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## 1. From the Director



IIT Patna started functioning from August, 2008 in a small campus near Government polytechnic. On April 19, 2011, on its main campus in Bihta, the foundation stone of IIT Patna was laid down by Mr. Kapil Sibal, Hon'ble HRD Minister and Telecom Minister of India.

Presently, IIT Patna has three schools that include seven departments, namely Chemistry, Physics and Mathematics (under School of Basic Sciences); Computer Science and Engineering, Electrical Engineering and Mechanical Engineering (under School of Engineering) and Humanities and Social Sciences (under School of Humanities and Social Sciences).

### **Academic Programmes**

IIT Patna offers B. Tech. programmes in Computer Science and Engineering, Electrical Engineering and Mechanical Engineering. The current student strength who have enrolled in undergraduate programs is 301. Since July 2009, the doctoral programs in all the seven departments are already in place. Presently, IIT Patna has 58 students enrolled in doctoral programs in various departments.

### **Research and Development Activities**

The IIT Patna is currently running with fifty four members in the faculty and the staff strength of twenty eight. Hiring of more faculty members is in progress. The members of the faculty come with a wide range of academic and research experience. They come with academic and research training from various institutes of excellence within the country and abroad. The recent publication record of the faculty with several practical constraints appear to be outstanding. It includes many national and international journals of repute. The research and development program of IIT Patna is supported by many funding agencies within the country. Several projects have been funded by many government and industrial research bodies.

**Major Research Areas**

The various academic departments work across traditional academic boundaries to promote research and teaching that is interdisciplinary and collaborative. The major areas include:

Network Security, Wireless Networks and Network Bandwidth Management , Software Transactional Memory , Bio-text Mining and Bio-Informatics, Clustering and Multi-Objective Optimization, Machine Learning .

Digital Image Processing, Content based Video Indexing, Retrieval, and Summarization, Biomedical Image processing, Video Surveillance, Development of Microgrids, Development of smart systems to reduce carbon foot prints, Renewable energy, Broadband Wireless Multicarrier Communication.

Dielectric Elastomer Actuators, Modeling and Simulation of Micro-Machining, Bio-Mimetic Robotics, Multi-phase flows, Numerical simulation of turbulence, Tool condition monitoring, Bio machining, Rotor dynamics, Vibration Control, Continuum Mechanics (Modeling of soft bio-logical tissue, Modeling of damage in Elastomeric materials).

Photophysics, Time resolved spectroscopy, ionic liquids, Cluster DNA Damage and Repair study, DNA Self Assembly for Construction of Nanowires and 3-D Nanostructures, Gas Phase Spectroscopic Methods, Organic Synthesis of Heterocyclic Ligands, Coordination Chemistry Self-Assembly and Super molecular Chemistry, Inorganic-organic hybrid material synthesis, Coordination polymers/Metal Organic frame work (MOFs).

Nanoscale Material Synthesis and Characterization, Optical Information Processing ( Digital Holography, Information security, Optoelectronic Image watermarking, etc), Theoretical Studies in Bose Einstein Condensate, Pulse propagation in Optical Fiber, Optomechanics.

Statistical Decision Theory, Bayesian Statistics, Numerical Analysis and Scientific Computing, Combinatorics, Probability and Statistics, Optimization, Number theory.

Sociology of Education, Development, Migration and Culture, Social Change, Macroeconomics, WTO and India, Linguistic Theory, Language Teaching, Language in Education, Cognitive Science/Linguistics, Contemporary Literary Theory, Indian Writing in English.



### **International Collaborations**

Many international institutes have shown their interest in collaborating with IIT Patna in various areas of research and teaching. Some of them include University of Houston, USA, Louisiana State University, USA, University of New South Wales, Australia, University of North Texas- Denton, USA and UNICEF office for Bihar. During May-July 2010, nine students were sent to US for summer internship. We would like to strengthen further our research programmes by collaborating with more foreign universities.

### **Infrastructure Development**

The institute has developed modern facilities that are fully equipped with the state of the art machines and technologies to run the programme such as B. Tech. in three departments and PhD programs in all seven departments. IIT Patna has developed new Boys' hostel with the help of Bihar Government, a small Guest House and the Girls' hostel. Also, special care has been given to help faculty to find out suitable accommodation. At the same time IIT Patna has started work in the permanent campus at Bihta about 30 kms from Patna by acquiring 500 acres of land. The boundary wall construction has been completed and the master plan of the mail campus is ready. IIT Patna is also in progress of implementing ERP system.

### **Health Care**

Health care is an important item in the development of Institute. We have associated ourselves with a local hospital- Mahavir Vatsalaya Aspatal to cater to the basic needs of our employees. We have also a small dispensary in the institute run by this hospital and an emergency Ambulance Service is provided. Besides, all the students have been medically insured from their own fund.

### **Training and Placement**

IIT Patna is committed to the excellent placement of its students for training in reputed firms from within and outside the country. The training and placement cell has made it possible for the undergraduate students to visit many nearby industrial units.



### Students' Activities

In IIT education, collaborative activities and development of leadership quality are important. In this respect we encourage sports and cultural activities in this institute. We have playgrounds for Volleyball, Cricket, Badminton, Basketball etc. and many indoor game facilities. IIT Patna is developing more facilities in the coming years. The students have participated in the inter IITs Sports Meet. Also, several cultural and technical fests are being organized each year. For example, we successfully organized ANWESHA '11 where IIT Patna invited few top technologists from India and abroad and various technological programmes were organized.

Bihar was an international center for dissemination of knowledge in ancient times and IIT Patna is committed to achieve the goals to put India in general and Bihar in particular on the center stage of education and research.

Anil K. Bhowmick





## 2. Organization

### 2.1 IIT Council

**Hon'ble Shri Kapil Sibal**

Minister of Human Resource Development,  
Government of India  
New Delhi-110 001

Chairman

**Dr. Anil Kakodkar**

Chairman, BOG, IIT Bombay & Chairman, Atomic Energy  
Commission & Secretary, Department of Atomic Energy  
Anushakti Bhawan, CSM Marg,  
Mumbai - 400 001

Member

**Mr. Rameshwar Pal Agrawal**

Chairman, BOG, IIT Delhi  
New Delhi – 110 016

Member

**Dr. R.P. Singh**

Chairman, BoG, IIT Guwahati &  
Former Chairman & Managing Director  
Power Grid Corporation of India Limited  
A-1, PWO Housing Society  
Hriday Deep, Sector-43  
Gurgaon, Haryana – 122 002

Member

**Prof. M. Anandkrishnan**

Chairman, BOG, IIT Kanpur  
8/15, Madan Apartments  
Kasturibai Nagar, Adyar  
Chennai - 600 020 Tamil Nadu

Member

**Dr. R. Chidambaram**

Chairman, BOG, IIT Madras Executive Vice President,  
Kerala State Council for Science and Technology and  
Environment, Sasthra Bhawan, Pottam  
Thiruvananthapuram, Kerala

Member

**Shri B. Muthuraman**

Chairman, BOG, IIT Kharagpur & Managing Director,  
TATA Steel Limited,  
Jamshedpur – 831 001

Member

**Sri Ashok Bhatnagar**

Chairman, BOG, IIT Roorkee, Former Chairman,  
Railway Board & Principal Secretary, Govt. of India  
117, SFS Apartments,  
Hauz Khas, Aurobindo Marg,  
New Delhi-110 016

**Member****Prof. Devang Khakkar**

Director, I.I.T. Bombay  
Mumbai - 400 076

**Member****Prof. Damodar Acharya**

Director, IIT Kharagpur  
Kharagpur – 721 302

**Member****Prof. Surendra Prasad**

Director, I.I.T. Delhi  
Hauz Khas, New Delhi - 110 016

**Member****Prof. S. G. Dhande**

Director, I.I.T. Kanpur  
Kanpur - 208 016

**Member****Prof. Gautum Barua**

Director, I.I.T. Guwahati  
Guwahati - 781 039

**Member****Prof. M.S. Ananth**

Director, I.I.T. Madras  
Chennai - 600 036

**Member****Prof. S. C. Saxena**

Director, I.I.T. Roorkee  
Roorkee - 247 667

**Member****Dr. T. Ramasami**

Chairman, Board of Governors  
IIT Ropar-140 001

**Member****Shri M. Natarajan**

Chairman, Board of Governors  
IIT Mandi-175 001

**Member****Prof. Goverdhan Mehta**

Chairman, Board of Governors  
IIT Rajasthan-342 011

**Member****Shri Ajai Chowdhry**

Chairman, Board of Governors  
IIT Hyderabad-502 205

**Member**



**Dr. R.A. Mashelkar**

Chairman, Board of Governors  
IIT Gandhinagar-382 424

**Member****Dr. G. Madhavan Nair**

Chairman, Board of Governors  
IIT Patna-800 013

**Member****Shri Ajay Piramal**

Chairman, Board of Governors  
IIT Indore-452 017

**Member****Prof. R. Rama Rao**

Chairman, Board of Governors  
IIT Bhubaneswar-751 013

**Member****Prof. U.B.Desai**

Director, IIT Hyderabad  
Ordinance Factory Estate  
Yeddumailaram 502 205

**Member****Prof. M. K. Surappa**

Director, IIT Ropar  
Nangal Road  
Rupnagar – 140 001

**Member****Prof. Sudhir Kumar Jain**

Director, IIT Gandhinagar  
Vishwakarma Government Engineering College Complex,  
Chandkheda, Visat-Gandhinagar Highway,  
Ahmedabad- 382 424

**Member****Prof. Prem Kumar Kalra**

Director, IIT Rajasthan  
MBM Engineering College  
Jodhpur – 342 011

**Member****Prof. Madhusudan Chakroborty**

Director, IIT Bhubaneswar  
Samantapuri, Bhubaneswar- 751 013

**Member****Prof. Anil K. Bhowmick**

Director, IIT Patna  
Patliputra Colony.  
Patna- 800 013

**Member****Prof. Pradeep Mathur**

Director, IIT Indore  
M-Block, Institute of Engineering and Technology  
Devi Ahilya Vishwavidyalaya Campus  
Khandwa Road, Indore – 452 017

**Member**

**Prof. Timothy A Gonsalves**

Director, IIT Mandi  
PWD Rest House 2nd Floor  
Mandi – 175 001

Member

**Prof. Sukhdeo Throat**

Chairman, University Grants Commission  
Bahadurshah Zafar Marg, New Delhi - 110 002

Member

**Dr. Samir K. Brahmchari**

Director General, Council of Scientific & Industrial Research  
Anusandhan Bhawan, Rafi Marg, New Delhi - 110 001

Member

**Dr. K. Kasturirangan**

Chairman, Council of IISc. Bangalore  
National Institute of Advanced Studies,  
Indian Institute of Science Campus  
Bangalore - 560 012

Member

**Prof. P. Balaram**

Director, IISc Bangalore  
Bangalore - 560 012

Member

**Chairman**

All India Council for Technical Education (AICTE)

Member

**Prof. C.N.R. Rao**

CSIR Centre for Excellence in Chemistry,  
New Chemistry Unit and International Centre for Materials  
Science Jawaharlal Nehru Centre for Advanced Scientific  
Research, Jakkur P.O. Bangalore - 560 064

Member

**Prof. C.S. Seshadri**

Director, Chennai Mathematical Institute Chennai  
Plot H1, SIPCOT IT Park Padur PO, Siruseri- 603 103

Member

**Prof. Sabyasachi Bhattacharya**

Director, Tata Institute of Fundamental Research  
Homi Bhabha Road, Mumbai- 400 005

Member

**Dr. Kota Harinarayan**

Chairman, Research Council of CSIO Raja Ramana Fellow  
National Aero Space Laboratories  
P.O. No. 1779, Bangalore - 560 017

Member

**Shri Tarun Das**

Chief Mentor, Confederation of Indian Industry  
Plot No. 249-F, Sector 18, Udyog Vihar, Phase IV,  
Gurgaon – 122 015, Haryana

Member

**Smt. Vasanthi Stanley**

Member of Parliament (Rajya Sabha)  
Bahadurshah Zafar Marg, New Delhi - 110 002

Member



<b>Member of Parliament (Lok Sabha)</b>	<b>Member</b>
<b>Member of Parliament (Lok Sabha)</b>	<b>Member</b>
<b>Ms. Vibha Puri Das</b> Secretary Department of Higher Education Ministry of Human Resource Development New Delhi – 110 115	<b>Member</b>
<b>Ms. Sushma Nath</b> Secretary, Department of Expenditure, Ministry of Finance	<b>Member</b>
<b>Ministry of Information Technology</b> Representative of any other Central Government Ministry	<b>Member</b>
<b>Shri Ashok Thakur</b> Secretary IIT Council Addl Secretary (HE) Department of Higher Education Ministry of Human Resource Development New Delhi – 110 115	<b>Secretary, IIT Council</b>

## 2.2 The Board of Governors

<b>Dr. G. Madhavan Nair</b> Chairman Indian Space Research Organization (ISRO), Space Commission & Department of Space, Antariksh Bhavan, New BEL Road, Bangalore - 560 231	<b>Chairman</b>
<b>Prof. Anil K. Bhowmick</b> Director, Indian Institute of Technology Patna Patna-800 013	<b>Ex-Officio Member</b>
<b>Mr. Ravi Kant</b> Principal Secretary, Department of Science & Technology, Govt. of Bihar-800 015	<b>Member</b>
<b>Mr. N. K. Sinha</b> Joint Secretary (Distant Learning), Department of Higher Education, Ministry of HRD, Govt of India New Delhi- 110 115	<b>Member</b>

**Mr. Ashok Jaipuria**

Chairman & CEO, COSMO Films Ltd.  
New Delhi- 110 025

**Member****Mr. R. Prasad**

Member, Competition Commission of India &  
Ex-Chairman, CBDT  
New Delhi- 110 001

**Member****Prof. K. K. Aggarwal**

President, Computer Society of India  
A-3/512, Milan Vihar Apts.,  
I P Extension, 72 Patparganj,  
Delhi - 110 092

**Member****Prof. R. S. Ramakrishna**

Department of Computer Science & Engineering  
Indian Institute of Technology Patna,  
Patna-800 013

**Member****Prof. A. T. Khan**

Dean of Faculty Affairs,  
Indian Institute of Technology Patna  
Patna-800 013

**Member****Prof. Gautam Barua**

Director,  
Indian Institute of Technology Guwahati  
Guwahati- 781 039

**Special Invitee****Mr. Subhash Pandey**

Registrar,  
Indian Institute of Technology Patna  
Patna-800 013

**Secretary**

## 2.3 The Finance Committee

**Dr. G. Madhavan Nair**

Chairman Indian Space Research Organization (ISRO), Space  
Commission & Department of Space  
Antariksh Bhavan, New BEL Road,  
Bangalore - 560 231

**Chairman**

**Prof. Anil K. Bhowmick**

Director,  
Indian Institute of Technology Patna  
Patna-800 013

**Ex-Officio Member****Dr. Ashok Thakur**

Additional Secretary Department of Higher Education Ministry  
of Human Resource Development  
Government of India  
New Delhi- 110 115

**Member****Prof. R. S. Ramakrishna**

Dept. of Computer Science & Engineering,  
Indian Institute of Technology Patna  
Patna-800 013

**Member****Prof. A. T. Khan**

Dean of Faculty Affairs,  
Indian Institute of Technology Patna  
Patna-800 013

**Member****Dr. S K. Ray**

Additional Secretary and Financial Advisor,  
Department of Higher Education  
Ministry of HRD  
Government of India  
New Delhi- 110 115

**Member****Mr. Subhash Pandey**

Registrar,  
Indian Institute of Technology Patna  
Patna-800 013

**Secretary****2.4 The Building & Works Committee****Prof. Anil K. Bhowmick**

Director, IIT Patna  
Patna – 800 013

**Chairman****Prof. S. Majumdar**

Formerly Professor, IIT Kharagpur  
Kharagpur-721 302

**Professor of Civil Engineering**



**Prof. A. K. Sinha**

Professor, IIT Kharagpur  
Kharagpur-721 302

Professor of Electrical Engineering

**Prof. B. K. Sengupta**

Professor, IIT Kharagpur  
Kharagpur-721 302

Professor of Architecture

**Mr. Sushant Baliga**

Additional Director General  
CPWD Training Institute  
E-wing, Nirman Bhawan  
New Delhi – 110 011

Outside Expert

**Dr. Pratima Dikshit**

(Director – Tech.), MHRD, Govt of India  
New Delhi – 110 115

MHRD Representative

**Prof. R. S. Ramakrishna**

Professor, IIT Patna  
Patna – 800 013

Representative of Institute

**Mr. Subhash Pandey**

Registrar, IIT Patna  
Patna – 800 013

Secretary

## 2.5 Administrative Heads

- **Prof. Anil K. Bhowmick**  
Director, IIT Patna  
Patna–800 013
- **Mr. Subhash Pandey**  
Registrar, IIT Patna  
Patna–800 013



## 2.6 Institute Academic Programme Committee (IAPC)/Senate

<b>Prof. Anil K. Bhowmick</b> Director, IIT Patna	<b>Chairman</b>
<b>Prof. A. T. Khan</b> Professor, IIT Patna	<b>Member, Dean (Faculty Affairs)</b>
<b>Prof. R. S. Ramakrishna</b> Professor, IIT Patna	<b>Member, CSE Department</b>
<b>Prof. S. Prasad</b> Professor, IIT Patna	<b>Member, T&amp;P Cell</b>
<b>Prof. S. Majumdar,</b> Professor, IIT Patna	<b>Member, Civil Engg. Department</b>
<b>Dr. Sahid Hussain</b> Asst Professor, IIT Patna	<b>Member, Chemistry Department</b>
<b>Dr. Rajiv Misra</b> Asst Professor, IIT Patna	<b>Member, CSE Department</b>
<b>Dr. Sanjoy Kumar Parida</b> Asst Professor, IIT Patna	<b>Member, EE Department</b>
<b>Dr. Nalin Bharti</b> Asst Professor, IIT Patna	<b>Member, HSS Department</b>
<b>Dr. Ashish Kumar Upadhyay</b> Asst Professor, IIT Patna	<b>Member, Mathematics Dept.</b>
<b>Dr. Somanath Sarangi</b> Asst Professor, IIT Patna	<b>Member, ME Department</b>
<b>Dr. Naveen Kumar Nischal</b> Asst Professor, IIT Patna	<b>Member, Physics Department</b>
<b>Dr. A K Mukherjee</b> Asst Professor, IIT Patna	<b>Member, Physics Department</b>
<b>Dr. Subrata Kumar</b> Asst Professor, IIT Patna	<b>Member, ME Department</b>
<b>Dr. Neeladri Das</b> Asst Professor, IIT Patna	<b>Member-Secretary, Chemistry Department</b>



### 3. School of Engineering

#### 3.1 Computer Science & Engineering

##### 3.1.1 Faculty List

Name	Highest Degree	Research Areas
<b><u>Professor</u></b>		
R. S. Ramakrishna	Ph.D	Distributed Computing, Evolutionary Computing, Datamining, Graph Theory
<b><u>Assistant Professors</u></b>		
Ashok Singh Sairam	Ph.D	Network Bandwidth Management, Network Monitoring and Network Security
Asif Ekbal	Ph.D	Natural Language Processing, Bio-NLP, Bio-informatics
Rajiv Misra	Ph.D	Mobile Computing, Adhoc Networks and Sensor Networks
Sailesh Vaya	Ph.D	Theoretical Computer Science
Samrat Mondal	Ph.D	Systems Security, Database, Data Mining, Formal Verification
Sathya Peri	Ph.D	Parallel Programming: Software Transactional Memory; Dynamic Distributed Systems: Peer-to-Peer Computing, Social Peer-to-Peer networks and Grid Computing Distributed Systems; Algorithm analysis; Networking algorithms
Somanath Tripathy	Ph.D	Lightweight Cryptography, Computer Security, Network Security
Sriparna Saha	Ph.D	Pattern Recognition, Evolutionary Computation, Multiobjective Optimization





### 3.1.2 Academic Programs

- **B. Tech in Computer Science and Engineering**
- **Ph. D Program**

### 3.1.3 Research & Development Activities

#### Sponsored Projects:

- **PI:** Dr. Sathya Peri, **Co-PI:** Dr. Somanath Tripathy, *Development of a Secure Routing Framework for P2P networks using Gossip-based Protocols* (Department of Information Technology, **Rs. 59.64 Lakhs**)
- **PI:** Dr. Ashok Sairam. *Development of a system to identify, filter and traceback network security attacks using a new packet marking technique* (Department of Information Technology, Govt. of India, **Rs. 55.19 Lakhs**)
- **PI:** Dr. Rajiv Misra, **Co-PI:** Dr. Preetam Kumar, *Vehicular Sensor and Mesh Network based Future Intelligent Transportation System* (Department of Information Technology, **Rs. 100.51 Lakhs**)

#### Papers Published in Journals:

- Anup Kolya, **Asif Ekbal** and Sivaji Bandyopadhyay, A Hybrid Approach for Event Extraction, *International Journal of Computational Linguistics and Applications – IJCLA*, Accepted (2011).
- **Asif Ekbal** and Sivaji Bandyopadhyay, A Multiengine NER System with Context Pattern Learning and Post-processing Improves System Performance, *International Journal of Computer Processing of Languages (IJCPOL)*, 22: 2-3 (2010).
- **S. Saha** and S. Bandyopadhyay, Application of a Multiseed Based Clustering Technique for Automatic Satellite Image Segmentation, *IEEE Geoscience and Remote Sensing Letters*, 7: 306-308 (2010).



- **S. Saha** and S. Bandyopadhyay, Automatic MR brain image segmentation using a multiseed based multiobjective clustering approach, *Applied Intelligence*, Accepted (2011).
- **Asif Ekbal** and **Sriparna Saha**, Classifier Ensemble Selection Using Genetic Algorithm for Named Entity Recognition, *Research on Language and Computation*, Available online (2010).
- Carlos Brito and **Shailesh Vaya**, Improved bound in undirected radio networks, *Theoretical Computer Science*, <http://dx.doi.org/1> (2011).
- **Asif Ekbal** and **Sriparna Saha**, Multiobjective Optimization for Classifier Ensemble and Feature Selection : An Application to Named Entity Recognition, *International Journal on Document Analysis and Recognition (IJ DAR)*, DOI 10.1007/s10032-0 (2011).
- **Asif Ekbal** and Sivaji Bandyopadhyay, Named Entity Recognition using Appropriate Unlabeled Data, Post-processing and Voting, *Informatica*, 34: 55-76 (2010).
- **S. Saha** and S. Bandyopadhyay, On Principle axis based Line Symmetry Based Clustering Techniques, *Memetic Computing*, Accepted (2011).
- **Samrat Mondal**, Shamik Sural and Vijayalakshmi Atluri, Security analysis of GTRBAC and its variants using model checking, *Computers & Security*, 30: 128-147 (2011).
- S. Bandyopadhyay, **S. Saha** and W. Pedrycz, Use of a fuzzy granulation–degranulation criterion for assessing cluster validity, *Fuzzy Sets and Systems*, Accepted (2011).
- **S. Saha** and S. Bandyopadhyay, Use of Different Forms of Symmetry and Multiobjective Optimization for Automatic Pixel Classification in Remote Sensing Satellite Imagery, *International Journal of Remote Sensing*, Accepted (2011).
- **Asif Ekbal** and Sivaji Bandyopadhyay, Voted NER System using Appropriate Unlabeled Data, *Lingvisticae Investigationes*, Accepted (2011).
- **Asif Ekbal** and **Sriparna Saha**, Weighted Vote Based Classifier Ensemble for Named Entity Recognition: A Genetic Algorithm Based Approach, *ACM Transactions on Asian Language Information Processing*, Accepted (2011).



### Papers Presented in Conferences:

- Rakesh Matam and **Somanath Tripathy**, THWMP - Trust based secure routing for wireless mesh networks, *International conference on communication computing and security*, NIT Rourkela (2011).
- **Somanath Tripathy**, Tin-key: Effective Key-Establishment for Wireless Sensor Networks, *IEEE International Symposim on Trust, Security and Privacy (TSP 2010)*, Bradford, UK. (2010).
- **Asif Ekbal** and **Sriparna Saha**, Mohammad Hasanuzzaman and Utpal Kumar Sikdar, A Genetic Approach for Biomedical Named Entity Recognition, *22nd IEEE International Conference on Tools with Artificial Intelligence (ICTAI-2010)*, Arras, France (2010).
- Kolya, **A. Ekbal** and S. Bandyopadhyay, A Supervised Machine Learning Approach for Temporal Information Extraction, *24th Pacific Asia Conference on Language, Information and Computation (PACLIC 24)*, Japan (2010).
- **A. Ekbal**, Eva Sourjikova, Anette Frank and Simone Paolo Ponzetto Assessing the Challenge of Fine-Grained Named Entity Recognition and Classification, *2010 Named Entities Workshop, ACL 2010*, Sweden (2010).
- **Asif Ekbal** and **Sriparna Saha**, Classifier Ensemble using Multiobjective Optimization for Named Entity Recognition, *19th European Conference on Artificial Intelligence (ECAI 2010)*, Lisbon, Portugal (2010).
- **Sathya Peri** and K.Vidyasankar, Correctness Criteria for Closed Nested Transactions in Software Transactional Memory, *International Conference on Distributed Computing and Networking*, Bangalore, India (2011).
- **Sathya Peri** and K.Vidyasankar, Correctness Criteria for Closed Nested Transactions in Software Transactional Memory, *Workshop on Theory of Transactional Memory*, Boston, USA (2010).
- **Ashok Singh Sairam**, Late Ashish Subramaniam and Gautam Barua, Defeating Reflector Based Denial of Service Attacks using Single Packet Filters, *Fifth International ICST conference on Communications and Networking in China, CHINACOM 2010*, Beijing, China (2010).
- **Ashok Singh Sairam** and Gautam Barua, Distributed Route Control Schemes to Load Balance Incoming Traffic in Multihomed Stub Networks, *Sixteenth IEEE National Conference on Communications, NCC 2010*, IIT Madras, India (2010).



- Kolya, **A. Ekbal** and S. Bandyopadhyay, Event-Time Relation Identification using Machine Learning and Rules, *13th International Conference on Text, Speech and Dialogue (TSD 2010)*, Czech Republic (2010).
- **A. Ekbal**, **S. Saha** and C.S. Garbe, Feature Selection using Multiobjective Optimization for Named Entity Recognition, *20th International Conference on Pattern Recognition (ICPR 2010)*, Istanbul, Turkey (2010).
- Mohammad Hasanuzzaman, **Sriparna Saha** and **Asif Ekbal**, Feature Subset Selection Using Genetic Algorithm for Maximum Entropy based Classifier for Named Entity Recognition, *24th Pacific Asia Conference on Language, Information and Computation (PACLIC 24)*, Japan (2010).
- Kolya, **A. Ekbal** and S. Bandyopadhyay, Identification of Event-Time Relation: A CRF based approach, *23rd International Conference on the Computer Processing of Oriental Languages (ICCPOL 2010)*, USA (2010).
- Kolya, **A. Ekbal** and S. Bandyopadhyay, JU\_CSE\_TEMP: A First Step towards Evaluating Events, Time Expressions and Temporal Relations, *5th International Workshop on Semantic Evaluation, ACL 2010*, Sweden (2010).
- **A. Ekbal** and **S. Saha**, Maximum Entropy Classifier Ensembling using Genetic Algorithm for NER in Bengali, *7th International Conference on Language Resources and Evaluation (LREC 2010)*, Malta (2010).
- **Asif Ekbal**, **Sriparna Saha** and Md. Hasanuzzaman, Multiobjective Approach for Feature Selection in Maximum Entropy Based Named Entity Recognition, *22nd IEEE International Conference on Tools with Artificial Intelligence (ICTAI-2010)*, Arras, France (2010).
- Arka Prokash Majumdar and **Ashok Singh Sairam**, Opportunistic Routing: Opportunities and Challenges, *International Conference on Network Communication and Computer*, New Delhi, India (2011).
- **Shailesh Vaya**, Realizing secure multiparty computation on incomplete networks, *ACM Principles of distributed computing*, Zurich, Switzerland (2010).
- **Shailesh Vaya**, Realizing secure multiparty computation on incomplete networks, *SECRYPT*, Greece, Athens (2010).
- **A. Ekbal** and **S. Saha**, Weighted Vote Based Classifier Ensemble Selection Using Genetic Algorithm for Named Entity Recognition, *15th International Conference on Applications of Natural Language to Information Systems (NLDB 2010)*, Cardiff, UK (2010).



- Olga Uryupina, **Sriparna Saha**, **Asif Ekbal**, Massimo Poesio: 1Multi-MetricOptimization for Coreference: The UniTN / IIT Patna / Essex Submission to the 2011 CONLL Shared Task. In the proceedings of CoNLL-2011: Fifteenth Conference on Computational Natural Language Learning, Portland, Oregon, USA, June 23-24, 2011.
- **Somanath Tripathy**, Tin-Key: Effective Key-Establishment for Wireless Sensor Networks. CIT 2010: 916-921, 29th June-1st July 2010 held at Bradford, UK.

### 3.1.4 Other Activities

#### Fellow - Professional Bodies:

- Dr. Rajiv Misra (2000) IETE

#### Member - Professional Bodies:

- Dr. Ashok Singh Sairam (2010) IEEE
- Dr. Ashok Singh Sairam (2010) International Association of Computer Science and Information Technology (IACSIT)
- Dr. Asif Ekbal (2009) Association of Computational Linguistics
- Dr. Asif Ekbal (2009) AICITs international conference series (NCM, NISS and ICCIT)
- Dr. Asif Ekbal (2009) The Association of Computer, Electronics and Electrical Engineers (ACEEE)
- Dr. Sriparna Saha (2009) The Association of Computer, Electronics and Electrical Engineers (ACEEE)
- Dr. Rajiv Misra (2011) IEEE
- Dr. Rajiv Misra (2000) IETE
- Dr. Shailesh Vaya (2010) ACM
- Dr. Somanath Tripathy (2010) IEEE
- Dr. Somanath Tripathy (2010) Cryptology Research Society of India

#### Member - Editorial Board:

- Dr. Ashok Singh Sairam (2010) *Senior editor* - International Journal of Computational Intelligence.
- Dr. Asif Ekbal (2010) *Member* - Applied Natural Language Processing and Content Analysis: Identification, Investigation, and Resolution.



- Dr. Asif Ekbal (2010) *Member* - International Journal of Digital Content Technology and its Applications.

**Fellowships:**

- Dr. Asif Ekbal (2010) India4EU fellowship of the European Union
- Dr. Sriparna Saha (2010) India4EU fellowship of the European Union

**Visits Abroad by Faculty Members:**

- Dr. Ashok Singh Sairam - attended and presented a paper in an IEEE International Conference (Beijing, China) 25 - 27 August 2010.
- Dr. Sathya Peri - presented a paper at Workshop on the Theory of Transactional Memory (Boston, USA) September 16, 2010.
- Dr. Asif Ekbal - Research (University of Trento, Italy) September-January 2011.
- Dr. Sriparna Saha - Research (University of Trento, Italy) September 2010-January 2011.
- Dr. Somanath Tripathy - Research (University of Siegen) November 19-27, 2010.
- Dr. Somanath Tripathy - delivered a talk in Workshop on Information and System Security (Nijmegen, The netherlands) November 29-30, 2010.
- Shailesh Vaya - Presented a paper and visited a collaborator (Switzerland and Greece) 11 days from July 21-31, 2010.

**Invited Lectures by Faculty Members:**

- Assessing the Challenge of Fine-Grained Named Entity Recognition and Classification *by* Dr. Asif Ekbal (University of Trento, Italy) on September 22, 2010.
- Introduction to Software Transactional Memory *by* Dr. Sathya Peri (NetApp, Bangalore) on March 9, 2011.
- Nesting in Software Transactional Memory Systems *by* Dr. Sathya Peri (Interra Systems, Kolkota) on September 24, 2010.
- Closed Nesting in Software Transactional Memory *by* Dr. Sathya Peri (Indian Institute of Technology Madras) on June 4, 2010.
- Single and Multi-objective Optimization Techniques for Classifier Ensemble: An Application to NER *by* Dr. Sriparna Saha (University of Trento, Italy) on September 22, 2010.



**Books Published:**

- S. Bandyopadhyay and **S. Saha**, Unsupervised Classification: Similarity Measures, Classical and Classical and Metaheuristic Approaches, and Applications *published by Springer* (2011).
- S. Bandyopadhyay, S. Naskar and **A. Ekbal**, Emerging Applications of Natural Language Processing: Concepts and New Research *published by IGI-Global* (2011).



## 3.2 Electrical Engineering

### 3.2.1 Faculty List

#### Assistant Professors

Name	Highest Degree	Research Areas
Ahmad Ali	Ph.D	Control Systems, Evolutionary algorithms, New tuning strategies for controller design, Relay based system identification
Aneek Adhya	Ph.D	Optical Communication, Optical Networking, Computer Networking, Network Optimization Techniques
Kailash Chandra Ray	Ph.D	VLSI architectural design, VLSI Signal Processing, Digital VLSI Design, Hardware design methodologies, FPGA based System Design, CORDIC
Maheshkumar H. Kolekar	Ph.D	Digital Image and Video Processing, Multimedia Communication, Pattern Recognition, Digital Signal Processing
Preetam Kumar	Ph.D	Physical Layer in Wireless Communications, Communication Systems, Signal Processing for Communication
Ranjan Kumar Behera	Ph.D	Design and Fabrication of Power Electronics Circuits, Control of Electrical Drives, Application of Nonlinear Control Theory to Power Electronics and Electric Drives, Pulse Width Modulation Techniques for Power Electronics Converters, Renewable and Alternative Energy, DSP Applications.
Sanjoy Kumar Parida	Ph.D	Power System Operation and Control, Computer Application to Power Systems, Power System Optimization, Power Systems Restructuring, Flexible AC Transmission System





<b>Shovan Bhaumik</b>	<b>Ph.D</b>	Dynamic Systems Estimation and Control, Aerospace Target Tracking
<b>Sumanta Gupta</b>	<b>Ph.D</b>	Characterization, Design, and Optimization of Metro and Long Haul Fiber-Optic Transmission Systems and Networks Components and Sub-systems for Passive Optical Networks; All-Optical Signal Processing; Electronic Signal Processing for Fiber Optic Communication; Silicon Photonics
<b>Yatendra Kumar Singh</b>	<b>Ph.D</b>	Computational Electromagnetics, Microwave Circuits, Dielectric Resonator Antenna, Microwave Material Characterization, EMI/EMC, RF MEMS

### 3.2.2 Academic Programs

- **B. Tech in Electrical Engineering**
- **Ph. D Program**

### 3.2.3 Research & Development Activities

#### Sponsored Projects:

- **PI:** Dr. S. K. Parida, ***Integration of Distributed Generation and Renewable Energy Sources to Improve System Reliability*** (Department of Science & Technology, **Rs. 6.00 Lakhs**).
- **PI:** Dr. Shovan Bhaumik, ***Multiple Target Tracking Using Nonlinear Filters*** (DST, **Rs. 2.53 Lakhs**).
- **PI:** Dr. Rajiv Mishra, **Co PI:** Dr. Preetam Kumar, ***Vehicular Sensor and Mesh Networks based Future ITS*** (DIT, New Delhi, **Rs. 100.00 Lakhs**).

#### Papers Published in Journals:

- **R. K. Behera** and W. Gao, A Novel Controller Design for Grid Side Converter of DFIG for Wind Power Interface: An Experimental Investigation, *Electric Power Components and Systems*, 38: 1531-45 (2010).



- **Y. K. Singh** and A. Chakrabarty, A Novel Technique to Estimate Complex Permittivity of Low-loss Dielectric Materials in Gigahertz Frequency Band , *IEEE Transactions on Dielectrics and Electrical Insulation*, 18: 168-175 (2011).
- **Maheshkumar H. Kolekar**, Bayesian Belief Network Based Broadcast Sports Video Indexing, *Multimedia Tools and Applications*, 47: 547-579 (2010).
- P. Abdulla, **Y. K. Singh**, and A. Chakrabarty, Coupling Enhancement of Waveguide Fed Dielectric Resonator Antenna, *Microwave and Optical Technology Letters*, 53: 769-770 (2011).
- **Ranjan K. Behera** and S. P. Das, Multilevel Converters Fed Induction Motor Drive for Industrial and Traction Drive, *IEEE Potential*, 29 : 28-31 (2010).
- **Maheshkumar H. Kolekar** and Somnath Sengupta, Semantic Concept Mining in Cricket Videos for Automated Highlight Generation, *multimedia Tools and Applications*, 47: 545-579 (2010).

#### Papers Presented in Conferences:

- **R. K. Behera**, 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).
- Mithun Mukherjee and **Preetam Kumar**, A New Code Allocation Algorithm for Multirate CI/MC-CDMA System, *COMSNET*, Bangalore (2011).
- Mithun Mukherjee and **Preetam Kumar**, A New Iterative Soft Decision Subcarrier PIC scheme for CI/MC-CDMA system, *IEEE PIMRC (The 21st Personal, Indoor and Mobile Radio Conference)*, Turkey (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 (2010).
- **K. C. Ray**, R. Shukla and A. S. Dhar, CORDIC-based VLSI Architecture for implementing Log-Polar Transformation for real time applications, *Int. Conf. Computing, Commun. And Networking Technologies (IEEE-ICCCNT 2010)*, Karur, India (2010).
- Kumar Sahu, Munshi Imran Hossain, **Karali Patra** and **Shovan Bhaumik**, Dielectric elastomers: materials for future actuators, *National Conference on Industrial Problems on Machines and Mechanisms*, Jaipur (2010).



- M. V. N. V. Prasad, **K. C. Ray** and A. S. Dhar, FPGA implementation of Discrete Fractional Fourier Transform, *Int. Conf. Signal Processing and Communication (IEEE-SPCOM)*, IISc Bangalore (2010).
- R. Chand, P. Tripathy, A. Mathur and **K. C. Ray**, FPGA implementation of fast FIR low pass filter for EMG removal from ECG signal, *Int. Conf. Power, Control and Embedded Systems (IEEE-ICPCES-2010)*, MNNIT, Allahabad, India (2010).
- P. Tripathy, R. Chand, A. Mathur and **K. C. Ray**, FPGA implementation of running DFT for selective harmonics analysis, *Int. Conf. Power, Control and Embedded Systems (IEEE-ICPCES-2010)*, MNNIT, Allahabad, India (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 , *IEEE-IPEC 2010*, Suntech City, Singapore (2010).
- 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).
- **R. K. Behera, S. K. Parida** and W. Gao, Performance Improvement of a Wind Power Distribution Station using a Dynamic Voltage Restorer, *North American Power Symposium (NAPS-2010)*, The University of Texas, Arlington, USA (2010).
- **R. K. Behera** and S. P. Das, Space Vector Modulation for a Three-level NPC ac-dc Converter System: An Experimental Investigation, *IEEE-ICPCES*, MNNIT, Allahabad (2010).
- R. Agarwal, R.Gangopadhyay, **S.Gupta** and G. Prati, Tanh -Apodized Microring Resonator filter for WDM NRZ DPSK demodulation, *PHOTONICS 2010*, Indian Institute of Technology Guwahati (2010).

### 3.2.4 Other Activities

#### Member - Professional Bodies:

- Dr. Aneek Adhya (2011) IEEE
- Dr. Kailash Chandra Ray (2011) IEEE
- Dr. Maheshkumar H. Kolekar (2011) IEEE
- Dr. Maheshkumar H. Kolekar (1998) ISTE
- Dr. Maheshkumar H. Kolekar (2000) CSI
- Dr. Maheshkumar H. Kolekar (1999) IETE



- Dr. Preetam Kumar (2008) IEEE
- Dr. Ranjan Kumar Behera (2011) IEEE
- Dr. Sanjoy Kumar Parida (2005) IEEE
- Dr. Sumanta Gupta (2011) IEEE

**Member - Editorial Board:**

- Dr. Maheshkumar H. Kolekar (2011) *Technical Programme Committee Member - International Conference on Computational Intelligence and Communication Networks.*
- Dr. Maheshkumar H. Kolekar (2011) *Technical Programme Committee Member - International Conference on Intelligent Systems and and Data Processing.*
- Dr. Maheshkumar H. Kolekar (2011) *Technical Programme Committee Member - International Conference on Computer and Communication Technology.*
- Dr. Maheshkumar H. Kolekar (2011) *Technical Programme Committee Member - Indian International Conference on Artificial Intelligence.*
- Dr. Maheshkumar H. Kolekar (2011) *Technical Programme Committee Member - International Conference on Data Mining and Intelligent Information Technology Applications.*
- Dr. Maheshkumar H. Kolekar (2011) *Technical Programme Committee Member - International Conference on Next Generation Information Technology.*
- Dr. Ranjan Kumar Behera (2011) *Member - International Journal of Advanced Engineering Technology.*

**Awards & Honours:**

- Shovan Bhaumik (2010) Young Scientist Project awarded by DST under SERC Fast Track scheme.

**Visits Abroad by Faculty Members:**

- Dr. Ranjan Kumar Behera - Conference (Singapore) October 27-29, 2010



**Invited Lectures by Faculty Members:**

- Power Electronics and Drives: Past, Present and Future *by* Dr. Ranjan Kumar Behera (AITAM, Tikkali, Andhra Pradesh) on December 9, 2010.
- Green Energy Technology : Absolutely Wireless *by* Dr. Ranjan Kumar Behera (NIST, Berhampur, Orissa) on December 20, 2010.
- High Efficient Solar Energy Harvesting System for Bihar Green Energy Initiative *by* Dr. Ranjan Kumar Behera (Bihar Science Congress, Muzaffarpur, Bihar) on February 12, 2011.
- Semantic Analysis of Sports Video for Automated Highlight Generation *by* Dr. Maheshkumar H. Kolekar (Muzaffarpur, India) on February 12, 2011.
- ASIC Synthesis and Timing Analysis *by* Dr. Kailash Chandra Ray (NIST, Berhampur, Orissa) on December 2010.
- Evolution of IC and VLSI Design Methodologies *by* Dr. Kailash Chandra Ray (KK Autonomous College, Berhampur, Orissa) on December 2010.
- Ultra-High Bandwidth Wavelength-Routed Optical Network: Solution for Bandwidth-Starved Backbone Net *by* Dr. Aneek Adhya (Bihar Science Conference, 2011, L S College, Muzaffarpur, Bihar) February 12, 2011.

**Workshop/Seminar/Conferences organized:**

- Workshop on Applications of Video Processing (Signal Processing Area), Crane Software International Ltd, Bangalore Edgate Technologies, Bangalore and Cengage Learning India Pvt Ltd, New Delhi, one day workshop on December 24, 2010 organized by Dr. Maheshkumar H. Kolekar.



### 3.3 Mechanical Engineering

#### 3.3.1 Faculty List

Name	Highest Degree	Research Areas
<b><u>Professors</u></b>		
Anil K. Bhowmick	Ph.D	Materials Engineering
<b><u>Assistant Professors</u></b>		
Akhilendra Singh	Ph.D	FEM, Meshless Methods, Computational Mechanics, Thermal Engg, Fracture Mechanics, Composites
Anindya Sundar Das	Ph.D	Vibration, Dynamics, Rotor Dynamics, Active Vibration Control
Karali Patra	Ph.D	Tool condition monitoring, Biomedical robotics
Manabendra Pathak	Ph.D	Computational Fluid Dynamics, Turbulent flows, Interfacial Flows in Yield Stress Fluid
Mohd. Kaleem Khan	Ph.D	Heat transfer, Two-phase fluid flow, Refrigeration and Air Conditioning, Modelling and simulation of thermal systems, Computational Fluid Dynamics
Probir Saha	Ph.D	Conventional and non-conventional machining, Welding, Soft computing in manufacturing process
Somnath Roy	Ph.D	Computational Fluid Dynamics, Turbulence, Mixing and Heat Transfer, High Performance Computation



<b>Somnath Sarangi</b>	<b>Ph.D</b>	Continuum Mechanics, Soft-tissue Mechanics, Vibration
<b>Subrata Kumar</b>	<b>Ph.D</b>	Heat transfer, Laser Material Processing, Flow of Granular Materials, CFD
<b>Sudhanshu Sekhar Panda</b>	<b>Ph.D</b>	Tool condition monitoring, Soft Computing, Metal Cutting and Machining, Industrial application of Soft computing technique in Machining, Designing of experiments, Statistical modeling

### 3.3.2 Academic Programs

- B. Tech in Mechanical Engineering
- Ph. D Program

### 3.3.3 Research & Development Activities

#### Sponsored Projects:

- **PI:** Dr. Akhilendra Singh, *Design Analysis of Composite Patch Repair of Structural Members by Meshfree Method* (DST, Rs. 11.30 Lakhs)
- **PI:** Dr. S. S. Panda, *Development of Robust Monitoring System for Drilling of Human Bone* (DST, Rs. 13.91 Lakhs)
- **PI:** Dr. Mohd Kaleem Khan, *Evaluation of Burst criterion of zircaloy clad* (Atomic Energy Regulatory Board, Rs. 25.50 Lakhs)
- **PI:** Dr. Somnath Sarangi, *Inelastic Effects in Elastomers-Theoretical and Experimental Study* (Department of Science and Technology (Fast Track), Rs. 15.00 Lakhs)
- **PI:** Dr. Karali Patra, *Mechanistic model for prediction of cutting forces in mechanical micro-drilling process* (DST (Fast track), Rs. 6.66 Lakhs)
- **PI:** Dr. Karali Patra, **Co PI:** Dr. Shovan Bhomick, *Studies On Maxwell Stress And Hysteresis Characteristics Of Poly Acrylic And Silicone Based Elastomers* (DMSRDE, DRDO, Kanpur, Rs. 9.95 Lakhs)

**Papers Published in Journals:**

- **A.S. Das**, J.K. Dutt, K. Ray, Active vibration control of unbalanced flexible rotor-shaft systems parametrically excited due to base motion, *Applied Mathematical Modelling*, 34: 2353-2369 (2010).
- **M. Pathak**, Computational Investigations of Solid-liquid Particle Interaction in a Two-phase Flow Around a Ducted Obstruction, *Journal of Hydraulic Research*, 49: 96-104 (2011).
- B. Bohra, F. Harhad, W. Benger, N. Brener, S. Iyenger, V. Karki, M. Ritter, B. Ulmer, K. Liu, S. Acharya and **Somnath Roy**, Evolving Time Surfaces in a Virtual Stirred Tank, *Journal of Winter School of Computer Graphics*, 121-123 (2010).
- **Karali Patra**, Surjya K. Pal and Kingshook Bhattacharyya, Fuzzy radial basis function (FRBF) network based tool condition monitoring system using vibration signals, *Machining Science & Technology*, 14 : 280-300 (2010).
- Saurabh Garg, **Karali Patra**, Vishal Khetrpal, Surjya K. Pal and Debabrata Chakraborty, Genetically evolved radial basis function network based prediction of drill flank wear, *Engineering Applications of Artificial Intelligence*, 23: 1112-1120 (2010).
- **Mohd. Kaleem Khan**, Metastable flow inside capillary tubes-A critical review , *ASHRAE Transactions*, 116: 478-487 (2010).
- Smagin, **M. Pathak**, O. M. Lavrenteva and A. Nir, Motion and Shape of an Axisymmetric Viscoplastic Drop Slowly Falling Through Viscous Liquid, *Rheologica Acta*, online article (2011).
- **S. S. Panda** and S. S. Mahapatra, On-line Multi- response assessment using Taguchi and Artificial Neural Network, *International Journal of Manufacturing Research*, 5: 305-326 (2010).
- **S. S. Panda** and S. S. Mahapatra, PCA fused NN approach for drill wear prediction, *Journal of Machining and Forming Technologies*, 2 (3-4) (2010).
- **S. S. Panda**, D. Ghose and P. C. Swain, Prediction of water table depth in western region, Orissa using BPNN and RBFN neural network, *Journal of Hydrology*, 394: 296-304 (2010).



**Papers Published in Conferences:**

- **A. S. Das** and J. K. Dutt, Control of Flexible Rotor Vibration using Electromagnetic Actuator Based on Active Disturbance Rejection Technique, *ISMA2010, International Conference on Noise and Vibration Engineering*, K.U. Leuven, Belgium (2010).
- **Mohd. Kaleem Khan**, Metastable flow inside capillary tubes-A critical review, *ASHRAE Winter Conference*, Orlando, Florida, USA (2010).
- **Probir Saha**, Surjya Kanta Pal, Partha Saha, Modeling and Multi-Objective Optimization in Wire Electro-Discharge Machining of in-situ TiC reinforced austenitic manganese steel matrix composite, *RAMTM*, Jadavpur University, Kolkata (2010).
- Firozut Tauheed and **S. Sarangi**, Modelling of Damage in Finite Torsion, Extension and Inflation of an Arterial Tissue, 6th World Congress of Biomechanics (WCB 2010). IFMBE Proceedings, 2010, Volume 31, Part 3, 879-882, DOI: 10.1007/978-3-642-14515-5\_224, Singapore (2010).
- **S. Sarangi**, On the Mullins effect of soft-biological tissues: A comparison between material models with experimental results, 6th World Congress of Biomechanics (WCB 2010). IFMBE Proceedings, 2010, Volume 31, Part 3, 1032-1035, DOI: 10.1007/978-3-642-14515-5\_263, Singapore (2010).
- **S S Panda**, D Ghose and P C Swain, Sedimentation load analysis using ANN and GA, *Mechanical, Industrial and Manufacturing, Technologies*, Singapore (2011).
- **M. Pathak**, Simulation of a Micro-fluidic Membrane Emulsification Process , *SMART ANSYS India 2010 Conference* , Bangalore (2010).
- **Akhilendra Singh** and I. V Singh, Simulation of Non-Linear Heat Transfer Problems by EFGM , *5th International Conference on Theoretical, Applied Computational and Experimental Mechanics (ICTACEM)*, IIT Kharagpur (2010).
- **Karali Patra**, Surjya K. Pal and Kingshook Bhattacharyya, Strategies for Intelligent Tool Wear Prediction in a Machining Process, *23rd International congress on Condition Monitoring and Diagnostic Engineering Management*, Nara, Japan (2010).
- Firozut Tauheed and **S. Sarangi**, Stress-softening in finite torsion,extension and inflation of a cylindrical tube , *5th ICTACEM-2010*, IIT Kharagpur (2010).



### 3.3.4 Other Activities

#### Member - Professional Bodies:

- Dr. Akhilendra Singh (2010) Indian Society of Theoretical and Applied Mechanics
- Dr. Karali Patra (2011) International association of Engineers
- Dr. Manabendra Pathak (2010) ASME
- Dr. Mohd. Kaleem Khan (2010) American Society of Heating, Refrigerating and Air conditioning Engineers, Inc. (ASHRAE)

#### Member - Editorial Board:

- Dr. Manabendra Pathak *Member* (2010) *Editorial Board* - ISST Journal of Mechanical Engineering (IJME).
- Dr. Manabendra Pathak *Member* (2010) *Editorial Board* – International Journal of AdvancedmEngineering Technology.
- Dr. Mohd. Kaleem Khan (2009) *Member* - International Journal of Fluids Engineering.
- Dr. Mohd. Kaleem Khan (2009) *Member* - International Journal of Engineering Research and Technology.
- Dr. Mohd. Kaleem Khan (2009) *Member* - International Journal of Mechanics and Thermodynamics.
- Dr. Mohd. Kaleem Khan (2010) *Member* - International Journal of Advanced Engineering Technology.

#### Visits Abroad by Faculty Members:

- Karali Patra - Paper presented to a conference & Industrial visit (Nara Japan) June 30 to July 3, 2010.

#### Invited Lectures by Faculty Members:

- MHRD/AICTE sponsored Staff Development Program on Soft Computing in Engineering Applications. *by* Dr. Probir Saha (North Eastern Regional Institute of Science and Technology (Deemed University) Arunachal Pradesh) on January 29-30, 2010.
- Application Of Element Free Galerkin Method In Heat Transfer And Fluid Flow *by* Akhilendra Singh (IIT Roorkee) on May 2011.
- Application of Lasers in Manufacturing *by* Subrata Kumar (CIPET, Hajipur, Patna) on December 8, 2010.



**Books Published:**

- **Akhilendra Singh** and I V Singh: Element Free Galerkin Method for Heat Transfer: Fundamentals and Formulations *published by* Lambert Academic Publishing, Germany (2010).



## 4. School of Basic Sciences

### 4.1 Mathematics

#### 4.1.1 Faculty List

#### Assistant Professors

Name	Highest Degree	Research Areas
Ashish Kumar Upadhyay	Ph.D	Topology (Combinatorial, geometric and algebraic)
Nutan Kumar Tomar	Ph.D	Mathematical Control Theory, Nonlinear Functional Analysis, Optimal Control
Ram Krishna Pandey	Ph.D	Number Theory
Shiv Kumar Gupta	Ph.D	Mathematical Programming; Nonlinear Optimization
Sumit Kumar	Ph.D	Numerical Analysis, PDE, Wavelet, Numerical and Statistical Modeling, Portfolio Optimization, Data Mining Algorithms, Data Structure Techniques
Yogesh Mani Tripathi	Ph.D	Statistical Decision Theory, Statistical Inference

#### 4.1.2 Academic Programs

- Ph. D Program

#### 4.1.3 Research & Development Activities

##### Sponsored Projects:

- **PI:** Dr. Nutan Tomar, *Descriptor System: Modeling and Control in Infinite-dimensional Spaces* (CSIR, Rs. 11.17 Lakhs)



### Papers Published in Journals:

- **Ashish K. Upadhyay**, A Note on Upper Bound For  $d$ -Covered Triangulations of Closed Surfaces , *Int. JPAM*, April, (2011).
- **S. K. Gupta** and Debasis Dangar, Duality in Fuzzy Quadratic Programming with Exponential Membership Functions, *Fuzzy Information and Engineering*, 4: 327-336 (2010).
- **N. K. Tomar** and N. Sukavanam, Exact Controllability of Semilinear Third order Dispersion Equation, *The Journal of Nonlinear Sciences and its Application*, Accepted (2010).
- Ravi P. Agarwal, Izhar Ahmad, **S. K. Gupta** and N. Kailey, Generalized Second-Order Mixed Symmetric Duality in Nondifferentiable Mathematical Programming, *Abstract and Applied Analysis*, Article ID 1035 (2011).
- **S. K. Gupta**, N. Kailey, M. K. Sharma , Higher-order convexity and symmetric duality in multiobjective programming, *Computers and Mathematics with Applications*, 60: 2373–2381 (2010).
- **N. K. Tomar**, N Sukavanam and K P Singh, Hybridization of Neural Nets and Genetic Algorithms to Compute the Boundary Control for Controlled Heat Equation , *European Journal of Pure and Applied Mathematics*, Accepted (2011).
- **S. K. Gupta** and Anurag Jaiswal, Multiobjective higher-order symmetric duality involving generalized cone-invex functions, *Computers and Mathematics with Applications*, 60: 3187-3192 (2010).
- **S. K. Gupta**, N. Kailey and M. K. Sharma, Multiobjective second order nondifferentiable symmetric duality involving generalized convex functions , *Journal of Applied mathematics and Informatics*, 28: 1395-1408 (2010).
- **Ram Krishna Pandey** and Amitabha Tripathi, On the density of integral sets with missing differences from sets related to arithmetic progression, *Journal of Number Theory*, 131: 634-647 (2011).

### Papers Published in Conferences

- Manoj Kumar Rastogi and **Yogesh Mani Tripathi**, Estimating a Parameter of Burr Type XII Distribution Using Hybrid Censored Observations, *Nineteenth International Conference on Interdisciplinary Mathematical and Statistical Techniques*, Patna (2010).



- Manoj Kumar Rastogi and **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 and **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).
- Manoj Kumar Rastogi and **Yogesh Mani Tripathi**, Estimating the Parameters of a Burr Distribution Under Progressive Type II Censoring, *International congress on productivity, quality, Reliability, optimization and modeling*, ISI Delhi (2011).

#### 4.1.4 Other Activities

##### Member - Professional Bodies:

- Dr. Ashish Kumar Upadhyay (2010-11) American Mathematical Society
- Dr. Ashish Kumar Upadhyay (2006) Indian Math. Society
- Dr. Ashish Kumar Upadhyay (2005) Ramanujan Math. Society
- Dr. Ashish Kumar Upadhyay (2011) European Math. Society
- Dr. Nutan Kumar Tomar (2011) Indian Mathematical Society

##### Member - Editorial Board

- Dr. Ashish Kumar Upadhyay (2010) *Member of Editorial Board* - ISST Journal of Comp. & Math.

##### Awards & Honours

- Ashish Kumar Upadhyay (2010) Full Financial Support to attend International Congress of Mathematicians.

##### Seminar/Workshop/Conferences Organized:

- Science Academies' Lecture Workshop on Partial Differential Equations, March 3 - 5, 2011 organized *by* Dr. A.K. Upadhyay.
- Basic Training Program in Mathematics sanctioned by DST to train undergraduates of various Universities and Colleges in Mathematics during May 10 - 20, 2011, organized *by* Dr. A.K. Upadhyay.



## 4.2 Physics

### 4.2.1 Faculty List

Name	Highest Degree	Research Areas
<b><u>Assistant Professors</u></b>		
Ayash Kanto Mukherjee	Ph.D	Transport in Conjugated Polymer, Metal-Organic Semiconductor interface, Organic electronic Devices, Molecular Electronics
Manoranjan Kar	Ph.D	Magnetic Nanomaterials and Oxide Materials
Naveen Kumar Nishchal	Ph.D	Optics (Theory & Experiment, Optical Information Processing)
Utpal Roy	Ph.D	Bose-Einstein condensate, Nonlinear Optics, Quantum Optics
A. K. Thakur	Ph.D	NanoTechnology

### 4.2.2 Academic Programs

- Ph. D Program

### 4.2.3 Research & Development Activities

#### Sponsored Projects:

- **PI:** Dr. Naveen Kumar Nishchal, *Creation of Virtual Class Rooms at IIT Patna through National Knowledge Network* (National Informatics Centre, New Delhi, **Rs. 120.00 Lakhs**)
- **PI:** Dr. Naveen Kumar Nishchal, *Study on Digital Holography based Information Security Schemes* (CSIR, New Delhi, **Rs. 12.61 Lakhs**)

**Papers Published in Journals:**

- L. Sharma and **Awalendra K. Thakur**, A.C. Conductivity and Relaxation Behavior in Polymer Nanocomposite , *Ionics*, 17: 135-143 (2011).
- Pradyot Nanda, Sanjoy Mondal, Ruma Ray, Namita Pandey, **A. K. Thakur** and S. Tarafdar, Conductivity Enhancement in Polymer Electrolytes on Gamma Irradiation , *Radiation Physics and Chemistry*, 80: 22 – 27 (2011).
- K. Kunjabali Singh, **Manoranjan Kar** and H. L. Das, Effect of surface temperature on photoconductivity in CdS thin films, *Indian Journal of Pure and Applied Physics*, 48: 110-114 (2010).
- **N. K. Nishchal** and T. J. Naughton, Flexible optical encryption with multiple users and multiple security levels, *Optics Communications*, 284: 735-739 (2011).
- **Utpal Roy**, B Shah, K Abhinav and P K Panigrahi , Gapped solitons and periodic excitations in strongly coupled BECs, *Journal of Physics B*, 44: 035302 (2011).
- Sharma, **Awalendra K. Thakur** and B. Purkait, Identification of Medicinally Active Ingredients in Ultra-diluted Digitalis purpurea: FTIR and Raman Spectroscopic Studies , *Medicinal Chemistry Research*, 19: 643 – 651 (2010).
- L. Sharma and **Awalendra K. Thakur**, Improvement in Voltage, Thermal, Mechanical stability and Ion Transport Properties in Polymer-Clay Nanocomposites , *J. Applied Polymer Science*, 118: 2743 – 2753 (2010).
- Namrata Shukla and **Awalendra K. Thakur**, Ion Transport Model in Exfoliated and Intercalated Polymer-Clay Nanocomposites , *Solid State Ionics*, 181: 19-20 (2010).
- Amaresh Chandra Mishra, Tricholan Sahoo, V. Srinivas and **A. K. Thakur**, Magnetoimpedance Effect in Electrodeposited NiFe/Cu Wire Investigated Using Inductance Spectroscopy, *Physica B: Physics of Condensed Matter*, 406: 645 – 651, (2011).
- **Awalendra K. Thakur**, Mechanism for Improvement in Mechanical and Thermal Stability in Dispersed Phase Polymer Composites, *Ionics*, 17: 109-120, (2011).
- Saumya R. Mohapatra, **Awalendra K. Thakur**, Mechanism of Ion Transport in YSZ Dispersed Polymer Nanocomposite Films: An Analysis by Vibrational Spectroscopy Approach , *Ionics*, 16: 437 – 445 (2010).
- Amaresh Chandra Mishra, Tricholan Sahoo, V. Srinivas and **A. K. Thakur**, Microstructure, Magnetic and Magnetoimpedance properties of electrodeposited NiFe/Cu and CoNiFe/Cu wire: A study on influence of saccharin additive in plating bath, *J. Applied Physics*, 109, 073901 (2011).





- Namrata Shukla and **Awalendra K. Thakur**, Nanocrystalline Filler Induced Changes in Electrical and Stability Properties of a Polymer Nanocomposite Electrolyte based on Amorphous Matrix, *J. Materials Science*, 45: 4236 – 425 (2010).
- **Awalendra K. Thakur** and S. A. Hashmi, Polymer Matrix - Filler Interaction Mechanism for Modified Ion Transport and Glass Transition Temperature in the Polymer Electrolyte Composites, *Solid State Ionics*, 2010, 181 (27-28), 1270-78 (2011).
- L. Sharma and **Awalendra K. Thakur**, Polymer Matrix-Clay Interaction Mediated Mechanism of Electrical Transport in Exfoliated and Intercalated Polymer Nanocomposites, *J. Materials Science*, 46: 1916 – 1931 (2011).
- L. Sharma and **Awalendra K. Thakur**, Polymer-Ion-Clay Interaction based Model for Ion Conduction in Intercalation Type Polymer Nanocomposite, *Ionics*, 16: 339 – 350 (2010).
- Niranjana Sahu, **Manoranjan Kar** and S. Panigrahi, Rietveld Refinement of a nanocrystalline Pb<sub>0.5</sub>Zr<sub>0.5</sub>TiO<sub>3</sub> Ceramics, *International Journal of Physics*, 3: 157-164 (2010).
- Niranjana Sahu, **Manoranjan Kar** and S. Panigrahi, Rietveld Refinement, Microstructure and Electrical Properties of PbTiO<sub>3</sub> Ceramic Materials, *Archives of Physics Research*, 1: 75-87 (2010).
- **Manoranjan Kar**, N. Rama Krishnan, Indrajit Talukdar AND K. Acharyya, Structural Transition Of Nanocrystalline TiO<sub>2</sub>, *International Journal of Nanoscience*, 10: 1-5 (2011).
- M. Panda, **A. K. Thakur** and V. Srinivas, Thermal Effects on the Percolation behavior of Polyvinylidene fluoride/Nickel Composites, *J. Applied Polymer Science*, 117: 3023 – 302 (2010).

#### Papers Published in Conferences:

- Lawrence Kumar and **Manoranjan Kar**, Magnetic Anisotropy of Nanocrystalline Aluminium Substituted Cobalt Ferrite, *International Conference on Magnetic Materials*, SINP, Kolkata (2010).
- Lawrence Kumar, Chandra Kanta Panda and **Manoranjan Kar**, Magnetic Anisotropy of Nanocrystalline Nonmagnetic (Al) and Magnetic (Cr) Substituted Cobalt Ferrite, *Bihar Science Congress*, Muzzaferpur (2011).



- Lawrence Kumar and **Manoranjan Kar**, Magnetic Anisotropy in Nanocrystalline Chromium Substituted Cobalt Ferrite , *Current Trends in Condensed Matter Physics* , NISER, BBSR (2010).
- Lawrence Kumar and **Manoranjan Kar**, Influence of La<sup>3+</sup> Ion Concentration on the Magnetic Anisotropy of Nanocrystalline Spinel Cobalt Ferrite, *National Seminar on Nanomaterials and Their Applications*, ISM Dhanbad (2011).
- Shamik Chakraborti and **A. K. Thakur**, DFT Analysis of Layered Silicate Structure for Lithium Battery Application , *Recent Trends in Materials and Devices (RTMD-2010)* , Amity University, Noida, Uttar Pradesh, (2010).
- **N. K. Nishchal**, T. Pitkaaho, and T. J. Naughton, Digital Fresnel hologram watermarking , *9th Euro-American Workshop on Information Optics (WIO 2010)* , Helsinki, Finland (2010).
- **N K Nishchal**, Fractional Fourier domain optical image watermarking , *16th Microoptics Conference (2010 MOC)*, Hsinchu, Taiwan (2010).
- **N. K. Nishchal** and T. J. Naughton, Reconstruction of Fresnel digital hologram using fractional Fourier transform algorithm, *Ninth Int'l. Confer. on Fiber Optics and Photonics (PHOTONICS'10)*, IIT Guwahati (2010).
- M. R. Ansari and **N. K. Nishchal**, Securing watermarked information using fractional Fourier transform, *Ninth Int'l. Confer. on Fiber Optics and Photonics (PHOTONICS'10)*, IIT Guwahati (2010).
- **Utpal Roy**, S. Ghosh & P. K. Panigrahi, Sensitive superposition structures in Bose-Einstein condensate , *International Conference on Quantum Optics and Quantum Computing (ICQOOC-11)*, IIIT, Noida, India (2011).
- Suchitra Parija, V. Srinivas and **A. K. Thakur**, Studies on Nanocrystalline Nickel Prepared Via Citrate Route, *International Conference on Magnetic Materials (ICMM-2010)* , SINP, Kolkata (2010).
- **N K Nishchal**, Wavelet-based distortion-invariant correlation filters A review , *16th Microoptics Conference (2010 MOC)*, Hsinchu, Taiwan (2010).

#### 4.2.4 Other Activities

##### Fellow - Professional Bodies:

- Dr. Naveen Kumar Nishchal (2005) Optical Society of India.



**Member - Professional Bodies:**

- Dr. Naveen Kumar Nishchal (2001) International Society for Optical Engineering SPIE, USA.
- Dr. Naveen Kumar Nishchal (2010) Optical Society of America.
- Dr. Naveen Kumar Nishchal (2010) Indian Science Congress Association.
- Dr. Naveen Kumar Nishchal (2003) Lasers And Spectroscopy Society of India.

**Member - Editorial Board:**

- Dr. A. K. Thakur (2009) *Editorial Board Member* - The Open Energy & Fuels Journal.
- Dr. A. K. Thakur (2010) *ASSOCIATE EDITOR* - J. Applied Sciences, Engineering & Technology.

**Awards & Honours:**

- Dr. A. K. Thakur (2010) *BEST PAPER AWARD*.
- Dr. Naveen Kumar Nishchal, Biography selected for inclusion in the Marquis Who's Who in the World 2011 (28th Edition).

**Visits Abroad by Faculty Members:**

- Dr. Naveen Kumar Nishchal - Collaborative Research Work (Ylivieska, Finland) May-July 2010.
- Dr. Naveen Kumar Nishchal - To attend conference (Hsinchu, Taiwan) Oct.-Nov. 2010
- Dr. Naveen Kumar Nishchal - visit (Hong Kong) Oct. 2010.
- Dr. A. K. Thakur - To participate in India-NUS Joint Physics Symposium (The national University of Singapore) February 22-25, 2011.

**Invited Lectures by Faculty Members:**

- Electron Microscope: A Probe for Nanoscience *by* Manoranjan Kar (Patna University, Patna) on February 2010.
- The abstract is yet to be submitted *by* Utpal Roy (University of Delhi, CDAMOP-2011)



- Optoelectronic techniques of 3D information security *by* Naveen Kumar Nishchal (Industrial Technology Research Centre, Hsinchu, Taiwan) on November 4, 2010.
- Laser and its applications *by* Naveen Kumar Nishchal (Mahavir Cancer Sansthan, Patna) on September 24, 2010.
- A hybrid digital optical correlation scheme for target identification *by* Naveen Kumar Nishchal (LS College Muzaffarpur) on February 12, 2011.
- Plastic Separators for Storage Devices : Prospects and Problems *by* A K Thakur (Department of Physics, The National University of Singapore) on February 4-7, 2011.
- State-of-the Art Status of Ion Conducting Polymer Nanocomposites for Energy Storage Device Applicat *by* A K Thakur (M. G. University, Kottayam, Kerala) on January 6-9, 2011.
- Percolation and Dielectric Relaxation in Polar Polymer-Conductor Composites *by* A K Thakur (G. G. Central University, Bilaspur) December 3-5, 2010.



## 4.3 Chemistry

### 4.3.1 Faculty List

Name	Highest Degree	Research Areas
<b><u>Professors</u></b>		
Anil K. Bhowmick	Ph.D	Polymer Science and Technology
Abu Taleb Khan	Ph.D	Synthesis of Natural Products, Heterocycles and Carbohydrate Chemistry, Newer Methodologies.
<b><u>Assistant Professors</u></b>		
Debabrata Seth	Ph.D	Photochemistry and Chemical Dynamics
Md. Lokman Hakim Choudhury	Ph.D	Total Synthesis of Biologically Important Natural Products, Pot Atom and Step Economic (PASE) Synthesis, Diversity Oriented Synthesis (DOS) and Heterocyclic Chemistry.
Neeladri Das	Ph.D	Supramolecular Chemistry, Coordination Chemistry
Prolay Das	Ph.D	DNA self assembly for production of 3-dimensional functional Nanostructures. Clustered DNA damage and DNA repair mechanism in Nucleosome core particles.
Ranganathan Subramanian	Ph.D	Spectroscopy, Computational, Instrumentation development, Physical Chemistry
Sahid Hussain	Ph.D	Nano-scale Materials, Green Chemistry and Synthetic Organic Methodologies



### 4.3.2 Academic Programs

- Ph. D Program

### 4.3.3 Research & Development Activities

#### Sponsored Projects:

- **PI:** Dr. Lokman Hakim Choudhury, *Diversity Oriented Synthesis of Privileged Heterocycles & Highly Functionalized Carbocycles by Multicomponent Reactions* (DST, Govt. of India, **Rs. 19.91 Lakhs**)
- **PI:** Dr. Sahid Hussain, *Fabrication of Highly Florescent Quantum Dots for Biomedical Applications* (DST, **Rs. 19.92 Lakhs**)

#### Papers Published in Journals:

- R. Sengupta, M. Bhattacharya, S. Bandyopadhyay and **Anil K. Bhowmick**, A review on the mechanical and electrical properties of graphite and modified graphite reinforced polymer composites, *Progress in Polymer Science*, 36, 638 (2011).
- M. Ray, J.J. George, A. Chakraborty and **A.K. Bhowmick**, An investigation of the electromagnetic shielding effectiveness of ethylene vinyl acetate elastomer reinforced with carbon nanofillers, *Polymers & Polymer Composites*, 18, 59 (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, 16 (2010).
- 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, 2555 (2010).
- G. C. Basak, A. Bandyopadhyay, **A.K. Bhowmick**, Effect of tackifier compatibility and blend viscoelasticity on peel strength behavior of vulcanized EPDM rubber co-cured with unvulcanized rubber, *International Journal of Adhesion and Adhesives*, 30, 489 (2010).



- Choudhury, **Anil K. Bhowmick**, C. Ong, M. Soddemann , Effect of various nanofillers on thermal stability and degradation kinetics of polymer nanocomposites , *Journal of Nanoscience and Nanotechnology*, 10, 5056 (2010).
- Basak, Ganesh C. Kumar, K. Dinesh Bandyopadhyay, Abhijit Bhowmick, **Anil K. Bhowmick** , Elegant Way of Strengthening Polymer-Polymer Interface Using Nanoclay , *ACS Applied Materials & Interfaces*, 2, 2933 (2010).
- **A. K. Bhowmick**, M. Bhattacharya and S. Mitra, Exfoliation of nanolayer assemblies for improved natural rubber properties: Methods and Theory, *Journal of Elastomers and Plastics*, 42, 517 (2010).
- 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, 218 (2010).
- Choudhury, **A. K. Bhowmick**, C. Ong, M. Soddemann, Influence of molecular parameters on thermal, mechanical, and dynamic mechanical properties of hydrogenated nitrile rubber and its nanocomposites, *Polymer Engineering & Science*, 50, 1389 (2010).
- G. C. Basak, A. Bandyopadhyay, **A. K. Bhowmick**, Influence of nanoclay on adhesion of EPDM vulcanizate , *International Journal of Adhesion & Adhesives*, 31, 209 (2011).
- P. K. Guchhait, S. Pradhan, K. D. Kumar, P. Maji, **A.K. Bhowmick**, Influence of nanoclay on the morphology, adhesive and mechanical properties of polysulfide modified epoxy resin , *Polymers & Polymer Composites*, 18, 123 (2010).
- M.Bhattacharya, S.Biswas, S.Bandyopadhyay, **A. K. Bhowmick**, Influence of the nanofiller type and content on permeation characteristics of multifunctional NR nanocomposites and their modeling, *Polymer for Advance Technology*, (2011).
- G. Rajesh, P. Maji, M. Bhattacharya, A. Choudhury and **A.K. Bhowmick**, Liquid Silicone Rubber Vulcanizates: Crosslinking by Polymethylhydrogenosiloxane, Cure Kinetics and Structure - Property Relationship, *Polymers and Polymer Composites*, 18, 477 (2010).
- V. Thakur, A. Leuteritz, U. Gohs, B. Kretzschmar, U. Wagenknecht, **A.K. Bhowmick**, G. Heinrich, Montmorillonite nanocomposites with electron-beam modified atactic polypropylene, *Applied Clay Science*, 49, 200 (2010).
- **A. K. Bhowmick**, M. Bhattacharya, S. Mitra, K. Dinesh Kumar, P. K. Maji, A. Choudhury, J. J. George, G. C.Basak , Morphology – Property Relationship in Rubber



Based Nanocomposites: Some Recent Developments, *Advances in Polymer Science*, 239, 1 (2011).

- Bandyopadhyay, V. Thakur, S. Pradhan and **A. K. Bhowmick**, Nanoclay distribution and its influence on the mechanical properties of rubber blends, *Journal of Applied Polymer Science*, 115, 1237 (2010).
- N. Roy, **Anil K. Bhowmick**, Novel in situ polydimethylsiloxane-sepiolite nanocomposites: Structure-property relationship, *Polymer*, 51, 5172 (2010).
- M. Bhattacharya, S. Biswas, **A. K. Bhowmick**, Permeation characteristics and modeling of barrier properties of multifunctional rubber nanocomposites, *Polymer*, 52, 1562 (2011).
- S. Mitra, S. Chattopadhyay, **A. K. Bhowmick**, Preparation and characterization of elastomer-based nanocomposite gels using an unique latex blending technique, *Journal of Applied Polymer Science*, 81, 118 (2010).
- **Prolay Das** and Betsy M. Sutherland, Processing of abasic DNA clusters in hApel-silenced primary fibroblasts exposed to low doses of X-irradiation, *Journal of Biosciences*, 36, 105-116 (2011).
- **A. K. Bhowmick**, M. Bhattacharya, S. Mitra, P. K. Maji, A. Choudhury, J.J. George, G.C. Basak, K.D. Kumar, Rubber based nanocomposites, *Kautschuk Gummi Kunststoffe*, 63, 192 (2010).
- G .C. Basak, A. Bandyopadhyay, S. Neogi and **A. K. Bhowmick**, Surface modification of argon/oxygen plasma treated vulcanized ethylene propylene diene polymethylene surfaces for improved adhesion with natural rubber, *Applied Surface Science*, 257, 2891 (2011).
- M. Bhattacharya, **A. K. Bhowmick**, Synergy in carbon black filled natural rubber nanocomposites , *Part II: Abrasion and viscoelasticity in tire like applications*, *WEAR*, 45, 6139 (2010).
- M. Bhattacharya, **A. K. Bhowmick**, Synergy in carbon black-filled natural rubber nanocomposites, *Part I: Mechanical, dynamic mechanical properties, and morphology*, *J. Materials Science*, 45, 6126 (2010).
- M. Kotal, S.K. Srivastava, **A. K Bhowmick**, Thermoplastic polyurethane and nitrile butadiene rubber blends with layered double hydroxide nanocomposites by solution blending , *Polymer International*, 59, 2 (2010).





#### 4.3.4 Other Activities

##### Fellow - Professional Bodies:

- Prof. Anil K Bhowmick (2004) West Bengal Academy of Science & Technology
- Prof. Anil K Bhowmick (2001) Indian National Academy of Engineering (INAE)
- Prof. Anil K Bhowmick (2009) Indian National Science Academy

##### Member - Professional Bodies:

- Dr. Md. Lokman Hakim Choudhury (2010) Royal Society of Chemistry
- Dr. Ranganathan Subramanian (2010) American Chemical Society

##### Patents (filed / granted):

- Bokaria Pawan Kumar, Sahoo Suchismita, Senapati Dibyadarshani and **Anil K. Bhowmick**, Development of peroxy-modified elastomer chips for contact adhesive application. Indian Pat. Appl. (2010), IN 2008 DE00555 A 20100423.

##### Visits Abroad by Faculty Members:

- Prof. Anil K Bhowmick - (Massachusetts Institute of Technology, Boston, MA, USA) June 2010
- Dr. Neeladri Das - DAAD Fellowship (Dortmund, Germany) June-July 2010
- Prof. Anil K Bhowmick - (LanXess, Germany) June 2010
- Prof. Anil K Bhowmick - (The 3rd International Conference on Multi-Functional Materials and Structures MFMS 2010 Jeonbuk Provincial Government Jeonju, Korea) November 2010
- Prof. Anil K Bhowmick - (The Nineteenth International Conference on Processing and Fabrication of Advanced Materials, PFAM-XIX, presented by the Centre for Advanced Composite Materials (CACM), the University of Auckland) Jan 2011



## 5. School of Humanities & Social Sciences

### 5.1 Faculty List

#### Assistant Professors

Name	Highest Degree	Research Areas
Aditya Raj	Ph.D	Theoretical and Methodological Practice, Sociology of Education, Development, Migration, and Culture, Social Change in India, Bihar
Nalin Bharti	Ph.D	Privatization of PSEs, Privatization and Labor, Law and Economics, India's ITES
Rajesh Kumar	Ph.D	Linguistic Theory (Syntax of Indo-Aryan and Tibeto-Burman Languages), Sociolinguistics, Applied Linguistics, Language Teaching, Language in Education, Cognitive Science/Linguistics
Smriti Singh	Ph.D	Contemporary Literary Theory, Linguistics and Language Teaching, Indian Writing in English

### 5.2 Academic Programs

- Ph. D Program

### 5.3 Research & Development Activities

#### Sponsored Projects:

- **PI:** Dr. Aditya Raj, *A Concurrent Study of MGNREGA implementation in Bihar* (Ministry of Rural Development, Government of India, **Rs. 26.00 Lakhs**)
- **PI:** Dr. Nalin Bharti, **KCCW** (UNICEF, **Rs. 2.75 Lakhs**)



### Papers Published in Journals:

- **Nalin Bharti**, Public-private partnership in India's Urban Water Public Utilities: A case of Sonia Vihar Water Project-Delhi (jointly with Dr.G.Ganesh), *Journal of Management and Public Policy*, Vol.1 No-2, Jan-June 2010.
- **Nalin Bharti**, Guest Editorial, *Journal of Management and Public Policy*, 2: 5-8 (2010).
- **Nalin Bharti**, Post Global Financial Crisis Monetary Strategy: Case studies in South Asia and United States, *IST Journal on Business and Technology*, Vol.2,No,2,Dec 2009 (2010).
- **Rajesh Kumar**, Two types of NPIs in Hindi with one licensing condition, *Annual Review of South Asian Languages and Linguistics*, 19-48 (2010).
- **Smriti Singh**, Chronicle of the Dispossessed - The Inheritance of Loss in Sunita Sinha (ed.) Indian Booker Prize Winners: A Critical Study of Their Works, *Atlantic Publishers and Distributors*, New Delhi (2010).
- **Smriti Singh**, Tarabai Shinde- A 19th Century Feminist, Novel and Society. (ed.) Dr. Ashok Kumar Singh, Navin Kumar Singh, *AMS publications*, Patna (2010).
- **Smriti Singh** and Pooja, Money, Nature and Patriarchy in Hardy's Tess of the D'Urbervilles, *Contemporary Discourse . Vol. 1*. June (2010).

### Papers Published in Conferences:

- K V Subbarao and **Rajesh Kumar**, Agreement in Tibeto-Burman languages , *Annual Meeting of the South Asian Languages Analysis Roundtable*, Mysore (2011).
- Pritha Chandra and **Rajesh Kumar**, Alienable/Inalienable Possession: Inquiries at the Syntax-Semantics Interface, *International Seminar on Syntax and Semantics Interface* , AMU Aligarh (2011).
- **Nalin Bharti**, India's anti dumping actions: What lesson industry appears to have learned from? *International Conference on Changing Structure of International Trade and Investment*, Jamia Millia Islamia (2011).
- **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 2010*, University of Hyderabad (2010).



## 5.4 Other Activities

### Member - Professional Bodies:

- Dr. Aditya Raj (2001) Indian Sociological Society
- Dr. Aditya Raj (2003) American Sociological Association
- Dr. Aditya Raj (2004) International Sociological Association
- Dr. Nalin Bharti (2011) American Economic Association
- Dr. Nalin Bharti (2010) Indian Society of labour Economic
- Dr. Nalin Bharti (2010) Indian Science Congress
- Dr. Rajesh Kumar (2010) Dravidian Linguistics Association of India
- Dr. Rajesh Kumar (2010) Linguistic Society of India
- Dr. Rajesh Kumar (2010) Indian Science Congress Association
- Dr. Rajesh Kumar (2010) Linguistic Society of America

### Member - Editorial Board:

- Dr. Aditya Raj, *Managing Editor* - Research and Practice in Social sciences, Aug 2005 onwards.
- Dr. Nalin Bharti (2010) *Guest Editor* - Journal of Management and Public Policy.

### Invited Lectures by Faculty Members:

- Language Mind and Computers *by* Dr. Rajesh Kumar (JNU New Delhi) on 24 September, 2010.
- Language Human Mind and Society *by* Dr. Rajesh Kumar (Tata Institute of Social Sciences) on 16 May-9 June, 2010.
- Contemporary Development Discourse *by* Dr. Aditya Raj (Central University of Bihar) on September 11, 2010.
- State, Society, and Governance *by* Dr. Aditya Raj (Central University of Bihar), September 18, 2010.
- Key Development Issues Facing Women and children in India *by* Dr. Nalin Bharti Invited recourse person for Orientation Workshop of UNICEF India's Internship Programme, 1-2 June, 2010 at India Habitat Centre .



**Books Published:**

- Dr. Aditya Raj: Indian Diaspora in Canada: Community, Culture, and Capital *published by* VDM Verlag (2010).
- Smriti Singh. Feminism and Postcolonialism in Krupabai Satthianadhan. New Delhi: Satyam Publishing House. 2010
- Smriti Singh and Achal Sinha (ed.). Diasporic Consciousness: Literatures from the Postcolonial World. Germany: VDM Verlag Dr. Muller. 2010

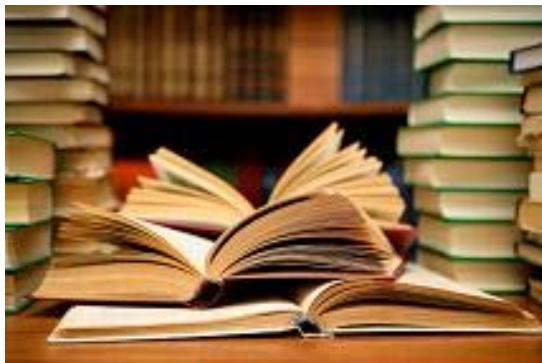
**Visits Abroad by Faculty Members:**

- Dr. Rajesh Kumar - NSF Project Work (University of Illinois at Urbana-Champaign) June 25 - July 07, 2010.
- Dr. Rajesh Kumar - For Collaborative work (University of California Los Angeles) July 03-05, 2010.

## 6. Centralized Services, Programmes and Units

### 6.1 Central Library

The Central Library of IIT Patna has a collection of text and reference books related to



undergraduate and post graduate research and teaching. The library is fully air conditioned. It is well equipped with modern technology of library automation system with self check in and checkout systems. Online catalog search facility is also available (only through intranet) in order to browse the catalogue of IIT Patna central library.

The total book collection of the Central Library, IIT Patna has 7054 books till March 2011. During the reporting year, 2600 books were added to the Central Library. All books are RFID tagged. Within this period of time, the Central Library subscribed some more e-resources in form of e-journals and e-books to fulfill the requirements of the users. The Central Library has subscribed 07 new e-journals from different publishers namely Nature, Science, ACS, AIP, APS, Wiley-Blackwell, ASME Archives, Taylor & Francis and 02 new e-book packages from Cambridge University Press and Springer e-books Series of Computer Science i.e. Lecture Notes on Computer Science. Apart from these the Central Library is also the core member of INDEST-AICTE Consortium and getting various e-resources such as online journals of Springer, IEEE(IEE), ASTM Digital Library, ASTM Standards, ASME Journals, J-Gate Custom Content for Consortia, MathSciNet, Journals of OSA, and DEL (Access Engineering from McGraw Hill) from them for fulfilling the information need of its users. Now, IIT Patna Central Library has subscribed total 22 e-journals collection and 07 e-books packages, which facilitate the information needs of the users. During this period of time the library has been also subscribing some popular magazines like Electronic for You, Digit Magazine, Auto Car India, Electronic Heating, Frontline, Reader's Digest, Competition Success Review, Science Reporter, Yojana, Civil Services Chronicle and 06 daily newspapers for its users. The Central Library provides a healthy and peaceful environment for users to acquire modern knowledge.



## 6.2 Computer Center

Department of Computer Science & Engineering and Computer Center have grown



significantly during the year 2010-2011.

A new lab with 40+ capacities has been added to the previous tally. This new lab is dedicated for hardware experiments for the advanced hardware courses of the department of Computer Science and Engineering. Computer Center has also leased a new 10 Mbps (1:1) internet line which is dedicated for the faculty members of the institute. The

List of various items and equipments procured by Computer Center between April 2010 and March 2011 is given below:

ITEM NAME	QTY
RACK SERVER	
WIPRO RACK SERVER	4
BLADE SERVER	
IBM BLADE SERVER	7
DESKTOPS	
DELL DESKTOPS	30
LAPTOPS	
DELL LAPTOPS	20
SONY HIGH-END LAPTOP	1
PRINTER	
HP LASERJET A3 COLOR	1
SOFTWARE	
QUALNET 5.0	2
NETWORK COMPONENTS	
D-LINK ACCESS POINTS	12
D-LINK SWITCH	2
INTERNET BANDWIDTH	
RELIANCE	10 Mbps (1:1)



### 6.3 Institute Civil, Electrical and Water Works

During the Financial year 2010-11, the Institute spent Rs. 58, 55,471.38 for Civil, Electrical & plumbing. This includes expenses on repairs, maintenance and renovation of the transit campus, electrical repairs and maintenance and running of Diesel Generator. The expenditure for Boundary wall Construction in our main campus at Bihta is Rs. 9.2 Crores.

### 6.4 Rajbhasha Vibhag

IIT Patna has appointed Mr Sanjay Kumar, Assistant Registrar, as Hindi Officer of the Institute. He has been assigned with the responsibility of implementation of the official language. Its activities include Annual Accounts, Audit Reports, etc. Different nameplates, rubberstamps, files, forms, registers, service books, health books etc are being made bilingual. This Institute website is also in the process of being bilingual. 14<sup>th</sup> September is celebrated as Hindi Diwas and different Hindi competitions are organized.

### 6.5 Sponsored Research and Industrial Relations Unit

The following projects have been sanctioned by the various agencies during 2010-11:

SI No.	Name of PI & Department	Project Title	Sponsoring Agency	Total Granted Fund	Duration (in months)	Date of Sanction
1	Dr. Nalin Bharti (HSS)	KCCI-UNICEF Internship	UNICEF	279,000.00	2	25-May-10
2	Dr. Sahid Hussain (CHEMISTRY)	Fabrication of Highly Fluorescent Quantum Dots for Biomedical Applications	DST	1,992,200.00	26	20-Jul-10
3	Dr. Tasneem Parvin (Research Mentor - Dr. D. Seth) (CHEMISTRY)	Design and development of multifunctional organocatalysts for asymmetric synthesis	DST	1,990,000.00	36	11-Aug-10
4	Dr. Ashok Singh Sairam (CSE)	Development of a System to identify, filter and trace back	DIT	5,719,000.00	26	16-Sep-10





		network security attacks using new packet marking techniques				
5	Dr. Nalin Bharti (HSS)	Knowledge Centre on Children, Women and Gender	UNICEF	380,000.00	2	8-Oct-10
6	Dr. Karali Patra (ME)	Mechanistic model for prediction of cutting forces in mechanical micro-drilling process	DST	666,000.00	36	17-Sep-10
7	Dr. Akhilendra Singh (ME)	Design Analysis of Composite Patch Repair of Structural Members by Meshfree Method	DST	1,123,000.00	36	29-Sep-10
8	Dr. Somnath Sarangi (ME)	Inelastic effects in Elastomers- Theoretical and Experimental Study	DST	1,507,000.00	36	29-Sep-10
9	Dr. Naveen Kr. Nischal (PHYSICS)	Study on Digital Holography based Information Security Schemes	CSIR	533,500.00	36	15-Nov-10
10	Dr. Shovan Bhaumik (EE)	Multiple Target Tracking Using Nonlinear Filters	DST	264,000.00	36	22-Oct-10
11	Dr. Nutan Kr. Tomar (MATHS)	Descriptor Systems : Modeling and Control in infinite-dimensional spaces	CSIR	4,39,000	36	2-Feb-11
12	Dr. Sathya Peri (CSE)	Secure Routing in P2P Network using Gossip base protocol	DIT	5,964,000.00	36	28-Feb-11
13	Dr. Aditya Raj (HSS)	A Concurrent study of MGNREGA implementation in Bihar	Ministry of Rural Development (GoI)	2,618,000.00	36	7-Mar-11
14	Dr. Suranjana Ghosh (Research Mentor - Dr. Utpal Roy) (PHYSICS)	Study of decoherence and sensitivity of quantum superposition structures in realizable systems and their applications	DST	1,872,000.00	36	8-Mar-11



## 6.6 Training and Placement Cell

Training and Placement Cell is actively engaged in organizing summer training for under graduate students in Computer Science and Engineering, Electrical Engineering and Mechanical Engineering. Summer training is a compulsory component of B. Tech. degree curriculum. The training for 3<sup>rd</sup> year B. Tech students of the above disciplines have been arranged and they will join training in summer vacation during May-July 2011. A large number of companies/industries were contacted by the training and placement cell for imparting training to the students and they have accepted our request. Some of the R&D organization and universities also agreed to provide summer internship to our students. This include industries like Microsoft, H P Lab, TCS, Azure System Pvt. Limited, Tata Motors, Bajaj motors, JCB India Limited, Megatherm Group, Bharat Electronics Ltd., Bharat Heavy Electrical Limited, Steel Authority of India, Indian Oil Corporation Ltd, LG Electronics, CorEL Technologies, I-CEE Design Technology, Interra Systems, Tektronics, National Instrument, Reliance Communications. The R&D organizations like Defense Research and Development Organization, Tata Institute of Fundamental Research, Central Mechanical Engineering Research Institute, Atomic Energy Regulatory Board and Center for Development of Advanced Computing are also providing training to our students. Academic institutions like University of Houston, Texas A&M University, University of Southern California, University of Auckland, New Zealand, and University of South Australia have accepted our students for summer internship.

The Training and Placement Cell of the Institute centrally handles campus placement activity of the graduating students. This cell provides excellent infrastructure to support at every stage of the placement process. 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.

## 6.7 Technology Students Gymkhana

Physical Education & Sports Gymkhana is providing best possible facilities to the students of the Institute. IIT Patna has developed sports infrastructure in this campus such as



construction of basketball court, volleyball court, and badminton court (outdoor), cricket pitch etc. We have also developed Gym facilities in boys' hostel as well as girls' hostel, and students are making best use of multi-station gymnasiums.

We have outsourced lawn tennis and badminton court (indoor) because these facilities are not available in our campus. We are having regular sports activities in which students are taking part and time to time we are having Intramural competition in different games and sports.

IIT Patna also participated in Inter IIT Sports meet 2010 held at IIT Delhi and performed very well. Total 57 students represented the Institute in inter IIT competitions and competed in volleyball, basketball, cricket, chess, athletics, tennis, badminton and Table tennis. For further enhancement of sports activities, we are also making a sports ground for athletics etc. Indoor hall is also under construction for indoor sports.

## 7. Statistical Information

### 7.1 Admission to Undergraduate Students

Admission to B.Tech Courses at IIT Patna were made through Joint Entrance Examination held on April 11, 2010. A department wise and category wise break up of the students admitted to IITP in the academic year 2010-11 is given below:

#### Admission to Undergraduate Students

Course	JEE – 2010					Grand Total
	GEN	OB	PD	SC	ST	
Computer Science & Engineering	19	10	1	6	3	39
Electrical Engineering	19	7	0	6	7	39
Mechanical Engineering	17	10	0	10	2	39
Grand Total	55	27	1	22	12	117



## 7.2 Students Awarded MCM Scholarship

The following undergraduate students (B.Tech. Programme) are selected for the award of the Merit-cum-Means (MCM) scholarship in the academic year 2010-2011 by the Institute.

General & OBC category students of 3<sup>rd</sup> Year Selected for MCM:

Rs.1000/- per month for two semesters (8 months in a year)

Free Tuition Fee

Name of student	Roll No.	Name of student	Roll No.
ANKIT BHARDWAJ	0801ME05	SATYENDRA SINGH	0801CS29
ANKIT LAT	0801EE08	ADITYA KUMAR GUPTA	0801CS40
PRATEEK JAISWAL	0801ME30	NITIN JAIN	0801ME27
KARAN JAIN	0801CS16	KASHA RAVI	0801CS17
ASHISH KUMAR SINGH	0801ME08	VISHWANATH PRATAP SINGH	0801CS35
ANJANI KUMAR	0801ME04	SHAIK ABDUL RAWOOF	0801EE34
B. S. MAHABOOB SHAREEF	0801EE11	A. KAHYAP	0801EE01
BHUMIREDDY SWATHI	0801CS08	ABHISHEK AGARWAL	0801CS01
HARSHIT SHARMA	0801ME16	SPANDANA LEKKALA	0801EE35
KULESH KUMAR	0801EE22	DEVAN HARIKUMAR	0801CS11

SC & ST category students of 3<sup>rd</sup> year Selected for MCM:

Free Messing (Dues of only basic menu)

Exemption from Hostel Room Rent

Pocket allowance of Rs.250/- per month

Name of student	Roll No.	Name of student	Roll No.
KARMVEER SINGH	0801EE20	CHANNAMALLA MAHENDER	0801ME12
LAXMAN	0801EE24		

General & OBC category students of 2<sup>nd</sup> Year Selected for MCM:

Rs.1000/- per month for two semesters (8 months in a year)

Free Tuition Fee

Name of student	Roll No.	Name of student	Roll No.
G. S. S. PRAVEEN CHAND	0901EE09	VARSHNEY SAURBH	0901EE34
ANKIT TRIPATHI	0901CS07	AMITA	0901EE04
SHREY MALIK	0901CS32	HARIOM YADAV	0901EE11
DINESH BANSAL	0901CS13	GADAM SRIKANTH	0901EE08
VIJAY NARAYAN	0901ME21	VISHAL YADAV	0901ME22
PRAVEEN KAPILDEV MAURYA	0901EE24	BHAGIRATH CHOUDHARY	0901EE06
KSHITIJ	0901EE15	G. RAVI TEJA REDDY	0901CS19
ABHINAV KUMAR	0901EE02	ABHISHEK KUMAR	0901CS02
ABHINAV	0901CS01	ARUNDEEP KAMBOJ	0901CS08
MOHIT BABU	0901ME12	VISHWARAJ ANAND	0901CS35



SC & ST category students of 2<sup>nd</sup> Year Selected for MCM:

Free Messing (Dues of only basic menu)

Exemption from Hostel Room Rent

Pocket allowance of Rs.250/- per month

Name of student	Roll No.	Name of student	Roll No.
MANAS PRATIM HALOI	0901EE17	GOURAV TANTUWAY	0901EE10
NITISH KUMAR	0901EE19	SHASHI MUKUL CHAKRAWARTI	0901CS31
GAURAV KUMARDAS	0901CS16	RAM PRATAP GAUTAM	0901CS27

General & OBC category students of 1<sup>st</sup> Year Selected for MCM:

Rs.1000/- per month for two semesters (8 months in a year)

Free Tuition Fee

Name of student	Roll No.	Name of student	Roll No.
SANABOINA SURESH	1001CS36	VALAKEERTHI SAVEEN KUMAR	1001ME37
KRISHNA CHAITANYA. D	1001CS25	KARRE ANIL	1001CS24
ABDULLAPOOR RAM REDDY	1001ME02	VAISHAKH.T	1001ME36
SAGAR TOM	1001ME30	SUNNY LUTHRA	1001EE34
SPANDANA POTINENI	1001EE25	ANKUR KUMAR SINHA	1001CS08
S.V.G. SRIHARSHA	1001ME35	NITIN KUMAR	1001CS30
G. ASHOK KUMAR	1001EE12	RAHUL KUMAR	1001CS33
ENDLURI RAMU	1001EE11	AMIT RAJ	1001ME06
RAJA SELVARAJAN	1001CS34	CHAKRADHAR VERMA SANGARAJU	1001ME11
VURITI VENKATA SAIRAJ	1001EE38	DHAVAL KUMAR	1001CS15
AMAN KUMAR	1001ME05		

SC & ST category students of 1<sup>st</sup> Year Selected for MCM:

Free Messing (Dues of only basic menu)

Exemption from Hostel Room Rent

Pocket allowance of Rs.250/- per month

Name of student	Roll No.	Name of student	Roll No.
MADHU THALLAPALLY	1001ME20	DINESH KUMAR PIPALIWAL	1001EE10
BUSI GOVIL	1001ME10	AKASH SINGH	1001EE03
SANJAY KUMAR RAM	1001CS37	RAYAPURI KIRAN	1001ME28
SURANJIT SARKAR	1001ME34	RANU PRASAD BANOTH	1001ME27
NEHA YASHWANT KANEKAR	1001CS28	KEDAR PRASAD MEENA	1001EE16
RANJEET SINGH	1001ME26	DESHRAJ MEENA	1001EE09
SATYENDRA SINGH TANNWAR	1001ME31	YOGESH KUMAR	1001EE39
HANUMAN SAHAY	1001ME17	PINTU MEENA	1001EE23
VICKY KUMAR	1001ME38	HARNA SINGH	1001EE13
SAHIL RAJ	1001EE28		



### 7.3 Students Enrolled in Undergraduate Courses

Students Enrolled in  
Undergraduate Courses

Course	Total Number of Students in B.Tech Course (Up to March 2011)					Grand Total
	GE	OB	PD	SC	ST	
Computer Science & Engineering	59	34	1	18	3	115
Electrical Engineering	52	26		16	7	101
Mechanical Engineering	41	29		13	2	85
Grand Total	153	89	1	47	12	301

Roll No	Name		
<b>COMPUTER SCIENCE &amp; ENGINEERING (2008 BATCH)</b>			
0801CS01	ABHISHEK AGARWAL	0801CS21	NARESH
0801CS02	AKASH CHATURVEDI	0801CS22	NARESH BABU KOTHA
0801CS03	AMANDEEP SINGH	0801CS23	NISHANT KUMAR
0801CS04	ANIL KUMAR	0801CS24	PALAK AGARWAL
0801CS05	ANIL KUMAR NAWAL	0801CS25	PAVAN KUMAR AKULAKRISHNA
0801CS06	ANURAG KUMAR	0801CS26	PIYUSH JAIN
0801CS07	ANURAG SINGH	0801CS27	RAVI KUMAR
0801CS08	BHUMIREDDY SWATHI	0801CS28	SANJEEV KUMAR KATARIA
0801CS09	C.V.N.K.CHAITANYA	0801CS29	SATYENDRA SINGH
0801CS10	DEBJYOTI SAHARROY	0801CS30	SHAIK ZAKIR HUSSAIN
0801CS11	DEVAN HARIKUMAR	0801CS31	SIDHARTH SHARMA
0801CS12	DEVULAPALLI VASU	0801CS32	T. ROHITH KUMAR RAJA
0801CS13	DHIRENDRA SINGH	0801CS33	TEJENDRA PRATAP SINGH
0801CS14	GAGANDEEP SINGH	0801CS34	TURUPATI VIJAYARAJU
0801CS15	GAURAV CHOUDHARY	0801CS35	VISHWANATH PRATAP SINGH
0801CS16	KARAN JAIN	0801CS36	VIVEK CHANDEL
0801CS17	KASHA RAVI	0801CS37	YERRA SANDEEP
0801CS18	KIRAN KUMAR BACHUTE	0801CS38	SACHIN GIRDHAR
0801CS19	MADHU SANKEERTH DAMMATI	0801CS39	AMULYA YADAV
0801CS20	MOHIT AHUJA	0801CS40	ADITYA KUMAR GUPTA
Roll No	Name		
<b>ELECTRICAL ENGINEERING (2008 BATCH)</b>			
0801EE01	A KASHYAP	0801EE19	K RAGHA VENDRACHARY
0801EE02	A UDAY KRISHNA	0801EE20	KARMVEER SINGH
0801EE04	ABHINAV GUPTA	0801EE21	KRISH MANGAL
0801EE06	AMIT KUMAR	0801EE22	KULESH KUMAR
0801EE08	ANKIT LAT	0801EE23	KUMAR SHILADITYA
0801EE10	ANUSHMITA KAUSHIK	0801EE24	LAXMAN
0801EE11	B S MAHABOOB SHAREEF	0801EE25	LOVY GUPTA



0801EE12	BRAJA BANDHU PATIKAR	0801EE26	MANISH KUMAR KHOKHAR
0801EE13	CHERUKU SUNDEEP	0801EE29	RAVURI HARSHA VARDHAN
0801EE14	DHAROHAR RATHORE	0801EE30	RAVURU UMESH
0801EE15	GATLA SANDEEP	0801EE33	SAURAV ANAND
0801EE16	GORANTLA SUNIL KUMAR	0801EE34	SHAIK ABDUL RAWOOF
0801EE17	GOUTAM CHALASANI	0801EE35	SPANDANA LEKKALA
0801EE18	HITESH		

Roll No	Name		
<b>MECHANICAL ENGINEERING (2008 BATCH)</b>			
0801ME04	ANJANI KUMAR	0801ME19	KABRA VISHAL JAYAPRAKASH
0801ME05	ANKIT BHARDWAJ	0801ME20	KANKANTI SAI VEER REDDY
0801ME06	ANKIT RATHORE	0801ME21	KIRAN KANNAN P
0801ME08	ASHISH KUMAR SINGH	0801ME22	KIRTI CHOUDHARY
0801ME09	B KRISHNA CHAITANYA REDDY	0801ME23	M RAGHAVENDRA
0801ME10	BHARATH REDDY T	0801ME27	NITIN JAIN
0801ME11	CHANGALA KOUSIK	0801ME28	PARMANAND PREMI
0801ME12	CHENNAMALLA MAHENDER	0801ME29	PRAJWAL PREM JAMDAGNI
0801ME13	DEVAPUJULA SIDDHARTHA	0801ME30	PRATEEK JAISWAL
0801ME14	E VENKATA SUMAN	0801ME32	SAHIL MADAAN
0801ME16	HARSHIT SHARMA	0801ME33	SURABATHUNI PALLAV
0801ME17	JOJI AUGUSTINE	0801ME34	UDAIVEER SINGH
0801ME18	K R R RAJENDRAN		

(2008 batch)







Roll No	Name		
<b>COMPUTER SCIENCE &amp; ENGINEERING (2009 BATCH)</b>			
0901CS01	ABHINAV	0901CS19	GURRAMPATI RAVI TEJA REDDY
0901CS02	ABHISHEK KUMAR	0901CS20	KOLIPAKA KISHORE KUMAR
0901CS03	ADHAR SURANGE	0901CS21	KSHITIJA GUPTA
0901CS04	ADITYA KUMAR	0901CS22	PRADHUMAN SINGH
0901CS05	ANANDGHAN WAGHMARE	0901CS23	PRAHAL ARORA
0901CS06	ANIMESH PRASAD	0901CS24	PUNEET JAIN
0901CS07	ANKIT TRIPATHI	0901CS25	RACHAMADUGU SPANDANA
0901CS08	ARUNDEEP KAMBOJ	0901CS26	RAJNEESH KUMAR MITHARWAL
0901CS09	ASHISH RAJ	0901CS27	RAM PRATAP GAUTAM
0901CS10	BHARAT PRAJAPAT	0901CS28	RISHABH SHARMA
0901CS11	DEEPAK NAYAK	0901CS29	SABREEN SYED
0901CS12	DEEPANSHU KUMAR SINGH	0901CS30	SHAH HARSHIT ROHIT
0901CS13	DINESH BANSAL	0901CS31	SHASHI MUKUL CHAKRAWARTI
0901CS14	DOSI YASH MUKESH	0901CS32	SHREY MALIK
0901CS15	GADGE MAYURESH ANIL	0901CS33	SUSHANT KOCHAR
0901CS16	GAURAV KUMAR DAS	0901CS35	VISHWARAJ ANAND
0901CS17	GOURAV PARIHAR	0901CS36	YALAVARTHI SWEEYA
0901CS18	GURMANJEET SINGH SIDHU	0901CS37	RAMAKANT

Roll No	Name		
<b>ELECTRICAL ENGINEERING (2009 BATCH)</b>			
0901EE01	ABHAY KUMAR PRIYADARSHI	0901EE19	NITISH KUMAR
0901EE02	ABHINAV KUMAR	0901EE20	ONKARJEET KAUR
0901EE03	AJAY A L	0901EE21	PALLAVI MATTI
0901EE04	AMITA	0901EE22	PENTAMSETTI BALAJI
0901EE05	ASHAY JAIN	0901EE23	PRAGYAN BANSAL
0901EE06	BHAGIRATH CHOUDHARY	0901EE24	PRAVEEN KAPILDEV MAURYA
0901EE07	CHINKU	0901EE25	RAKESH AGARWAL
0901EE08	GADAM SRIKANTH	0901EE26	RAKESH KUMAR GOYAL
0901EE09	GOKARAKONDA SURYA SAI PRAVEENCHAND	0901EE28	RONGALI GOPINATH
0901EE10	GOURAV TANTUWAY	0901EE29	SANAPATI BHARADWAJ. P
0901EE11	HARIOM YADAW	0901EE30	SAPTARSHI GHOSH
0901EE12	JAYANT PURI	0901EE31	SHUBHAM JANGID
0901EE13	KALLURI V N SRIRAM MANOJ	0901EE32	UTSAV GAUTAM
0901EE14	KOYYA SUDARSHAN	0901EE33	V VINOD KUMAR
0901EE15	KSHITIJ	0901EE34	VARSHNEY SAURABH
0901EE16	M VINOD KUMAR	0901EE35	VIDIT
0901EE17	MANAS PRATIM HALOI	0901EE36	ISHAN PATIYAT
0901EE18	NISCHAL BOMMAREDDY		





Roll No	Name		
<b>MECHANICAL ENGINEERING (2009 BATCH)</b>			
0901ME01	AAYUSH AGARWAL	0901ME13	MULAGALA PRUTHVI
0901ME02	ABHIJIT BANCHHOR	0901ME14	MUSUKU AJAY KUMAR
0901ME03	ABHINAV TRIPATHI	0901ME15	PAKALAPATI LENIN
0901ME04	AKHIL S ANAND	0901ME16	ROMIL KUMAR
0901ME05	ANUBHAV MATHODIA	0901ME17	RONDLA SANDEEP
0901ME06	ASHUTOSH KUMAR	0901ME18	SATISH SOLANKI
0901ME07	CHILAMKURTHI YESASWI NARENDRA	0901ME19	SHASHANK SRIVASTAVA
0901ME09	MEHUL SIROHI	0901ME20	SUBHASH SUNDARAVADIVELU
0901ME10	MODI GOURAV GUPTA	0901ME21	VIJAY NARAYAN
0901ME11	MOHD AAQUIB KHAN	0901ME22	VISHAL YADAV
0901ME12	MOHIT BABU		

(2009 batch)





Roll No	Name		
<b>COMPUTER SCIENCE &amp; ENGINEERING (2010 BATCH)</b>			
1001CS01	A SIDDHARTH	1001CS21	JIJO JOHN
1001CS02	AKASH BHUSHAN SINGH	1001CS22	KANWARJEET SINGH
1001CS03	AMANDEEP SINGH	1001CS23	KARISHMA PATEL
1001CS04	AMIT KUMAR	1001CS24	KARRE ANIL
1001CS05	ANKIT AGGARWAL	1001CS25	KRISHNA CHAITANYA. D
1001CS06	ANKIT JAIN	1001CS26	MAINAK GHOSH
1001CS07	ANKIT SWARNKAR	1001CS27	MANOJ KUMAR YADAV
1001CS08	ANKUR KUMAR SINHA	1001CS28	NEHA YASHWANT KANEKAR
1001CS09	APOORVA SHIKARWAR	1001CS29	NISHANT MAHAJAN
1001CS10	BHARAT KUMAR AHUJA	1001CS30	NITIN KUMAR
1001CS11	CH KRISHNAPRASAD	1001CS31	PEEYUSH SHARMA
1001CS12	CHAITANYA KANSAL	1001CS32	PREETI KACHHAP
1001CS13	D SANDEEP REDDY	1001CS33	RAHUL KUMAR
1001CS14	DEEPAK	1001CS34	RAJA SELVARAJAN
1001CS15	DHAVAL KUMAR	1001CS35	SACHIN BASIL JOHN
1001CS16	ESHAN BALSARA	1001CS36	SANABOINA SURESH
1001CS17	GURVEER SINGH PAHUJA	1001CS37	SANJAY KUMAR RAM
1001CS18	HARDIK KANDPAL	1001CS38	T YAMINI
1001CS19	HARGUNANEY TANAY HARESH	1001CS39	VETKOLI SANKET BHAGWAN
1001CS20	ISHAN SHARMA		

Roll No	Name		
<b>ELECTRICAL ENGINEERING (2010 BATCH)</b>			
1001EE01	ABHIMANYU SINGH SHEKHAWAT	1001EE21	NEETIGYA YADAV
1001EE02	ABHISHEK VERMA	1001EE22	OM KUMAR RANA
1001EE03	AKASH SINGH	1001EE23	PINTU MEENA
1001EE04	ALIKANA GANGADHAR	1001EE24	PIYUSH SHARMA
1001EE05	ASMITA NEGI	1001EE25	POTINENI SPANDANA
1001EE06	CHATLA NIHARIKA	1001EE26	RAJAN KAPOOR
1001EE07	CHINCHILI PHANIDHAR	1001EE27	S SHYAM SUNDAR
1001EE08	DEBAYAN DAS	1001EE28	SAHIL RAJ
1001EE09	DESHRAJ MEENA	1001EE29	SIRAGAM GANESHDEEKSHITH
1001EE10	DINESH KUMAR PIPALIWAL	1001EE30	SOURABH SINGH
1001EE11	ENDLURI RAMU	1001EE31	SUDHIR MEENA
1001EE12	G ASHOK KUMAR	1001EE32	SUJOY SAHA
1001EE13	HARNA SINGH	1001EE33	SUMIT SAINI
1001EE14	HIMAL KUMAR	1001EE34	SUNNY LUTHRA
1001EE15	HIMANSHU RAI	1001EE35	SURAJ PRASAD
1001EE16	KEDAR PRASAD MEENA	1001EE36	TELI JOHN SUDEEP
1001EE17	KRISHNA MOHAN ROY	1001EE37	VIKAS GUPTA
1001EE18	MACHAVARAPU PAVAN TEJA	1001EE38	VURITI VENKATA SAI RAJ
1001EE19	MOHIT KATHAIT	1001EE39	YOGESH KUMAR
1001EE20	NAYAK PESHAL BALAKRISHNA		



Roll No	Name		
<b>MECHANICAL ENGINEERING (2010 BATCH)</b>			
1001ME01	AASHISH KUMAR TRIPATHI	1001ME21	MOHAMMAD HASAN DAD ANSARI
1001ME02	ABDULLAPOOR RAM REDDY	1001ME22	OWAIS AHMAD
1001ME03	ABHISHEK SHUBHRANT	1001ME23	PRAVEEN KOTHARI
1001ME04	AKASH DEEP	1001ME24	PULAKANTI SANDHYA
1001ME05	AMAN KUMAR	1001ME25	RAMREDDY LAXMIPRIYA
1001ME06	AMIT RAJ	1001ME26	RANJEET SINGH
1001ME07	AMRITANSHU SINGH	1001ME27	RANU PRASAD BANOTH
1001ME08	ARYA ADITYA	1001ME28	RAYAPURI KIRAN
1001ME09	ASHISH PORIA	1001ME29	RUPESH KUMAR
1001ME10	BUSI GOVIL	1001ME30	SAGAR TOM
1001ME11	CHAKRADHAR V. SANGARAJU	1001ME31	SATYENDRA SINGH TANWAR
1001ME12	DEEPAK	1001ME32	SHIVAM CHOUREY
1001ME13	DELIP THOMAS	1001ME33	SUNNY VIG
1001ME14	G SRINIVAS	1001ME34	SURANJIT SARKAR
1001ME15	GAURAV KUMAR	1001ME35	SURINENI V. G. SRIHARSHA
1001ME16	GOURAV SINHA	1001ME36	VAISHAKH T
1001ME17	HANUMAN SAHAY	1001ME37	VALAKEERTHI SAVEENKUMAR
1001ME18	JOYDEEP MALLICK	1001ME38	VICKY KUMAR
1001ME19	KAILASH CHANDRA SHARMA	1001ME39	VORA NISHANT HARSHADBHAI
1001ME20	MADHU THALLAPALLY		

(2010-batch)





### 7.4 Statement of Results (Undergraduate)

Following table shows the summary of the results of the under graduate students at IIT Patna in the year April 2010 to March 2011.

Department	3 <sup>rd</sup> Year			2 <sup>nd</sup> Year			1 <sup>st</sup> Year		
	Total	Pass	Fail	Total	Pass	Fail	Total	Pass	Fail
CSE	40	39	01	36	36	00	39	36	03
EE	27	24	03	35	34	01	39	36	03
ME	25	24	01	21	21	00	39	37	02
All Dept.	92	87	05	92	91	01	117	109	08

### 7.5 List of Research Scholars Enrolled for the PhD Degree

The list of Ph.D students admitted in January'10-January'11

Name of Student	Roll No.	Name of Student	Roll No.
ANINDA CHATTERJEE	1021CH01	SHAIVYA SINGH	1021HS01
SUDHESH K. RAJPUT	1021PH01	NIDHI AMIT SATIJA	1021HS02
SWATI	1021EE01	ALOK K. VERMA	1021EE04
MITHUN MUKHERJEE	1021EE02	BISHANK BHOWMIK	1021EE05
VIKAS KUMAR	1021EE03	MOINA AJMERI	1021EE06
Md. ASHIQUE HASSAN	1021ME01	SUMAN KUMAR DEY	1021EE07
SOUMEN MANDAL	1021ME03	SUDHANSHU VERMA	1021EE08
RUPESH KUMAR PANDEY	1021ME04	PRIYANKA	1121CS01
RAJ KUMAR SAHU	1021ME05	SANGITA ROY	1121CS02
SUMAN KUMAR	1021MA01	RAKESH RANJAN	1121CS03
DIPENDU MAITY	1021MA02	SAMAT SAURABH	1121CS04
ARINDAM KUNDU	1021MA03	SAIFULLAH PAYAMI	1121EE01
VANDAN SINGH	1021CH02	TAJUDDIN ALI AHMAD	1121EE02
MD. NASIM KHAN	1021CH03	RAJESH BABU. M	1121EE03
ANIRUDDHA MOLLA	1021CH04	DEBABRATA ADHIKARI	1121MA01
DEBASIS DAS	1021CS02	KRISHANU DEYASI	1121MA02
VAIBHAW NIKET SHANDILYA	1121MA03	RICHA GAUTAM	1121HS01
SUKHDEV SINGH	1121MA04	MANISH KUMAR	1121HS02
AJAY NATH	1121PH01		



## 7.6 Financial Information

The MHRD sanctioned only **PLAN Grant** during the financial Year 2010-2011 and the Institute received Rs. 2000 Lakhs under the Plan head. The MHRD did not release any grant under **NON-PLAN**. The Institute generated internal income of Rs. 325.94 Lakhs and expended Rs. 3007.35 Lakhs during the financial year 2010-2011.

The receipt & payment of the Institute for the year ended 31<sup>st</sup> March 2011 is given hereunder:

### RECEIPTS AND PAYMENTS FOR THE YEAR ENDING ON 31<sup>ST</sup> MARCH, 2011

SL. NO.	RECEIPTS	Current Year(2010-11)	SL. NO.	PAYMENTS	Current Year(2010-11)
I.	Opening Balance (Bank Balances)	41,90,33,332.75	I.	Establishment Expenditure	5,30,20,678.00
II.	Grants Received From Govt of India (PLAN GRANT)	20,00,00,000.00	II.	Administrative Expenditure	4,00,28,751.00
III.	Interest Received	1,80,10,812.00	III.	Expenditure on Fixed Assets	18,04,29,157.00
IV.	Other Income	1,45,83,027.01	IV.	Other Payment	2,72,55,926.00
			V.	Closing Balance(Bank Balances)	35,08,92,659.76
	<b>TOTAL</b>	<b>65,16,27,171.76</b>		<b>TOTAL</b>	<b>65,16,27,171.76</b>