudhury)**	 Md. Nasim Khan Diversity Oriented Synthesis of Privileged Heterocycles* (Dr. Md. Lokman Hakim Choudhury)**
 Aninda Chatterjee Fluorescence Spectroscopy and Chemical Dynamics* (Dr. Debabrata Seth)**	 Aniruddha Molla Catalysis* (Dr. Sahid Hussain)**

\* Area, \*\* Advisor/Co-advisor in parentheses

**MATHEMATICS**

 Manoj Kumar Rastogi Statistics* (Dr. Yogesh Mani Tripathi)**	 Debasis Dangar Optimization* (Dr. S K Gupta)**
 Anand Kumar Topology* (Dr. Ashish Kumar Upadhyay)**	 Suman Kumar Mathematical Control Theory* (Dr. Nutan Kumar Tomar)**
 Dipendu Maiti Topology* (Dr. Ashish Kumar Upadhyay)**	 Arindam Kundu Numerical Analysis* (Dr. Sumit Kumar)**

\* Area, \*\* Advisor/Co-advisor in parentheses

**SCHOOL OF HUMANITIES AND SOCIAL SCIENCES**

**HUMANITIES AND SOCIAL SCIENCES**

 Lata Kumari Syntax* (Dr. Rajesh Kumar)**	 Nilu Syntax* (Dr. Rajesh Kumar)**
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 Pooja Dalit Literature* (Dr. Smriti Singh)**	 Priyanka Sinha Trade* (Dr. Nalin Bharti)**
 Raj Rajesh Business Cycle* (Dr. Nalin Bharti)**	 Shaivya Singh Varieties of English* (Dr. Smriti Singh and Dr. Rajesh Kumar)**
 Nidhi Amit Satija Investment* (Dr. Nalin Bharti)**	

\* Area, \*\* Advisor/Co-advisor in parentheses

**Research Scholar's Conference Presentations**

Sourav Chakraborty (Chemistry), "Triptycene based tripodal linkers as building block for supramolecular Cages" International symposium on (FIC-2010), IACS, Kolkata, 2010

Amit K. Singh (Electrical Engineering), S. K. Parida, 'Optimal placement of DGs using MINLP in deregulated electricity market', Proc. of PEA-AIT International Conference on Energy and Sustainable Development: Issues and Strategies (ESD 2010), Chaing Mai, Thailand, 2010.

Raj Kumar Sahu (Mechanical Engineering) 'Dielectric elastomers: Materials for future actuators' 10th National Conference on Industrial Problems on Machines and Mechanisms (IPRoMM 2010), 2010

Mithun Mukherjee (Electrical Engineering), Preetam Kumar, 'A new iterative soft decision subcarrier PIC scheme for CI/MC-CDMA system', in IEEE PIMRC 2010 Fundamentals and PHY (PIMRC 2010 Track 1), Turkey, 767-772, 2010 Mithun Mukherjee and Preetam Kumar, 'A new code allocation algorithm for multirate CI/MC-CDMA system', in WISARD (COMSNETS 2011), Bangalore, 2011

Firozut Tauheed (Mechanical Engineering) 'Stress softening in finite torsion extension and inflation of a cylindrical tube' 5th International Conference on Theoretical, Applied, Computational & Experimental Mechanics, IIT Kharagpur, 2010

Priyanka Sinha (Humanities and Social Sciences) 'Political economy of telecom reforms in India: Has liberalisation made any impact?' 14th Annual Conference of Indian Political Economy Association, A N Sinha Institute, Patna, 2010

Nilu (Humanities and Social Sciences) 'Comparative study of adverbials in Magahi and Hindi' Ninth International Conference on South Asian Languages (ICOSAL-9) 2010

Nilu 'Extraction rules for Hindi derived adjectives', Fourth Students' Conference of Linguistics in India (SCONLI-4), 2010

Nilu 'Interdisciplinary need of multilingualism and multiculturalism in environment of India' Research without Boundaries: National Seminar on Interdisciplinary Research and Studies in Humanities, Banaras Hindu University, Varanasi, 2010

Nilu 'Issues in the Web Transfer' TRACT, North- Eastern Hill University (NEHU) Shillong, 2010

Raj Rajesh (Humanities and Social Sciences) 'Microfinance in India: Status, problems and prospects' DEPR Regional Offices Annual Conference 2010, RBI, Mumbai, 2010

Raj Rajesh 'Gender discrimination in education and economic development' Proceedings of the 14th Annual Conference on Indian Political Economic Association, A.N. Sinha Institute of Social Sciences, Patna, 2010

Raj Rajesh 'Some perspectives on monetary statistics in India' International Monetary Fund Singapore Training Institute, Singapore, 2010

Debasis Dangar (Math), 'Duality in fuzzy quadratic programming with exponential membership functions' National Meet of Research Scholar on Mathematical Science, IIT Madras, 2010

Anand Kumar Tiwari (Maths), 'd-Covered triangulization on closed surfaces' High Performance Computing and Application, B.H.U. Varanasi, 2010

**Students interacting with visitors**

Dr. Miki Nishioka from the Osaka University on her visit to India for a long term research on the eastern varieties of Hindi delivered a talk on 'Common Features in Hindi and Japanese Language'. In the photograph, the students got together to interact with Dr Nishioka.



B. Tech. Students

**Visit abroad for Summer Training**

 Ankit Lat  
Project Title: To learn and develop network simulator (NS-2) software (University of Houston, Houston)

 Anushmita Kaushik  
Project Title: Fabrication of Electro-Physiological and Optical Neural probes (University of Houston, Houston)

 Gagandeep Singh  
Project Title: Face recognition by correctly locating the centre of eye using special properties of the eye (University of Houston, Houston)

 Amulya Yadav  
Project Title: An Abstract Processing Problem with an application to Machine Learning Wireless Sensor Networks (University of Houston, Houston)

 Ashish Kumar Singh  
Project Title: Multi scale modeling  
Project Details: Modeling is done at three different stages-bulk, nano scale and quantum scale (University of Houston, Houston)

 Spandana Lekkala  
Project Title: Testability issues of Submicron CMOS VLSI SIGMA-DELTA Analog to Digital converter. Project Detail: test a chip to see whether it was working properly or not (Louisiana State University, Baton Rouge)

 Palak Agrawal  
Project Title: To frame logic and check model algorithms of prospect theory (Louisiana State university, Baton Rouge)

**Sports**

Dr Akhilendra Singh, Faculty in Charge



Physical Education and Sports Gymkhana has organized Inter department competition for students of IIT Patna in various games & sports. Winners received prizes for their victory on the occasion of Anwesha 2010.

On 6th August 2010 IIT Patna celebrated foundation day. On this occasion Physical Education & Sports (Gymkhana) organized Volleyball match between staff v/s students.



Students of IIT Patna participated in 46th Inter IIT sports meet December 2010 organized by IIT Delhi . They participated in various games and sports like Volleyball, Basketball, Cricket, Tennis, Badminton, Table tennis, Chess and Athletics.

## Celebrations

### NEBULA'10

Cultural club at the IIT Patna organized 'nebula' -- a sumptuous freshers' welcome party for the 2010 batch. Jovial smiles and high spirits marked the welcome party for the students. With great ambience, flashing lights, and foot tapping music, began the fresher party with a difference. The excitement augmented to a joyful high when professors joined the festivity too.



Director Professor Anil K Bhowmick and Mrs. Bhowmick inaugurated the evening. Jijo on guitar, Nishant and Piyush with their songs, Mohit with his direction, and Vivek with his beats presented wonderful performance to

the audience.

The highlight of the night was the rock band performance. Then everyone hit the floor and danced like crazy enjoying every moment. A nice dinner was also arranged in new hostel mess where healthy interactions took place between juniors and seniors.

- Anil K. Nawal, Cultural Secretary

### REVERBERANCE 2KX!!!!!!

When Diwali comes to India and lights up all the homes of the country we at IIT Patna celebrate it in our own distinct fashion! Finding a balance in our great traditions and new generation frolic, we have our mini fest REVERBERANCE to stir the festive mood of the season, and wonderful designs with lamps and gave the evening a traditional feeling. It consists of two days filled with art, music & games.

The first day kicked off with a competition of artistic displays by the students and led to a fantastic display of sketches. The second day started to roll with double trouble and dumb charades. These events lived up to their names. Last but not the least we played ring-football. As the evening drew to a close, songs lured people to the dance floor.

- Mayuresh Gadge, II Year, Computer Science and Engineering

## Literary Corner

### Knowledge, O Knowledge!

Knowledge, O Knowledge!

I keep wondering rather confused  
Why didn't Kipling comprehend West meeting East?  
Maybe his creative lens took us "not to be"

I was made to believe the West was busy, and Orient lazy  
Therefore, the West had the right to shape East as it should be  
and then the West were pushed out by the westernized "WE"  
to carry the mission and replace the creamy spill, smartest  
among us, have power to shape as we should think "to be"  
then only we can reach, they tell, where we "should be"

O Knowledge! Thou art such a delightful treat.

- Dr. Aditya Raj, Assistant Professor, Humanities and Social Sciences

### Hmm...

Some sports freak and enthusiastic students drive the sports events on our campus. Sports facilities were not up to the mark at first but they got better as the time passed by. Sports secretary at the IIT-PATNA was a huge responsibility. Every tiny object was out of order. Faculty members from IIT-Guwahati supported us a lot. This is what has led us to what we are now, which suffices our existing requirements. We hope it would lead to lot more achievements. We couldn't make it to the inter-IIT in our first year (2008-09) but now our Gymkhana, which once started with a Table Tennis board and a mini Gym station, has got many equipments. This helped us move to the inter-IIT in the following year. I feel that our boys put their best efforts sports. There were days when the boys used to clean up the ground and roll it early in the morning when there were tournaments amongst our halls especially for the Cricket matches. Followed by cricket is Basketball, Volleyball, Badminton, Table Tennis, Football, Tennis, Chess and many more to come up in future in which our students will excel definitely. To everyone's surprise it was only 18 boys who could make it up to our first inter-IIT held at the IIT-Kanpur. We were considered under-dogs. This proved to be false when we performed at the tournaments. I however was a bit disappointed coz I imprinted that we will definitely make it to final in Table Tennis and Volleyball which we missed merely by a few points. We didn't lose hope acknowledging the fact that 'failures are the stepping stones of success' which definitely goes by the spirit of our IIT. We are grateful to our Sports Faculty Dr. Akhilendra Singh whose constant support has always been with us for the last two years. Last but not the least I sincerely thank everybody who voted me as the Sports Secretary consecutively for the second term.

- T. Rohith Kumar Raja, Sports Secretary

### The journey so far ...

We started with two hostels, a main building with necessary class rooms, labs and some land with overgrown grasses. They were not much to brag about, but they were sufficient for a start.

The new campus seemed to be a blessing in some respects. We got to work with the latest equipment and everyone got opportunities to organize various competitions and functions. We started with only 92 students, so we had a great student to teacher ratio. We missed the huge grounds and the sprawling gardens. Instead of worrying about what we didn't have, we focused on improving what we already had. It was this attitude and enthusiasm that led to significant developments.

The first time we played outdoor properly was on a volleyball court. A badminton court followed soon. The basketball court took some time to come. Tennis and music classes were made available through collaborations with local centers.

We didn't face much academic difficulties though. The number of the members of the faculty kept on moving up along with the students and the research scholars. Our Director and the dedicated members of the faculty ensured that we interacted with eminent people from all over the world through seminars and workshops. MoUs were signed with leading institutions to ensure a better flow of knowledge and more exposure.

We went for our first student body elections in Feb 2009. This led to the formation of the cultural club, literary club, environmental club and the robotics club. These clubs encourage active and innovative participation from the students. There is friendly rivalry among these clubs. July 2009 marked the arrival of the second batch of IIT Patna and the first freshers' party was christened as Nebula.

Our first fest was Anwasha. It was inaugurated by the Honorable Chief Minister of Bihar, Mr Nitish Kumar.

The hostels really come alive whenever there is birthday or some special occasion like Holi. Cakes and cool-drinks are brought not just for eating but also for splashing each other. Birthday bumps need no special mention.

The festival of lights is celebrated all over the country. We do our best to make it a memorable day. A host of competitions are organized under the banner of Reverberance.

July 2010 marked the arrival of the third batch of students into our family. Now, we have three full hostels, a main building, a science block including ample labs, workshops and classrooms for all the three departments.

We have witnessed rapid growth in the past couple of years by actually being a part of the development. We are happy to be a part of this institution which actually grew up along with us. I am sure that many of us would shed more than tears when we finally have to leave this place.

- Vasu

(B. Tech 3rd year)

## Colors of Life

Mr. V staggered onto the wet restaurant entrance hall with his three legs suffering great difficulty in every step he carefully put forward, through the countless number of people rushing, most of who disregarded his disability. Aided by the restaurant employee the 57 year old man moved to a less crowded corner of the dimly lit room and rested his walking stick-his third leg (ever since the accident two and a half decades ago) against the wall. Catching his breath, he complained.

"Where the hell are these men rushing to? They almost got me killed, careless schmucks. Young age, they run after friggging money, they kill for it. They don't realize nothing, sons of ...I doubt who is blind-me or them."

"Sir, please take my arm. Your dinner reservation is ready"

Feeling for the walking stick on the wall Mr. V took the employee's arm. Holding the walking stick in the other hand, V started walking with him. "Young generation-filthy little bastards."

Across the well lit labyrinthian corridor they crossed a garden and reached an open courtyard where few tables were set in a circular fashion. The room was colossal, ornamented by horticultural varieties, a fountain, an artificial spring and incandescent lights in every nook and corner. That was the biggest restaurant in Hyderabad.

"Your seat sir, please."

Mr. V inched forward to his seat and by deliberately moving the chair forward with his knee over the finely polished floor, he made himself clear of its dimensions. And he sat down, still holding the walking stick in his hand. The bearer left with out another word.

"Keep this thing aside" ordered V, extending his walking stick.

No answer.

"I am talking to you" said V authoritatively.

"He has just left, I guess, Mr.."said an old man's voice with a polite smile.

"Vinayakam. And who the hell are you?"

"I am Hari."

"What the heck are you laughin' at? I am blind. Look at me. I am blind. I am blind!!"

"Sorry Mr, I didn't mean to..."

"Shut up. "

Mr. V's blindness was not his blindness but his inferiority complex and his hatred towards the young and opportune generation for all the good things they have, all the things he can't perceive through his eyes, but they can. Time passed. V and Hari were the only ones dining in the room. It was pouring heavily outside.

"Whoever bought this hotel recently, it's in bad hands. They outta teach their employees some good manners. He left with out my permission. Why would he stay? He is young, he is young, young people can't wait. young people don't wait, do they?"

"Mr. Vinayakam, have you got a problem with youngsters? I mean, sorry if I bother you. It's been some twenty minutes you were swearing on them continuously."

"Oh, I hate them. They are a bunch of scumbags who think they drive the world. They don't respect anyone. They respect only money and they blaspheme. And it's because of them I am what you see now, man. Don't you see? I am blind. I am blind because of them."

"What happened?"

"A road accident. It's been 25 years. There was this damn frigging drunkards, who do not respect the traffic rules; they came right onto my bike. I followed the rules. They did not. And I had to pay for it. I had to pay my entire life for it. Look at me now. I am blind, and they? They must be living their enjoyable lives. Life is just so unjust."

"I am sorry. It's a big personal tragedy. But you don't have to swear on them every time you see them. This is the age when they see enjoyment in everything. The world seems like inside their palms for them"

"What about me? How do you think I can appreciate them having a blast in their age when I am deprived of the same at that age by a group of brats huh?"

"I know how you feel. Look..."

"You ain't know nothing. You can't feel like I do."

"Mr. Vinayakam, life is not a bed of roses. It's dependent on your perspective how life looks back at you. When you smile at your adversities your life smiles back at you. Positive attitude and true commitment are the two weapons you fight with. Failures keep on coming, you feel like being slapped right across your face. But never give up. Your hard work should get its fruit someday. Have faith. Faith moves mountains."

"You gotta be kidding me. All these smile-back-at-life's-ass doctrines of yours is bullcrap. To put all these into practice is nowhere near possible for me. I am blind."

"You are blind because you think you are blind. A conviction in the ultimate success brings back the red and blue and green of your life. Trust me, I.."

"Save it man. I don't wanna hear it. Life has taken so much from me. You know how much I miss having sight. I miss all the colors. I miss the sky, I miss the ocean. I miss my son's face. For me, blue and green are same. Isn't it funny? Forget it, you will never understand"

5 minutes passed. Both of them did not utter a word.

Mr V took out his white kerchief and wiped his eyes and face. "I am a loser."

Mr. Hari slowly got up from his seat and approached V. The table gave a jerk once as Hari approached it. V gave a sudden turn. "Sorry it's me, do you mind if I sit here for a sec?" "No, pull a chair, Hari"

"Years ago, I came to this city, with nothing except an empty stomach. The scorching sun killed most of me. To keep myself alive, to quench my thirst I begged for the first time in my life, at a hotel. They chased me away, pelted stones at me. I ran. I did not stop. That race is still on. Courage was my only conviction. The means was not easy. It was all full of thorns. But the only thing I thought was-roses might have thorns, but indeed with out thorns certainly there are no roses. Today, I own the hotel you are currently dining in. Trust me nothing is impossible."

With this Mr. Hari walked away from the table slowly and his walking away was evident for V.

Mr. V had no counter-arguments to keep. For the first time he looked dumbfounded at the industrious person's life saga. He reflected that he should get back what he lost, whatever it takes.

On the way back at the counter he overheard this conversation between two employees

"Look Hari sir is leaving. You know I really wonder how he manages with out a second person's help. Life is always crazy- this blind man owns thirteen hotels all over south India. And he does not need anyone to hold his hands while he walks. Once in an interview he was asked about this. He replied that he likes falling down. That reminds him of the past. weird. !"

Second person: "How long has he been blind?"

First: "since birth"

V opened his mouth to ask something, but conceiving the fact that the person who urged him to explore the blues and greens of his life has never seen a color other than black in his entire life put him in a dilemma. He was at a loss of words. But he had his role model now. On the way back he did not feel the crowd engulfing him. Their elbowing him was no more disgusting. He is exploring the colors of his life, so are they...!

- Devan Harikumar

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- Ashish Prasad, Junior Assistant, IIT Patna

*The editorial board sincerely acknowledges help from Mr. Santosh Kumar.*



**INDIAN INSTITUTE OF TECHNOLOGY PATNA**  
**Academic Calendar for the Year 2011**

**ACADEMIC CALENDAR FOR SPRING SEMESTER 2010-11**

EVENT	DATE	DAY
Registration for all existing UG & PG students and Registration for all new PG entrants (PhD students)	Dec 27, 2010	Monday
First day of Instruction	Dec 28, 2010	Tuesday
Last date for late registration with fine	Dec 31, 2010	Friday
Last date for course adjustment	Jan 04, 2011	Tuesday
<b>Mid Semester Examination (MSE)</b>	<b>Feb 21 – 26, 2011</b>	<b>Monday to Saturday</b>
Last date for showing mid-semester answer copies to students	Mar 04, 2011	Friday
Last date for sending list of courses to be offered in Autumn semester 2011-2012	Mar 28, 2011	Monday
Last date for General Time Table slot allocation for Autumn Semester 2011-2012	April 04, 2011	Monday
Course pre-registration and submission of fee for Autumn Semester 2011-2012 (but registration in next semester is subjected to the qualifying criterion of minimum CGPA in current semester as per the Institute rules.)	April 04 – 08, 2011	Monday to Friday
Submission of the applications for changing the Branch for B.Tech II-semester students	April 18 – 21, 2011	Monday to Thursday
Last day of Instructions	April 21, 2011	Thursday
<b>End Semester Examination (ESE)</b>	<b>April 25-30, 2011</b>	<b>Monday to Saturday</b>
Make-up-Examination Wednesday	May 02-04, 2011	Monday to
Last date for submission of Grades	May 06, 2011	Friday
IAPC meeting	May 09, 2011	Monday
Declaration of Results	May 10, 2011	Tuesday
Summer Break begins (Only for UG students)	May 02, 2011	Monday
Summer Vacation (Only for Teachers)*	May 11 – July 17, 2011	Wednesday to Sunday
*Teachers can avail their vacation leave according to the Institute rules.		
Registration of students for the Summer Quarter (SQ)	May 11, 2011	Wednesday
SQ classes begin on	May 12, 2011	Thursday
Mid-Term Examination for SQ	June 16 – 18, 2011	Thursday to Saturday
SQ classes end on	July 13, 2011	Wednesday
End-Term Examination for SQ	July 14 – 16, 2011	Thursday to Saturday
Make-up-Examination for SQ	July 19, 2011	Tuesday
Last date for submission of grades for SQ courses	July 20, 2011	Wednesday
Declaration of Results of SQ	July 22, 2011	Friday
Welcome, Orientation and Registration Programme for all new UG entrants	July 25, 2011	Monday
Registration for new PG entrants (for PhD students)	July 26, 2011	Tuesday
Registration for all existing UG & PG students	July 27, 2011	Wednesday