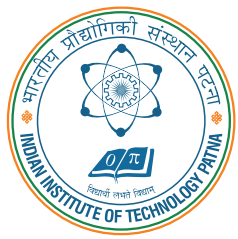
भारतीय प्रौद्योगिकी संस्थान पटना
INDIAN INSTITUTE OF TECHNOLOGY PATNA

वार्षिक प्रतिवेदन
ANNUAL REPORT
2016-2017



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Contents

From the Director

Indian Institute of Technology Patna is an Institution of National Importance and was established by an act of parliament in 2008. In 2015 the institute moved to its permanent campus in Bihta, about 35 KM from the city of Patna. Patna- erstwhile Patliputra- was a knowledge center in the past which attracted visitors and scholars from around the world. This hallowed place is the land of Lord Gautama Buddha, Lord Mahavira, Emperor Ashoka, Astronomer Aryabhatta, Guru Govind Singh, and the first President of India, Dr. Rajendra Prasad, to cite a few.

As an institute of excellence, IIT Patna continues nurturing intelligent, hardworking and curious minds. Our teaching and research are world class and our curricular and extracurricular facilities are of top standard. We believe in holistic development of our students, groomed into citizens of the world.

We have signed MoUs with leading international universities and organizations, and this is a continuous ongoing process. A dual degree masters program in CSE with Wright State University, USA is in its final stage of adoption. Large number of scholars, scientists and technologists have visited IIT Patna campus since its inception and continues doing so. From 2016 we have started covering Nobel prize winning works through talks by our faculty, as soon as the prize is announced mid year.

A large number of symposia, workshops and conferences have been organized in the institute. A day long celebration of Shakespeare's Birth Centenary was celebrated with the enthusiasm and excitement the occasion deserves.

Our combined student strength of B.Tech, M.Tech, M.Sc. and PhD programs in six engineering disciplines, mathematics, humanities and social sciences and basic sciences will soon touch 1300. Our faculty strength is about 120 and staff number about 100. The thriving UG and PG programs see the students and faculty publish prolifically, win competitions, come up with innovations and build societal awareness. In IITP, we strive to achieve harmony of Technology, Humanities and Social Sciences, Basic Sciences and Mathematics.

A considerable amount of energy and attention of the institute is devoted now to creating infrastructure and facilities. World class academic complexes, housing, hostel, sports facilities etc. worth more than Rs 500 Cr are being added to the already existing top standard infrastructure. The institute is grateful to its parent Ministry- MHRD- for its continuous support and urging to develop and excel.

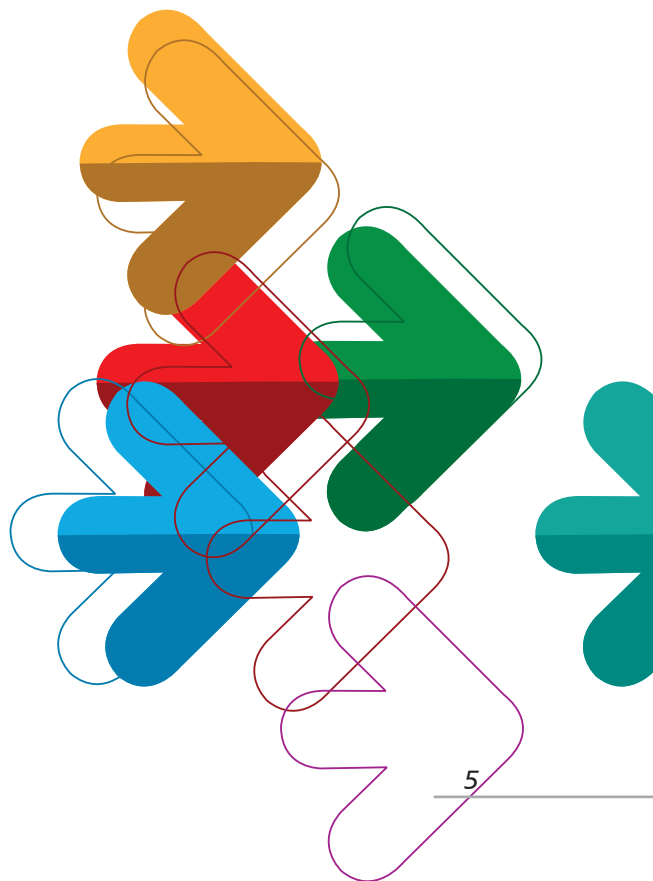
From 2016, an intense 2 week long induction program for first yearites has been started, which imbues our new entrants with human values and a wide ranging perspective. This coupled with the rigorous academic schedule- in classrooms, labs and internships- prepares our students to take up any challenge. I look forward to a very synergistic relation of our institute with the industries and other organizations. There is no doubt that our students will make any organization in the world proud.

With its very dynamic and committed faculty, staff and student, IIT Patna is poised to attain great heights.

Organization

2.1 IIT Council

Shri Prakash Javadekar	Hon'ble Minister of Human Resource Development
Shri Mahindra Nath Pandey	Minister of State, HRD
Shri Ninong Ering	Member of Parliament (Lok Sabha)
Dr. Pawan Goenka	Chairperson, Board of Governors, IIT Madras
Shri Kumar Mangalam Birla	Chairperson, Board of Governors, IIT Delhi
Shri Dilip Shanghvi	Chairperson, Board of Governors, IIT Bombay
Dr. Srikumar Banerjee	Chairperson, Board of Governors, IIT Kharagpur
Prof. Ashok Misra	Chairperson, Board of Governors, IIT Roorkee
Dr. Rajiv I. Modi	Chairperson, Board of Governors, IIT Guwahati
Shri R.C. Bhargava	Chairperson, Board of Governors, IIT Kanpur
Shri V.S. Oberoi	Secretary, (HE), MHRD
Dr. B.V.R. Mohan Reddy	Chairperson, Board of Governors, IIT Hyderabad
Mrs. Lila Poonawalla	Chairperson, Board of Governors, IIT Ropar
Prof. Girish Chandra Tripathi	Chairperson, Board of Governors, IIT (BHU), Varanasi
Mr. Ajai Chowdhry	Chairperson, Board of Governors, IIT Patna
Shri Pankaj Rambhai Patel	Chairperson, Board of Governors, IIT Bhubaneswar
Prof. Devang V. Khakhar	Director, IIT Bombay
Prof. V. Ramagopal Rao	Director, IIT Delhi
Prof. Indranil Manna	Director, IIT Kanpur
Prof. Partha P. Chakrabarti	Director, IIT Kharagpur
Prof. Bhaskar Ramamurthi	Director, IIT Madras
Prof. Gautam Biswas	Director, IIT Guwahati
Prof. Pradipta Banerji	Director, IIT Roorkee
Prof. Rajeev Sangal	Director, IIT (BHU), Varanasi
Prof. C.V.R. Murty	Director, IIT Jodhpur
Prof. Sudhir K. Jain	Director, IIT Gandhinagar
Prof. Pushpak Bhattacharyya	Director, IIT Patna
Prof. U.B. Desai	Director, IIT Hyderabad
Prof. Sarit Kumar Das	Director, IIT Ropar
Prof. R.V. Rajakumar	Director, IIT Bhubaneswar
Prof. Timothy A. Gonsalves	Director, IIT Mandi
Prof. Pradeep Mathur	Director, IIT Indore
Prof. Anil D. Shahsrabudhe	Chairperson, AICTE



Prof. Ashok Jhunjhunwala	Deptt. Of Elect. Engg., IIT Madras
Dr. (Mrs.) Tessy Thomas	Outstanding Scientist & Direcor, Advanced Systems Laboratory (ASL), Hyderabad
Prof. Vijaylakshmi Ravindranath	Centre for Neuroscience, IISc, Bangalore
Dr. S.K. Joshi	Former D.G., CSIR, New Delhi
Prof. R.C. Bhudhani	IIT Kanpur
Prof. D.C. Panigraphi	Director, IIT (ISM), Dhanbad
Shri R. Subrahmanyam	AS (TE), MHRD
Shri Sanjeev Mittal	Joint Secretary, Ministry of Information Technology
Ms. Darshana M. Dabral	
Ms. Tripti Gurha	Director ((IITs), MHRD, New Delhi
Ms. Prisca Mathew	Under Secretary (IITs), MHRD
Shri V.K. Wadhwa	Project Officer, Secretariat of Council of IITs
Shri Arun Kumar Karan	ASO, MHRD
Shri Mohit Gupta	ASO, MHRD
Ms. Heena	ASO, MHRD

2.2 The Board of Governors

Mr. Ajai Chowdhry Founder, HCL	**Chairman**
Prof. Pushpak Bhattacharyya Director, IIT Patna	**Ex-Officio Member**
Principal Secretary Department of Science & Technology, Government of Bihar	**Member**
Principal Secretary Department of Science & Technology, Government of Jharkhand	**Member**
Prof. Amitabha Ghosh Former Director, IIT Kharagpur	**Member**
Prof. Sriman Kumar Bhattacharya Former Director,Central Building Research Institute, Roorkee	**Member**
Prof. Ajay Chakrabarty Former Vice-Chancellor, BIT Mesra	**Member**
Dr. T. Mukherjee Former Deputy Managing Director,Tata Steel, Jamshedpur	**Member**
Dr. Karali Patra Associate Professor, Department of Mechanical Engineering, IIT Patna	**Member**
Dr. Nalin Bharti Associate Professor, Department of Humanities and Social Sciences,IIT Patna	**Member**
Dr. Asheesh Kumaar Registrar, Indian Institute of Technology Patna	**Secretary**

2.3 The Finance Committee

Mr. Ajai Chowdhry Founder, HCL	**Chairman**
Prof. Pushpak Bhattacharyya Director, IIT Patna	**Ex-Officio Member**
Additional Secretary (TE), MHRD	**Member**
JS & FA, MHRD	**Member**
Dr. Nalin Bharti Associate Professor, Department of HSS,IIT Patna	**Member**
Dr. Karali Patra Associate Professor, Department of Mechanical Engineering, IIT Patna	**Member**
Dr. Asheesh Kumaar Registrar,Indian Institute of Technology Patna	**Secretary**

2.4 The Building & Works Committee

Prof. Pushpak Bhattacharyya Director, IIT Patna	**Chairman**
Mr. B. K. Sahoo IIT Bombay	**Member**
Mr. Rajiv Garg IIT Kanpur	**Member**
Mr. Sushant Baliga Additional Director General (Retd.), CPWD	**Member**
Prof. A. K. Sinha IIT Kharagpur	**Member**
Mr. Gaurav Dewan MRICS	**Member**
Dr. Y. M. Desai IIT Bombay	**Member**
Prof. S. Majumdar Prof. (Retd), IIT Kharagpur	**Member**
Dr. Asheesh Kumaar Registrar, IIT Patna	**Secretary**

2.5 Administrative Heads

Prof. Pushpak Bhattacharyya
Director, Indian Institute of Technology Patna

Dr. Asheesh Kumaar
Registrar, Indian Institute of Technology Patna

Dr Manoranjan Kar
Associate Dean (Faculty Affairs)

Dr Sahid Hussain
Associate Dean (Student Affairs)

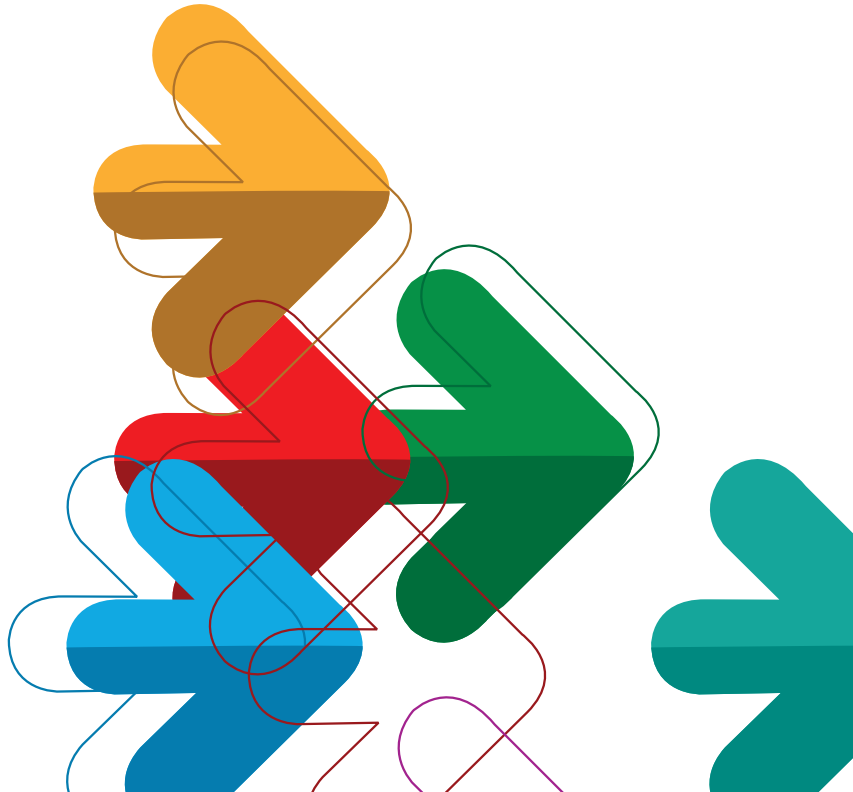
Dr Somanath Tripathy
Associate Dean (Academic)

Dr Mohd Kaleem Khan
Associate Dean (Administration)

Dr Mayank Tiwari
Associate Dean (Research and Development)

2.6 Senate

Prof. Pushpak Bhattacharyya Director, Indian Institute of Technology Patna	Ex-officio member and Chairperson
Dr. Asheesh Kumaar Registrar, Indian Institute of Technology Patna	Ex-officio member
Mr. Chanchal Kumar Indian Administrative Service **Dr. Pradeep Das** Director, RMRI Patna	Three persons not being employees of the Institute to be nominated by the Chairman consultation with the Director, from amongst educationists of repute, one each from the fields of science, engineering and humanities
Prof. Ashok De Director, NIT Patna	
Dr. Mohd. Kaleem Khan Associate Dean, Administration	
Dr. Somanath Tripathy Associate Dean, Academics	
Dr. Manoranjan Kar Associate Dean, Faculty Affairs	
Dr. Sahid Hussain Associate Dean, Students Affairs	
Dr. Mayank Tiwari Associate Dean, Research & Development	
Dr. Subrata Hait HoD, Civil and Environmental Engineering	
Dr. Samrat Mondal HoD, Computer Science and Engineering	
Dr. Ranjan Kumar Behera HoD, Electrical Engineering	
Dr. Smriti Singh HoD, Humanities and Social Sciences	
Dr. Dinesh Kumar Kotnees HoD, Materials Science and Engineering	
Dr. Yogesh Mani Tripathi HoD, Mathematics	



Dr. Manabendra Pathak
HoD, Mechanical Engineering

Dr. Sujoy Kumar Samanta
HoD, Chemical and Biochemical Engineering

Dr. Debabrata Seth
HoD, Chemistry

Dr. Utpal Roy
HoD, Physics

Dr. Anup Kumar Keshri
Warden, Boys' Hostel (Block A & B) Mess 1

Dr. Rajib Kumar Jha
Warden, Boys' Hostel (Block C & D) Mess 2

Dr. Richa Chaudhary
Warden, Girls' Hostel

Dr. Probir Saha
Faculty In-charge (Central Library)

All Associate Professors

Events of Significant Importance

3.1 IIT Patna Composed its Institute Song

विश्व का मुकुटमणि आई टी पटना
सदा तत्पर सदा जाग्रत पीछे ना जाने हटना।।

दो हजार आठ छह अगस्त को
जग ने कहा, "जी बधाई हो
शिक्षा नभ का ध्रुव तारा आई आई टी पटना"।।

नालंदा, विक्रमशिला
जिस धरती की रही माला
उस बिहार का और एक सुमन आई आई टी पटना।।

चानक्याशोक, चंद्रगुप्त
महावीर और तथागत
आर्यभट्ट आशीष धन्य आई आई टी पटना।।

विज्ञानं, तकनिकी
अंकशास्त्र, मानविकी
सर्व शास्त्र पारंगत आई आई टी पटना।।

हम ने ले ली यह प्रतिज्ञा
ईश्वर की भी यही आज्ञा
होगा चरम प्रतिष्ठा पर आई आई टी पटना
सदा तत्पर सदा जाग्रत पीछे ना जाने हटना
विश्व का मुकुटमणि आई आई टी पटना।।

-पुष्पक भट्टाचार्य्य

Jewel in world's crown is IIT Patna
Ever active ever awake, knows never to step back ||

Two thousand eight sixth august
World said, "heartiest congrats
New star in education's sky-IIT Patna" ||

Nalanda, Vikramshila
Land of Bihar they adorn
Has another flower bloomed-IIT Patna ||

ChaaNakya, Ashok, Chandragupt
By Mahavir Tathagat
By Aryabhatta is blessed IIT Patnall

Science and Technology
Mathematics, Humantities
Cultivated in all discipline is IIT Patna ||

This promise we do make
Lord God too wills alike
On glory's peak will be IIT Patna
Ever active ever awake, knows never to step back
Jewel in world's crown is IIT Patna ||

-Pushpak Bhattacharyya

Musical Notation

Pushpak Bhattacharyya

Raag and taal

- Vikrit, i.e., komal for rishav (2nd note), gandhar (3rd), dhaivat (6th) and nishad (7th) and tivra for madhyam (4th Note) are shown with capital letter; shuddha notes are always in small letters
- Mandra saptak notes are shown with lower suffix of 1, e.g., mandra saptak komal dhaivat is Da1
- Taar saptak notes are shown with upper dash, e.g., taar saptak koma rishav is Re'
- Raag-bhairav
- Notes: saa, Re (komal), ga, ma, pa, Dha (komal), ni
- Pakad (characteristic phrase) : Dha pa, ga ma re saa
- Taal-rupak (7 maatraas)
- Titinaal dhi naal dhi naa

(capital S is called avagraha and Indicates continuation of note)

https: iitp.ac.in/index.php/the-institute/mp3-institute-song.html

3.2 Recruitment of Employees at IIT Patna during 2016-17

Assistant Professor

Department	Count	Name(s) of the Person
Chemical and Biochemical Engineering	1	1. Dr Sushant Kumar 2. Dr Dibyendu Mukherjee
Chemistry	1	1. Dr Snehasis Daschakraborty 2. Dr Debajit Sarma 3. Dr Subrata Chattopadhyay
Electrical Engineering	1	1. Dr Sudhir Kumar
Mechanical Engineering	1	1. Dr Anirban Mahato
Physics	3	1. Dr Soumya Jyoti Ray 2. Dr R Prabhu 3. Dr Jobin Jose

Non Teaching Staff

Name	Designation	Date of Joining
Trilochan Kumar	Audit Officer	22/04/2016
Varun Kumar	Jr Tech Superintendent	29/07/2016
Amit Kumar Singh	Junior Assistant	09/08/2016
Santosh Kumar	Junior Assistant	11/08/2016
Mr. Rajiv Kumar	Jr Tech Superintendent	22/08/2016
Mr. Ashish Kumar	Junior Assistant	24/08/2016
Mr. Rohit Kumar	Junior Assistant	26/08/2016
Mr. Shyam Kishor Shukla	Junior Assistant	29/08/2016
Mr. Abhay Kumar Verma	Junior Assistant	12/09/2016
Mr. Bidyendu Roy	Jr Tech Superintendent	08/11/2016
Mr. Biswajit Som	Junior Engineer (Elect)	19/12/2016
Mr. Shailendra Kumar Singh	Jr Tech Superintendent	06/03/2017
Mr. Amit Shankar Sant	Jr Tech Superintendent	06/03/2017
Md. Nurul Hasan	Jr Tech Superintendent	08/03/2017
Mr. Asim Kumar Maiti	Jr Tech Superintendent	16/03/2017

3.3 All India Rank [2017] of IIT Patna

"India Rankings 2017 of NIRF-MHRD" was released on April 3rd, 2017 by The Union Minister of Human Resource Development, Shri Prakash Javadekar through press-conference. IIT Patna is ranked as 19th best in the engineering discipline with score of 54.02and ranked as 83rd best in overall category among the top 100 institutions with score of 39.87. In the award ceremony held on April 10th 2017 in Rashtrapati Bahawan, IIT Patna got certificate and medal for securing its position amongst top 100 institutions in the country.

India Rankings 2017 benchmarked institutions in overall category and engineering discipline, wherein IIT Patna, was assessed on parameters, including teaching-learning; research and professional practice; graduation outcome; outreach and inclusivity and peer group perception. Each of these has been further subdivided into nearly 20 sub criteria to comprehensively assess among the institutions to withstand distinction marks.

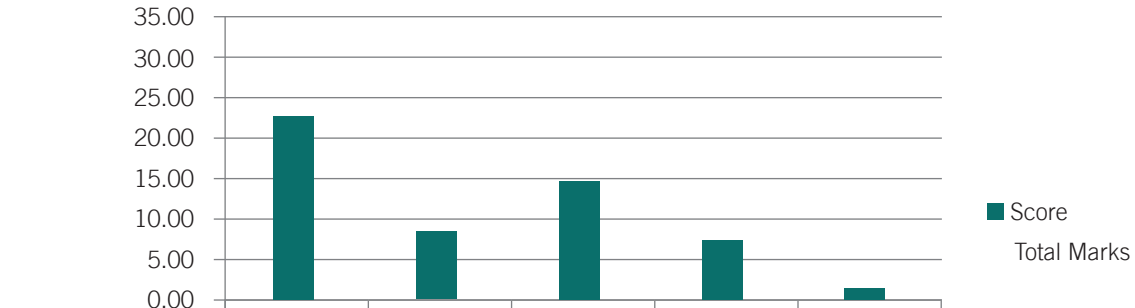
However, newly introduced a Overall category assessed Graduation Outcome (GO) with two sub criteria University Examinations (GUE):60 marks and Number of Ph.D. Students Graduated (GPHD): 40., whereas Engineering category assessed GO based on four sub criteria- Placement and Higher Studies (GPH): 40 Marks, Metric for University Examinations (GUE): 15 marks, Median Salary (GMS): 25 marks, Number of Ph.D. Students Graduated (GPHD): 20

Similarly, in the Research and Professional Practice (RP), different weightages of sub criteria were taken in overall and engineering rankings as Publications (PU): 35 marks(overall) and 40 marks(engineering), Footprint of Projects, Professional Practice and Executive Development Programs (FPPP): 10 marks(Overall) and 5marks(Engineering) .

India Rankings 2017: Score in Engineering Category

IIT Patna stands at the 19th position with weighted score of 54.02. Its rank on different parameters such as teaching, learning and resources (TLR) with weighted score 74.78; research and professional practice (RP) with weighted score 27.70; graduation outcome (GO) with weighted score 72.78; outreach and inclusivity (OI) with weighted score 72.78; and perception (PR) with weighted score 14.35

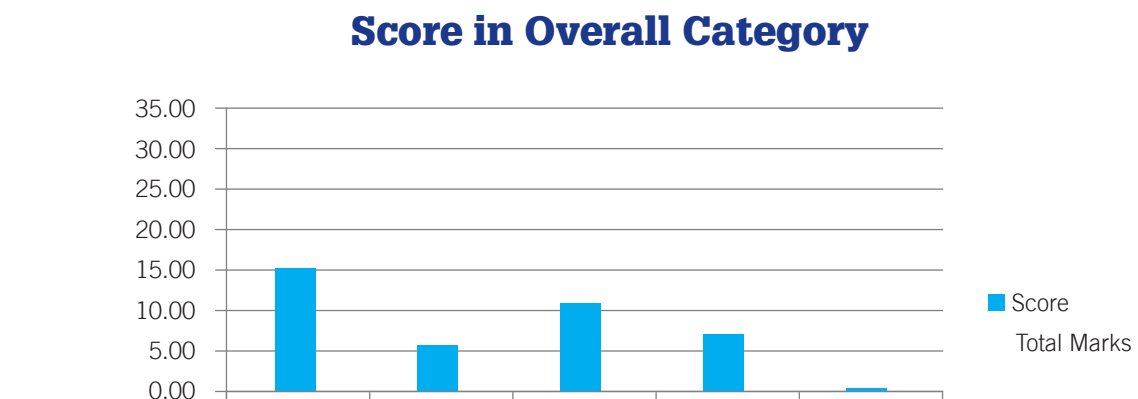
Score in Engineering Category



	TLR	RP	GO	OI	PR
Score	22.434	8.31	140556	70278	1.435
Total Marks	30	30	20	10	10

India Rankings 2017: Score in Overall Category

IIT Patna stands at the 83rd position with weighted score of 39.87. Its rank on different parameters such as teaching, learning and resources (TLR) with weighted score 52.27; research and professional practice (RP) with weighted score 19.13; graduation outcome (GO) with weighted score 55.08; outreach and inclusivity (OI) with weighted score 71.52; and perception (PR) with weighted score 02.80



	TLR	RP	GO	OI	PR
Score	15.681	5.739	11.016	7.152	0.28
Total Marks	30	30	20	10	10

3.4 Other Significant Achievements

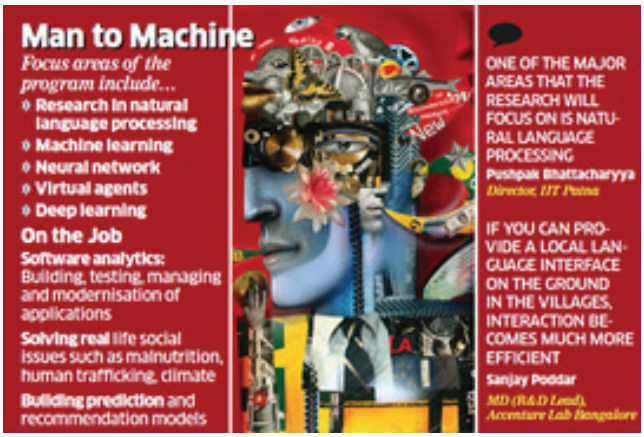
Accenture ties up with IIT Patna for Artificial Intelligence Research

Accenture has entered into a joint research collaboration with IIT Bombay and IIT Patna focused on the different application aspects of Artificial Intelligence. The research, focused on IT services and social good, will look at augmenting software engineers with powerful Artificial Intelligence insights and recommendation for improved productivity.

The focus areas of the program includes research in natural language processing, machine learning, neural network, virtual agent, deep learning and other areas of artificial intelligence.

It will include software analytics - building, testing, managing and modernization of applications, solving real life social issues such as malnutrition, human trafficking, climate, etc. through prediction and recommendation models, using Artificial Intelligence.

“One of the major areas that the research will focus on is natural language processing,” said Pushpak Bhattacharyya, director, IIT Patna.



IIT Patna's Team Alacrity secures 4th position in the Innovation Event of ASME Human Powered Vehicle Competition (HPVC) India

IIT Patna's Team Alacrity secured 4th and 5th positions in the Innovation and Design events respectively in 2016 ASME Human Powered Vehicle Challenge (HPVC)India held during 17-19 March, 2016. Alacrity designed and fabricated a semi-recumbent vehicle.

NASI-YOUNG SCIENTIST PLATINUM JUBILEE AWARD

Dr. Sriparna Saha Assistant Professor in the Department of Computer Science and Engineering was awarded NASI-YOUNG SCIENTIST PLATINUM JUBILEE AWARDS FOR THE YEAR 2016 in the field of Electronics, Computer Science and Engineering

Presidential talk at Association for Computational Linguistics (ACL)

Prof. Dr. Pushpak Bhattacharyya delivered his Presidential talk at Association for Computational Linguistics (ACL) Annual meeting held at the Humboldt University, Berlin between August 7-12, 2016

Research on Sarcasm Detection by Prof. Pushpak Bhattacharyya reported in MIT (USA) Technology Review

Prof. Pushpak Bhattacharyya's research on Sarcasm Detection has been recently reported in MIT Technology Review. Please point your browser to the following weblink for more information:

According to Prof. Bhattacharyya, research on Sarcasm Detection is a part of Sentiment, Emotion and Opinion Mining. In today's open and connected world, opinions expressed on public fora are of great importance to e-governance, e-commerce etc and this research contributes to automated opinion tracking.

FNAE, is the Director of IIT Patna and ACL President. He is the Vijay and Sita Vashee Chair Professor of Computer Science and Engineering, IIT Bombay and Professor of .

IIT Patna Student invited to attend the Google Summer of Code Mentor Summit 2016

Mr. Sumit Asthana, a final year B.Tech CSE student, has been invited to attend the Google Summer of Code Mentor Summit 2016 at Sunnyvale, California, USA from October 28--30, 2016.

He will receive the necessary travel and other expenses stipend from the company itself. He has received this invitation as a reward for his involvement in Google Summer of Code 2016, a global event extending across 103 countries.

Chemical and Biochemical Engineering

4.1 Faculty Members

Dr. Prolay Das *Associate Professor*	DNA self assembly for production of 3-dimensional functional Nanostructures. Clustered DNA damage and DNA repair mechanism in Nucleosome core particle
Dr. Sujoy Kumar Samanta *Assistant Professor*	Microwave Assisted Material Processing, Chemical Reaction Engineering, Modeling and Simulation, Renewable Energy Sources and Their Applications
Dr. Nitin Dutt Chaturvedi *Assistant Professor*	Modeling and Simulation of Chemical processes; Process system engineering; Process Integration; Pinch Analysis; Industrial Energy Conservation
Dr. Sandip Khan *Assistant Professor*	Molecular Modelling and Simulation, Statistical Thermodynamics, Equilibrium, Dynamic and Interfacial Properties of Complex fluids, Development of Novel Materials like super-hydrophobic, super-oleophobic, anti-fouling, anti-icing surfaces etc.; Self-Assembled Monolayer in application of chemical sensor, Thermo-physical properties of actinides compounds in application of nuclear fuel.
Dr. Sushant Kumar *Assistant Professor*	Clean Hydrogen Production Methods, Hydrogen Storage using metal hydrides, CO2 Utilization and Capture, Catalysts for clean energy applications

4.2 Academic Programmes

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

4.3 Research & Development Activities

Papers Published in Journals

1. Nitin Dutt Chaturvedi, Zainuddin Abdul Manan, Sharifah Rafidah Wan Alwi, A mathematical model for energy targeting of a batch process with flexible schedule, *Journal of Cleaner Production*, In Press (2017).
2. Jindal K. Shah, Eliseo Marin-Rimoldi, Ryan Gotchy Mullen, Brian P. Keene, Sandip Khan, Andrew S. Paluch, Neeraj Rai, Lucienne L. Romanielo, Thomas W. Rosch, Brian Yoo, Edward Maginn, Cassandra: An open source Monte Carlo package for molecular simulation, *Journal of Computational Chemistry,* 10.1002/jcc.24807 (2017).
3. Verma, P. Samanta, S.K., Comparative assessment of antibiotic potency loss with time and its impact on antibiotic resistance, *Comparative Clinical Pathology,* 25(6) 1163-1169 (2016).
4. Nitin Dutt Chaturvedi, Zainuddin Abdul Manan, Sharifah Rafidah Wan Alwi, Santanu Bandyopadhyay, Effect of multiple water resources in a flexible-schedule batch water network, *Journal of Cleaner Production,* 125 (245-252) (2016).
5. Sushant Kumar, Theodore Pavloudis, Vidyadhar Singh, Hoa Nguyen, Stephan Steinhauer, Christopher Pursell, Bruce Clemens, Joseph Kioseoglou, Panagiotis Grammatikopoulos, and Mukhles Sowwan, Hydrogen Flux Through Size Selected Pd Nanoparticles into Underlying Mg Nanofilms, *Advanced Energy Materials (under review),* (0).
6. Nitin Dutt Chaturvedi, Minimizing energy requirement in batch water networks, *Industrial & Engineering Chemistry Research,* 56 (1), 241–249 (2017).

Papers Presented in Conferences

1. Verma, P. Samanta, S.K., Kinetic Study of Photocatalytic Degradation of Synthetic Dye Mixture Using AC-TiO2 Nanocomposite, ACSSI-2K16 *(15th Asian Conference on Solid State Ionics),* IIT Patna (2016)
2. Verma, P. Samanta, S.K., Photocatalytic Degradation Studies of Simulated Wastewater Containing Industrial Dye Mixture and Antibiotic, APCAT-7 *(7th Asia-Pacific Congress on Catalysis),* ICT Mumbai (2017)
3. Sandip Khan, Some challenges in molecular modeling and simulation, *National Super Computer Mission: Building capacity and capability,* C-DAC, Pune (2016)
4. Sandip Khan, Sanchari Bhattacharjee, NeerajRai, Edward J. Maginn, Thermo physical properties of urania-ceria solid solutions: A Monte Carlo Study, 15th *Asian conference on solid state ionics,* IIT Patna, India (2016)
5. Sandip Khan, Wetting Transition of Water Droplet On Textured Surfaces, *Chemference 2016,* IIT Gandhinagar, India (2016)

4.4 Other Activities

Member - Professional Bodies

1. Sujoy Kumar Samanta (2015) International Association of Engineers
2. Sujoy Kumar Samanta (2013) Indian Institute of Chemical Engineers

Consultancy Projects

1. Project DISHA (CEP) (IOCL, Rs.6.48 Lakhs) Consultant Name: Dr. S. K. Samanta

Invited Lectures by Faculty Members

1. Chemical Pollutant: Effect on Environment and Health by Sujoy Kumar Samanta (Patna Womens College, Patna University)
2. Safety Practices at Production and at Distribution Level by Sujoy Kumar Samanta (IIT Patna (Project DISHA))
3. Safety Practices at Production and at Distribution Level by Sujoy Kumar Samanta (IIT Patna (Project DISHA 2))
4. Hydrogenation of Mg nanofilms by size selected Pd nanoparticles by Sushant Kumar (Patna)

Chemistry

5.1 Faculty Members

Dr. Debabrata Seth *Associate Professor*	Photophysics, Chemical Dynamics, Ionic liquids
Dr. Md. Lokman Hakim Choudhury *Associate professor*	Diversity Oriented Synthesis (DOS) using multicomponent reactions (MCRs), the discovery and development of new synthetic methods with particular interest in heterocyclic chemistry and total synthesis of various biologically active natural products and structural analogues
Dr. Neeladri Das *Associate Professor*	Self-assembly and Supramolecular Chemistry, Organic Synthesis, Inorganic-organic hybrid material synthesis, Coordination polymers / Metal organic framework (MOF), Polymer Chemistry - syntheses/characterization/applications
Dr. Prolay Das *Associate Professor*	DNA self assembly for production of 3-dimensional functional Nanostructures; Clustered DNA damage and DNA repair mechanism in Nucleosome core particles
Dr. Ranganathan Subramanian *Associate Professor*	Spectroscopy, Computational, Instrumentation development, Physical Chemistry
Dr. Sahid Hussain *Associate Professor*	Nano-scale Materials, Green Chemistry and Synthetic Organic Methodologies
Dr. Amit Kumar *Assistant Professor*	Synthesis of modified sugar, glycosyltransferase inhibitors, Oligosaccharides and Chiral catalyst; Application of Metal catalysis in the synthesis of natural products and Medicinal useful Pharmacophores

Dr. T. Rajagopala Rao *Assistant Professor*	Quantum reactive scattering of gas phase bi-molecular reactions, non-adiabatic coupling effects, geometric phase effects, nuclear spin symmetry effects, isotopic effects, spectral attributes of quasi-bound states, construction of potential energy surfaces.
Dr. Snehasis Daschakraborty *Assistant Professor*	Studies of reaction and relaxation processes in complex chemical and biological systems using theory and computer simulation technique
Dr. Debajit Sarma *Assistant Professor*	Coordination polymer, solid state chemistry, Chalcogenide and chalcogel based materials, oxide materials, energy conversion and catalysis.
Dr. Subrata Chattopadhyay *Assistant Professor*	Polymer chemistry (sustainable/Green synthesis), nanomaterials and surface engineering.

5.2 Academic Programs

- B.Tech in Chemical Science and Technology
- M.Sc in Chemistry
- Ph.D Program

5.3 Research & Development Activities

Papers Published in Journals

1. Sharmistha Chatterjee, A. B. Ringane, A. Arya, G. M. Das Venkata Ramanaiah Dantham, Ranjit Laha and Sahid Hussain, A high-yield, one-step synthesis of surfactant-free gold nanostars and numerical study for single-molecule SERS application, J. Nanoparticle Res, 18, 242 (2016).
2. Seema Singh, Pravin Jha, Vandana Singh, Kislay Sinha, Sahid Hussain, Manoj K. Singh and Prolay Das, A quantum dot–MUC1 aptamer conjugate for targeted delivery of protoporphyrin IX and specific photokilling of cancer cells through ROS generation, Integrative Biology, 8, 1040-1048. (2016).
3. Range Subramanian and Samara Begum, A theoretical investigation of the energetic and spectroscopic properties of the gas-phase linear proton-bound cation–molecule complexes, XCH+—N2 (X = O, S), Journal of Molecular Modeling, 22 (2016).
4. Bhavini Kumari, Prolay Das and Rekha Kumari, Accelerated processing of solitary and clustered abasic site DNA damage lesions by APE1 in the presence of aqueous extract of Ganoderma lucidum, Journal of Biosciences, DOI 10.1007/s12038- (2016).
5. P.R. Sreenath, Seema Singh, M.S. Satyanarayana, Prolay Das, K. Dinesh Kumar, Carbon dot-Unique reinforcing filler for polymer with special reference to physico-mechanical properties, Polymer, 112, 189-200 (2017).
6. Seema Singh, Anshul Mishra, Rina Kumari, Kislay K. Sinha, Manoj K. Singh and Prolay Das, Carbon dots assisted formation of DNA hydrogel for sustained release of drug, carbon, 114, 169-176 (2017).
7. Yogesh Kumar, Yogesh Jaiswal, Amit Kumar, Copper (II)-Catalyzed Benzylic C (sp3)–H Aerobic Oxidation of (Hetero) Aryl Acetimidates: Synthesis of Aryl- -ketoesters, 81 (24), pp 12247– (2016).
8. Yogesh Kumar, Mukta Shaw, Rima Thakur, and Amit Kumar, Copper (II)-Mediated Aerobic Oxidation of Benzylimidates: Synthesis of Primary -Ketoamides, The Journal of Organic Chemistry, 81 (15), pp 6617– (2016).
9. Banibrata Maity, Aninda Chatterjee, Sayeed Ashique Ahmed, Debabrata Seth, Deciphering the perturbation effect of urea on the supramolecular host-guest interaction of biologically active hydrophobic molecule inside the nanocavity of cyclodextrins, Journal of Luminescence, 183, 238 (2017).
10. A. Jana, S. Bhowmick, S. Kaur, H. K. Kashyap and N. Das, Design of a Flexible Organometallic Tecton: Host-Guest Chemistry with Picric Acid and Self-assembly of Platina Macrocycles, Dalton Trans., 46(6), 1986-1995 (2017).
11. Snehasis Daschakraborty and Ranjit Biswas, Dielectric Relaxation in Ionic Liquid/Dipolar Solvent Binary Mixtures: A Semi-Molecular Theory, J. Chem. Phys., 144, 104505 (2016).
12. Islam, Saiful M. Malliakas, Christos D. Sarma, Debajit Maloney, David C. Stoumpos, Constantinos C. Kontsevoi, Oleg Y. Freeman, Arthur J. Kanatzidis, Mercouri G., Direct Gap Semiconductors Pb2BiS2I3, Sn2BiS2I3 and Sn2BiSI5, Chem. Mater., 28, 7332-7343 (2016).
13. Wilke P., Kunde T., Chattopadhyay S., Brummelhuis N. Ten, Du Prez F., Boerner H. G., Easy access to triazolinedione end capped peptides for chemical ligation, Chemical Communications, 53, 593-596 (2017).
14. Sarma, Debajit Islam, Saiful M. Subrahmanyam, K. S. Kanatzidis, Mercouri G., Efficient and Selective Heavy Metal Sequestration from Water by Layered Sulfide K2xSn4-xS8-x (x=0.65-1 KTS-3), J. Mater. Chem. A, 4, 16597-16605 (2016).

15. Feng, Mei-Ling Sarma, Debajit Qi, Xing-Hui Du, Ke-Zhao Huang, Xiao-Ying Kanatzidis, Mercouri G., Efficient Removal and Recovery of Uranium by a Layered Organic-Inorganic Hybrid Thiostannate, J. Am. Chem. Soc., 138, 12578-125 (2016).
16. Rina Kumari, Sumit Singh, Mohan Monisha, Sourav Bhowmick, Anindya Roy, Neeladri Das and Prolay Das, Hierarchical coassembly of DNA–triptycene hybrid molecular building blocks and zinc protoporphyrin IX, Beilstein Journal of Nanotechnology, 7, 697–707. (2016).
17. Subrahmanyam, K. S. Malliakas, Christos D. Islam, Saiful M. Sarma, Debajit Wu, Jinsong Kanatzidis, Mercouri G., High-Surface-Area Antimony Sulfide Chalcogels., Chem. Mater., 28, 7744-7749. (2016).
18. Sayeed Ashique Ahmed, Banibrata Maity, Soma Seth Duley, Debabrata Seth, Host-guest interaction of 3-hydroxyflavone and 7-hydroxyflavone with cucurbit [7] uril: A spectroscopic and calorimetric approach, Journal of Photochemistry and Photobiology B: Biology, 168,132 (2017).
19. Dina Pines, Julia Ditkovich, Tzah Mukra, Yifat Miller, Philip M. Kiefer, Snehasis Daschakraborty, James T. Hynes, and Ehud Pines, How Acidic is Carbonic Acid?, J. Phys. Chem. B, 120, 2440 (2016).
20. Rina Kumari, Titash Mondal, Anil K. Bhowmick and Prolay Das Impeded repair of abasic site damaged lesions in DNA adsorbed over functionalized multiwalled carbon nanotube and graphene oxide, Mutation Research - Genetic Toxicology and Environmental Mutagenesis, 803-804, 39-46 (2016).
21. Banibrata Maity, Sayeed Ashique Ahmed, Debabrata Seth, Interaction of Biologically Active Flavins inside Bile Salt Aggregates: Molecular Level Investigation, The Journal of Physical Chemistry B, 120, 9854 (2016).
22. Sarma, Debajit Malliakas, Christos D. Subrahmanyam, K. S. Islam, Saiful M. Kanatzidis, Mercouri G., K2x Sn4-x S8-x (x=0.65-1): A New Metal Sulfide for Rapid and Selective Removal of Cs+, Sr2+ and UO22+ ions, Chem. Sci., 7, 1121-1132. (2016).
23. R. Bharti, P. Kumari, Tasneem Parvin and Lokman H. Choudhury, Molecular diversity from the three-component reaction of 2-hydroxy-1,4 naphthaquinone, aldehydes and 6-aminouracils: a reaction condition dependent MCR., RSC Advances, 7, 3928-3933. (2017).
24. Sayeed Ashique Ahmed, Banibrata Maity, Debabrata Seth, Molecular interaction between nonsteroidal anti-inflammatory drug molecules with cucurbit [7] uril estimated by spectroscopy and calorimetry, Journal of Molecular Liquids, 232,416 (2017).
25. Richa Mishra, Anoop Kumar Panday, Lokman H. Choudhury, Jagannath Pal, Ranga Subramanian, and Ajay Verma, Multicomponent reactions of arylglyoxal, 4-hydroxycoumarin, and cyclic 1,3-C,N-binucleophiles: Binucleophile directed synthesis of fused five and six membered N-heterocycles, European Journal of Organic Chemistry, not yet available (2017).
26. Zhang, Xian-Ming Sarma, Debajit Wu, Ya-Qin Wang, Li Ning, Zhi-Xue Zhang, Fu-Qiang Kanatzidis, Mercouri G., Open-Framework Oxysulfide Based on the Supertetrahedral [In4 Sn16 O10 S34]12- Cluster and Efficient Sequestration of Heavy Metals, J. Am. Chem. Soc., 138, 5543-5546 (2016).
27. Yogesh Jaiswal, Yogesh Kumar, Rima Thakur, Jagannath Pal, Ranga Subramanian, and Amit Kumar, Primary Amide Directed Regioselective ortho -C – H-Arylation of (Aryl) Acetamides, The Journal of Organic Chemistry, 81, 12499 – 12505 (2016).
28. Sourav Bhowmick, Achintya Jana, Subba R. Marri, Prerak Gupta, J.N. Behera, Biman B. Mandal and Neeladri Das, Pyrazine based Pt (II) bis-alkynyl organometallic complexes: Synthesis, characterization, and cytotoxic effect on A549 human lung carcinoma cells, Appl Organometal Chem., (2017).
29. Rapti, Sofia Pournara, Anastasia Sarma, Debajit Papadas, Ioannis T. Armatas, Gerasimos S. Hassan, Youssef S. Alkordi, Mohamed H. Kanatzidis, Mercouri G. Manos, Manolis J., Rapid, green and inexpensive synthesis of high quality UiO-66 amino-functionalized materials with exceptional capability for removal of hexavalent chromium from industrial waste, Inorg. Chem. Front., 3, 635-644. (2016).
30. Snehasis Daschakraborty, Philip M. Kiefer, Yifat Miller, Yair Motro, Dina Pines, Ehud Pines, and James T. Hynes, Reaction Mechanism for Direct Proton Transfer from Carbonic Acid to a Strong Base in Aqueous Solution I: Acid and Base Coordinate and Charge Dynamics, J. Phys. Chem. B, 120, 2271 (2016).
31. Snehasis Daschakraborty, Philip M. Kiefer, Yifat Miller, Yair Motro, Dina Pines, Ehud Pines, and James T. Hynes, Reaction Mechanism for Direct Proton Transfer from Carbonic Acid to a Strong Base in Aqueous Solution II: Solvent Coordinate-Dependent Reaction Path, J. Phys. Chem. B, 120, 2281 (2016).
32. Mukta Shaw, Amit Kumar and Rima Thakur, Recent Developments in the Stereoselective Synthesis of trans-®- and 2-deoxy-®-Glycosides, trends in Carbohydrates Research, Vol.9, No.1 (2017) 1 (2017).

33. Neeway, James J. Asmussen, R. Matthew Lawter, Amanda R. Bowden, Mark E. Lukens, Wayne W. Sarma, Debajit Riley, Brian J. Kanatzidis, Mercouri G. Qafoku, Nikolla P., Removal of TcO4- from Representative Nuclear Waste Streams with Layered Potassium Metal Sulfide Materials, Chem. Mater., 28, 3976–3983. (2016).
34. Rapti, Sofia Pournara, Anastasia Sarma, Debajit Papadas, Ioannis T. Armatas, Gerasimos S. Tsipis, Athanassios C. Lazarides, Theodore Kanatzidis, Mercouri G. Manos, Manolis J., Selective capture of hexavalent chromium from an anionexchange column of metal organic resin-alginic acid composite, Chem. Sci., 7, 2427-2436 (2016).
35. Chattopadhyay S., Du Prez F., Simple design of chemically crosslinked plant oil nanoparticles by triazolinedione-ene chemistry, European Polymer Journal, 81, 77-85 (2016).
36. Sayeed Ashique Ahmed, Aninda Chatterjee, Banibrata Maity, Debabrata Seth, Surfactants induced release of a red emitting dye from the nanocavity of a molecular container: A spectroscopic and calorimetric study, Journal of Photochemistry and Photobiology B: Biology, 161,59 (2016).
37. Shaik Karamthulla, Asim Jana and Lokman H. Choudhury, Synthesis of novel 5,6-disubstituted pyrrolo[2,3-d] pyrimidine-2,4-diones via one-pot three component reactions, ACS Combinatorial Science, 19, 108-112 (2017).
38. Aniruddha Molla, Meenakshi Sahu and Sahid Hussain, Synthesis of Tunable Band Gap Semiconductor Nickel Sulphide Nanoparticles: Rapid and Round the Clock Degradation of Organic Dyes, Scientific Reports, 6, 26034 (2016).
39. Bruycker K. D., Billiet S., Honnes H., Chattopadhyay S., Winne J. M., Du Prez F, Triazolinediones as highly enabling synthetic tools, Chemical Reviews, 116, 3919- 3974 (2016).
40. Chattopadhyay S., Heine E., Mourran A., Richtering W., Keul H., Moeller M., Waterborne physically crosslinked antimicrobial nanogels, Polymer Chemistry, 7, 364-369 (2016).

Papers Presented in Conferences

1. Sahid Hussain, Eco-friendly synthesis of metal chalcogenides with tunable band structure for photodegradation of or, Global Congress and Expo on Material Science and Nanaoscience, Dubai, UAE (2016)
2. Richa Mishra and Lokman H. Choudhury, Synthesis of coumarin fused N-heterocycles by arylglyoxal based multicomponent reactions, XII J-NOST, CSIR-CDRI, Lucknow (2016)
3. Jagannath Pal and Ranga Subramanian, Theoretical Investigation of N(4S) + HOX (Cl, Br) Reaction, 15th Indian Theoretical Chemistry Symposium, Hyderabad (2016)

5.4 Other Activities

Member - Professional Bodies

1. Amit Kumar (2016) Indian Science Congress
2. Amit Kumar (2014) Chemical Reserach Society of India
3. Amit Kumar (2015) Association of carbohydrate chemist and technologist India
4. Md. Lokman Hakim Choudhury (2015) Chemical Research Society of India (CRSI)
5. Neeladri Das - American Chemical Society (ACS)
6. Ranganathan Subramanian - American Chemical Society
7. Ranganathan Subramanian - Chemical Research Society of India

Member - Editorial Board

1. Md. Lokman Hakim Choudhury - Editorial board member - American Journal of Organic Chemistry
2. Prolay Das (2017) Editorial board member - Enliven
3. Prolay Das - Editorial board member - Oriental journal of chemistry
4. Ranganathan Subramanian - Member - Applied Physics Research

Sponsored Research Projects

1. Exploration of Multicomponent Reactions (MCRs) Towards Green Synthesis of Novel Functionalized & Sequence Regulated Macromolecules (SERB, DST, Govt. of India, Rs.40.95 Lakhs) (PI : Dr. Md. Lokman H. Choudhury)
2. Functionalization of the Carbohydrates: Designing New Strategies for the Synthesis of Natural and Modified Sugars via Metal Catalysi (SERB-DST, Rs.24.80 Lakhs) (PI : Dr. Amit Kumar)
3. Functionalized Core-shell iron oxide@silica as magnetically recoverable Catalysts for Multicomponent heterocycles synthesis (UGC, Rs.28.00 Lakhs) (PI : Kulsum Khan)
4. Graphene/conducting polymer nanocomposite based enzymetic biosensors for the detection of biomolecules (DST, Rs.19.20 Lakhs) (PI : Chandramika Bora)
5. Imidates: A New Class of N-H Directing Group for C(sp2)-H Activation and Tools for Synthesis of Highly Functionalized Heterocycles (CSIR New Delhi, Rs.21.00 Lakhs) (PI : Dr. Amit Kumar)
6. Quantum dynamical studies on bimolecular reactions of practical and fundamental interest. (DST (INSPIRE), Rs.30.00 Lakhs) (PI : Tammineni Rajagopala Rao)
7. Theoretical investigation of intermolecular forces and optical properties of atmospheric aerosols (CSIR) (PI : Ranganathan Subramanian)

Patents (filed / granted)

1. Patent Name: Composite materials containing organic polymer-encapsulated metal organic frameworks, Manos, Manolis J.; Kanatzidis, Mercouri G.; Sarma, Debajit; Patent Owner: Debajit Sarma
2. Patent Name: Textile treatment compounds and compositions; Patent Owner: Subrata Chattopadhyay

Visits Abroad by Faculty Members

1. Sahid Hussain - Oral Presentation (Dubai) 30 min

Invited Lectures by Faculty Members

1. Supramolecular Host-Guest Interaction between Bioactive Molecules and Macrocyclic Hosts by Debabrata Seth (Barrackpore Rastraguru Surendranath College)
2. Self-Assembled functional Nanostructures from DNA-organic hybrid Molecules by Prolay Das (NIT Patna)
3. Fluorescence Spectroscopy to Intercept Abasic Site DNA Damage and Repair Mechanism by Prolay Das (NIT Patna)

4. Carbon Dot-DNA Hybrid Hydrogel for Controlled Release of Drugs by Prolay Das (IISER KOLKATA)
5. Eco-friendly synthesis of metal chalcogenides with tunable band structure for photodegradation of or by Sahid Hussain (NIT Patna)
6. Green Chemistry and Green Technology by Sahid Hussain (NIT Jamshedpur)
7. OrganoCatalyst: A Promising Synthetic Tool for Oligosaccharide Synthesis by Amit Kumar (Delhi University)
8. Protonation of a Strong Base by Carbonic Acid in Aqueous Solution: Exploration of Charge Transfer Dy by Snehasis Daschakraborty (IISER Mohali)
9. Protonation of a Strong Base by Carbonic Acid in Aqueous Solution: Exploration of Charge Transfer Dy by Snehasis Daschakraborty (IIT Ropar)
10. Protonation of a Strong Base by Carbonic Acid in Aqueous Solution: Exploration of Charge Transfer Dy by Snehasis Daschakraborty (IIT Delhi)
11. Quantum dynamics of oxygen exchange reactions by TAMMINENI Rajagopala Rao (University of Hyderabad, Hyderabad)

Civil and Environmental Engineering

6.1 Faculty Members

Dr. Pradipta Chakrabortty *Assistant Professor*	Soil Dynamics and Geotechnical Earthquake Engineering, Soil Heterogeneity, Finite Element Analysis in Geotechnical Engineering, Ground Improvement, Probabilistic Methods in Engineering
Dr. Subrata Hait *Assistant Professor*	Water and Wastewater Treatment, Solid and Hazardous Waste Management, Organic Waste Management by Composting and Vermicomposting, Conventional and Ecological Sanitation
Dr. Syed K. K. Hussaini *Assistant Professor*	Rail Track Geotechnology; Cyclic Behavior of Granular Media under High-Frequency Cyclic Loading; The Role of Geosynthetics in Improving the Rail Track Performance; Ground Improvement
Dr. Avik Samanta *Assistant Professor*	Structural Engineering, Structural Dynamics, Performance Based Earthquake Engineering
Dr. Om Prakash *Assistant Professor*	Water Resource Systems Engineering; Hydrological and Hydro-Geological Modelling; Numerical Modelling of Groundwater Flow and Solute Transport; Water Resources Management; Optimization based solutions for Groundwater and Water Resource Management Problems
Dr. Koushik Roy *Assistant Professor*	Structural Damage Detection; Vibration Control; System Identification; Earthquake Engineering; Structural Dynamics; Soil-Structure Interaction
Dr. Vaibhav Singhal *Assistant Professor*	Seismic behavior of reinforced concrete and masonry structures; Small-scale modeling of structural systems for real time dynamic testing; Seismic evaluation and rehabilitation of structures; Earthquake damage surveys
Dr. Amarnath Hegde *Assistant Professor*	Geotechnical Engineering; Ground Improvement; Computational Geotechnics; Geosynthetics; Rock mechanics and Tunneling
Dr. Trishikhi Raychoudhury *Assistant Professor*	Environmental Engineering (Colloid Filtration, Solute fate and transport, Water treatment using novel material Environmental implication of nanotechnology)

6.2 Academic Programs

- B.Tech in Civil Engineering
- M.Tech in Civil and Infrastructure Engineering
- Ph.D Program

6.3 Research & Development Activities

Papers Published in Journals

1. B Datta, C Petit, M Palliser, HK Esfahani, O Prakash. Linking a Simulated Annealing Based Optimization Model with PHT3D Simulation Model for Chemically Reactive Transport Processes to Optimally Characterize Unknown Contaminant Sources in a Former Mine Site in Australia. Journal of Water Resource and Protection 9 (05), 432 (2017)
2. Hegde, A. and Sitharam, 3-dimensional numerical simulations of rock bolt pullout tests of Himalayan region, Disaster Advances, 9(5), 1-12. (2016).
3. S. P. Gundupalli, S. Hait and A. Thakur, A review on automated sorting of source-separated municipal solid waste for recycling, Waste Management, 60, 56-74 (2017).
4. Kalidindi, S., Vecha, M., Kar, A., Raychoudhury T, Aluminum-cerium double-metal impregnated activated carbon: a novel composite for fluoride removal from aqueous solution, Water Science and Technology: Water Supply, 17, 115-124 (2017).
5. V. Kumar, R. Rudra, A. Nandy, S. Hait and P. P. Kundu, Analysis of partially sulfonated low density polyethylene (LDPE) membranes as separators in microbial fuel cells, RSC Advances, 7, 21890-21900 (2017).
6. V. Puri, P. Chakrabortty, S. Anand, S. Majumdar, Bamboo reinforced prefabricated wall panels for low cost housing, Journal of Building Engineering, pp. 52-59 (2017).
7. Hegde A. and Sitharam T.G., Behaviour of geocell reinforced soft clay bed subjected to incremental cyclic loading, Geomechnics and Engineering, 10(4), 405-422. (2016).
8. Anshupriya and S. Hait, Comparative assessment of metallurgical recovery of metals from electronic waste with special emphasis on bioleaching, Environmental Science and Pollution Research, 24(8), 6989-7008 (2017).
9. Sanjukta Chakraborty, Koushik Roy and Samit Ray-Chaudhuri, Design of Re-Centering Spring for Flat Sliding Base Isolation System: Theory and A Numerical Study, Engineering Structures, 126, 66-77 (2016).
10. S. Lalit Sagar, Vaibhav Singhal & Durgesh C. Rai, Diagonal Shear and Out-of-Plane Flexural Strength of Fabric-Reinforced Cementitious Matrix–Strengthened Masonry Walletes, Journal of Composites for Construction, 21 (2017).
11. Hegde, A. and Sitharam, T.G., Experiment and 3D-numerical studies on soft clay bed reinforced with different types of cellular confinement systems, Transportation Geotechnics, 10, 73-84 (2017).
12. A. Swati and S. Hait, Fate and bioavailability of heavy metals during vermicomposting of various organic wastes-A review, Process Safety and Environmental Protection, 109, 30-45 (2017).
13. Anshupriya and S. Hait, Feasibility of bioleaching of selected metals from electronic waste by Acidiphilium acidophilum (DOI: 10.1007/s12649-017-9833-0), Waste and Biomass Valorization, (2017).
14. Avik Samanta and Yin-Nan Huang, Ground-motion scaling for seismic performance assessment of high-rise moment-resisting frame building, Soil Dynamics and Earthquake Engineering, 94: 125–135 (2017).
15. Bithin Datta, Mahsa Amirabdollahian, Renguang Zuo, Om Prakash, Ground Water Contamination Plume Delineation Using Local Singularity Mapping Technique, International Journal of Geomate, 11/25 2435-2441 (2016).
16. Raychoudhury, T. and Surasani, V. K., Implication of surface modified NZVI particle retention in the porous media: assessment with the help of 1-D transport model., Journal of Earth System Science, Accepted (2017).
17. Vaibhav Singhal & Durgesh C. Rai, In-Plane and Out-Of-Plane Behavior of Confined Masonry Walls for Various Toothing and Openings Details and Prediction of Their Strength and Stiffness, Engineering & Structural Dynamics, 45, 2551-2569 (2016).
18. A. Das, and P. Chakrabortty, One-Dimensional Seismic Energy Transmission Along Heterogeneous Layered Soil, International Journal of Student's Research in Technology & Management, Vol. 4, No. 3 (2016).
19. Raychoudhury, T., Boindala P. S., Kalidindi, S., Performance evaluation of metal impregnated activated carbon composite for removal of fluoride under different solution chemistry, Water Science and Technology: Water Supply, ws2017040 DOI: 10.2 (2017).
20. Durgesh C. Rai, Vaibhav Singhal, Tripti Pradhan & Anu Tripathi, Seismic Vulnerability Assessment of Monastery Temples of Stone Masonry in Sikkim Himalayas, Current Science, 110, 1947-1957 (2016).

21. Sitharam, T.G. and Hegde, A., Stability analysis of rock-fill tailing dam: an Indian case study, International Journal of Geotechnical Engineering, DOI: 10.1080/1938636 (2016).
22. Hegde, A., Kadabinakatti, S. and Sitharam, T.G., Use of Geocells to Protect Buried Pipelines and Underground Utilities in Soft Clayey Soils., Geotechnical Special Publications-271, 914-924. (2016).

Papers Presented in Conferences

1. Hegde, A. and Sitharam, T.G., 3-dimensional numerical studies to evaluate the effect of infill materials on the performance of geocell reinforced soft clay beds., Geo America-2016, Miami, USA (2016)
2. S. P. Gundupalli, S. Hait and A. Thakur, Automated municipal solid waste sorting for recycling using a mobile manipulator (DOI: 10.1115/DETC2016-59842), ASME 2016 International Design Engineering Technical Conference (IDETC), Charlotte, North Carolina, USA (2016)
3. S. Lalit Sagar, Vaibhav Singhal & Durgesh C. Rai, Experimental Investigation of Fabric Reinforced Cementitious Matrix for Strengthening of Infill Walls, 16th World Conference on Earthquake Engineering, Santiago, Chile (2017)
4. Anshupriya and S. Hait, Extraction of Cu and Zn from high grade printed circuit board scraps by conventional and hybrid bioleaching, Recycle - 2016: International Conference on Waste Management, Indian Institute of Technology Guwahati. (2016)
5. Faisal A. Hasan and Trishikhi Raychoudhury, Fluoride Removal from Water by Metal-Activated Carbon Composite Based Filter Media, IWA-MTC 2017, Singapore (2017)
6. S. Lalit Sagar, Vaibhav Singhal & Durgesh C. Rai, In-Plane and Out-of-Plane Performance of Masonry Infill Strengthened with Fabric Reinforced Cementitious Matrix, 13th Canadian Masonry Symposium, Halifax, Canada (2017)
7. A. Das, and P. Chakrabortty, Numerical Determination Of The Effect Of Seismic Frequency Content In Free Field Dynamic Response, Conference on Numerical Modeling in Geomechanics, IIT Roorkee (2017)
8. Hegde. A., Shivdev. S. and Sitharam, T.G., Numerical Simulation of Geocell Reinforced Foundation Beds: A Comparative Study Using PLAXIS3D and FLAC3D, Proceedings of Indian Geotechnical Conference-2016, Chennai (2016)
9. Roy, R and Hegde A., Numerical simulation of geotextile-sand interface using box shear test and pull-out test: A comparison, Sixth Indian Young Geotechnical Engineers Conference, Trichy (2017)
10. Bithin Datta, Om Prakash, Claire Petit, Marine Palliser, Hamed K Esfahani, Optimal Characterization of Contaminant Sources in a Former Mine Site Area Using Reactive Transport Simulation Model and Simulated Annealing, Cleanup India 2016, Coimbatore (2016)
11. Durgesh C. Rai, Vaibhav Singhal, Bhushan Raj S & Lalit Sagar, Performance of Masonry and Concrete Buildings during M7.8 Gorkha (Nepal) Earthquake of April 25, 2015, 16th World Conference on Earthquake Engineering, Santiago, Chile (2017)
12. V. Puri, P. Chakrabortty, Performance of prefabricated wall panel under wind loading, 8th National conference on wind engineering, IIT (BHU), Varanasi (2016)
13. Koushik Roy and Samit Ray-Chaudhuri, Performance of Various Vibration-Based Output-only Techniques in Structural Modal Identification, ISSS National Conference on MEMS, Smart Materials, Structures and Systems, Kanpur, India - 208016 (2016)
14. Vaibhav Singhal & Durgesh C. Rai, Strut-and-Tie Model for Predicting the Shear Capacity of Confined Masonry Walls with and without Openings, 16th World Conference on Earthquake Engineering, Santiago, Chile (2017)
15. Anshupriya and S. Hait, Toxicity characterization of heavy metals from waste printed circuit boards, 6th International Conference on Solid Waste Management, Jadavpur University, Kolkata (2016)
16. R. K. Choudhary, A. Swati and S. Hait, Vermicomposting of primary clarified tannery sludge employing Eisenia fetida, International Conference on Emerging Trends in Water Resources and Environmental Engineering (ETWREE17), MVGR College of Engineering,Vizianagaram (2017)
17. P. Chakrabortty, U. Kumar, Zonation of Jaipur City based on shear Wave Velocity, Indian Geotechnical Conference, IIT Madras (2016)
18. Bithin Datta, Om Prakash, Hamed K. Esfahani, Claire Petit, Marine Palliser. Optimal Characterization of Contaminant Sources in a Former Mine Site Area Using Reactive Transport Simulation Model and Simulated Annealing. International Conference on Contaminated Site Remediation. Cleanup India 2016. Coimbatore, India.

Sponsored Research Projects

1. Arsenic immobilization by in-situ synthesis of iron-based adsorbent under reducing environment within porous media (DST-WTI, Rs.39.36 Lakhs) (PI : Trishikhi Raychoudhury)
2. Development of Ganga Grams under Namami Gange Programme with Support of Technical Institutions (Ministry of Human Resource Development; & National Mission for Clean Ganga (NMCG), Ministry of Water, Rs.5.00 Lakhs) (PI : Dr. Subrata Hait)
3. Evaluate the fate and transport and implication of engineered nanoparticle retention in porous media (SERB (DST), Rs.30.44 Lakhs) (PI : Trishikhi Raychoudhury)
4. Seismic Response, Damage and Vulnerability of Structures in Patna for Future Earthquakes (SERB, Rs.21.39 Lakhs) (PI : Avik Samanta)
5. Varied profiling of bio-macromolecules for energy and byproduct assessment employing electrochemical tools (SERB, DST, GoI through National Post-doctoral Fellowship of Vikash Kumar, Rs.14.40 Lakhs) (PI : Dr. Subrata Hait)

Consultancy Projects

1. Appraisal of Solid Waste Management (SWM) DPRs under Swachh Bharat Mission for 35 Urban Towns in Bihar (Urban Development and Housing Department, Govt. of Bihar, Rs.140.00 Lakhs) Consultant Name: Dr. Subrata Hait, and Dr. Brajesh K. Dubey, IIT Kharagpur
2. Inspection and Remedial Measures for Fire-damaged Structure of Main Admin Block of Dr. Kalam Agriculture College, Kishanganj, Bihar (Bihar State Building Construction Corporation Ltd., Govt. of Bihar, Rs.5.75 Lakhs) Consultant Name: Dr. Vaibhav Singhal, Dr. Syed K.K. Hussaini, Dr. Avik Samanta & Dr. Subrata Hait
3. Investigation Of Structural Safety Of Bihar State Chief Minister's Residence (Building Construction Department, Govt. of Bihar, Rs.1.05 Lakhs) Consultant Name: Dr. Koushik Roy and Dr.Vaibhav Singhal
4. Liquefaction Assessment of Vaishali Stupa Site (Suresh Goel and Associates, New Delhi, Rs.3.57 Lakhs) Consultant Name: Dr. Pradipta Chakrabortty
5. Review of the Structural and Geotechnical Design for ISBT Patna, Bihar (Shapoorji Palonji and Company Private Limited, Rs.6.47 Lakhs) Consultant Name: Dr. Vaibhav Singhal
6. Structural Design Review of Budha Smriti Stupa and Museum at Vaishali, Bihar (Building Construction Department, Rs.17.25 Lakhs) Consultant Name: Dr. Vaibhav Singhal and Dr. Koushik Roy
7. Testing and Chemical Analysis of Samples of Construction Material Collected from Panchayat Sarkar Bhawan, Bhagalpur, Bihar (Planning and Development Department, Govt. of Bihar, Rs.0.93 Lakhs) Consultant Name: Dr. Subrata Hait, and Dr. Vaibhav Singhal
8. Testing of Cement Samples (JMC Projects (India) Ltd., CUSB, Gaya, Rs.0.62 Lakhs) Consultant Name: Dr. Pradipta Chakrabortty
9. Testing of coarse aggregate (Daya Engineering Works, Rs.0.62 Lakhs) Consultant Name: Dr. Syed K. K. Hussaini
10. Third Party Inspection as Independent Review and Monitoring Agency (IRMA) for the Bodhgaya Sewerage Project under the JnNURM (UIG) (Urban Development and Housing Department, Govt. of Bihar, Rs.14.95 Lakhs) Consultant Name: Dr. Subrata Hait, Dr. Om Prakash, Dr. Syed K.K. Hussaini, and Mr. P. Maity
11. Vetting of structural design and drawing of civil structures for Ganga River Front Development (BUIDCo Patna, Rs.7.02 Lakhs) Consultant Name: Avik Samanta, Syed K.K. Hussaini
12. Vetting of structural design and drawing of civil structures for waterways prominade, elevated flyover, community/cultural center and community centre (Bihar Urban Infrastructure Development Corporation Limited, GoB., Rs.7.02 Lakhs) Consultant Name: Dr. Syed K. K. Hussaini, Dr. Samanta
13. Vetting the Structural and Geotechnical Design of ISBT Patna (Shapoorji Pallonji & Company Pvt, Mumbai, Rs.6.46 Lakhs) Consultant Name: Dr. V.Singhal

6.4 Other Activities

Member - Professional Bodies

1. Amarnath Hegde (2017) Indian Science Congress Association
2. Amarnath Hegde (2012) Indian Geotechnical Society
3. Amarnath Hegde (2016) American Society of Civil Engineers
4. Amarnath Hegde (2017) International Society for Soil Mechanics and Geotechnical Engineering
5. Amarnath Hegde (2013) International Geosynthetic Society
6. Avik Samanta (2017) EERI
7. Avik Samanta (2017) Indian Society of Earthquake Technology
8. Avik Samanta (2017) ASCE
9. Pradipta Chakrabortty (2017) Indian Geotechnical Society
10. Pradipta Chakrabortty (2003) Indian Society of Earthquake Technology (ISET)
11. Subrata Hait (2014) International Water Association (IWA)
12. Subrata Hait (2005) Eco-Ethics International Union, Germany
13. Subrata Hait (2009) World Toilet Organization, Singapore
14. Subrata Hait (2012) Institution of Engineers (India)
15. Subrata Hait (2014) American Society of Civil Engineers (ASCE)
16. Syed Khaja Karimullah Hussaini (2017) American Association of Civil Engineers
17. Syed Khaja Karimullah Hussaini (2017) International Geosynthetics Society
18. Syed Khaja Karimullah Hussaini (2017) Canadian Geotechnical Society
19. Trishikhi Raychoudhury (2017) American Chemical Society (ACS)
20. Vaibhav Singhal (2016) Earthquake Engineering Research Institute
21. Vaibhav Singhal (2016) American Society of Civil Engineers
22. Vaibhav Singhal - National Information Centre of Earthquake Engineering

Member - Editorial Board

1. Amarnath Hegde (2016) Associate Editor - Journal of Advanced Research in Civil and Environmental Engineering
2. Amarnath Hegde (2017) Member - International Journal of Research Innovations in Civil Engineering
3. Pradipta Chakrabortty (2016) Associate Editor - Journal of Advanced Research in Civil and Environmental Engineering

Invited Lectures by Faculty Members

1. Civil Engineering applications of Kosi silt by Amarnath Hegde (Patna)
2. Low-cost ground improvement using geocells by Amarnath Hegde (New Delhi)
3. Feasibility Study on Use of Kosi River Silt in the Construction of Road by Amarnath Hegde (Patna)
4. Geosynthetics solution for silt problem in Bihar by Amarnath Hegde (Patna)
5. Seismic Design and Behaviour of Confined Masonry Buildings by Vaibhav Singhal (IIT Guwahati)
6. Material Characterization for Masonry Structures by Vaibhav Singhal (IIT Guwahati)
7. An Introduction to Confined Masonry Construction by Vaibhav Singhal (IIT Kanpur)
8. Seismic Evaluation and Retrofitting of Reinforced Concrete Buildings by Vaibhav Singhal (Bihar State Disaster Managment Authority, Patna)
9. Principles of Earthquake Resistant Buildings & Architectural Considerations by Vaibhav Singhal (Bihar State Disaster Managment Authority, Patna)
10. Structural Health Monitoring by Koushik Roy (IIT Guwahati)
11. Toxicity characterization and bioleaching of metals from various waste printed circuit boards by Subrata Hait (UGC-sponsored National Seminar on Chemical Pollutant: Effect on Environment and Health at Patna Womens College, Patna, Bihar)

Short-Term Courses, Training Programmes and Workshops organised

International Workshop on Modelling tools for groundwater contamination management. Tamil Nadu Agricultural University, Coimbatore, 16th December 2016. Organised By: Dr. Om Prakash

Computer Science and Engineering

7.1 Faculty Members

Prof. Pushpak Bhattacharyya *Professor*	Natural Language Processing, Machine Learning, Cross Lingual IR, Information Extraction
Dr. Ashok Singh Sairam *Associate Professor*	Network Security, Routing in Wireless Networks, Network Bandwith Monitoring and Management
Dr. Asif Ekbal *Associate Professor*	Natural Language Processing, information extraction, machine learning applications, Opinion Mining, and Text mining
Dr. Jimson Mathew *Associate Professor*	Fault Tolerant Computing; VLSI Design and Methodologies; Reliability Aware Designs; Hardware Security
Dr. Rajiv Misra *Associate Professor*	Mobile Computing, Adhoc Networks and Sensor Networks
Dr. Somanath Tripathy *Associate Professor*	Lightweight Cryptography, Computer Security, Network Security
Dr. Abyayananda Maiti *Assistant Professor*	Online Algorithms, Complex Networks, Social Networks, Big Data
Dr. Arijit Mondal *Assistant Professor*	CAD for VLSI, Analog EDA
Dr. Joydeep Chandra *Assistant Professor*	Peer-to-Peer Systems, Online Social Networks, Complex Networks, Distributed Systems
Dr. Raju Halder *Assistant Professor*	Formal Methods for Analysis and Verification, Information Systems Security, Programming Languages
Dr. Samrat Mondal *Assistant Professor*	Security & Privacy and Database Systems
Dr. Sourav Kumar Dandapat *Assistant Professor*	Wireless Networking; Mobile Social Computing; Human Computer Interaction
Dr. Sriparna Saha *Assistant Professor*	Pattern Recognition, Multiobjective Optimization, Bio-Text Mining, Bioinformatics, Soft Computing
Dr. Suman Kumar Maji *Assistant Professor*	Image Processing, Medical Imaging, Bioinformatics, Computer Vision

7.2 Academic Programs

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

7.3 Research & Development Activities

Papers Published in Journals

1. Arjun Atreya, Ashish Kankaria, Pushpak Bhattacharyya, Ganesh Ramakrishnan, Query Expansion in Resource Scarce Languages: A Multilingual Framework Utilizing Document Structure, TALIP, Vol 16:2 (2016).
2. Jos Prakash A V, B. R. Jose, E, Jimson Mathew, B. A Jose, A Differential Quantizer based Error Feedback Modulator for Analog to Digital Converters, IEEE Transactions on Circuits and Systems II, 09 February (2017).
3. Rajat S. S, Sam P. Jimson Mathew, A Flexible Online Checking Technique to Enhance Hardware Trojan Horse Detectability by Reliability Analysis, IEEE Transactions on Emerging Topics in Computing, 99, January (2017).

4. U. Sikdar, A. Ekbal and S. Saha, A Generalized Framework for Anaphora Resolution in Indian Languages, Knowledge-Based Systems, 109, pp 147–159 (2016).
5. Sriparna Saha, Aline symmetry based genetic clustering technique: encoding lines in chromosomes, International Journal on Machine Learning and Cybernetics, accepted (2017).
6. S. Mishra, S. Saha and S. Mondal, A Multiobjective Optimization based Entity Matching Technique for Bibliographic Databases, Expert Systems With Applications, Volume 65 pp 100-115 (2016).
7. S. Saha, S. Mitra and R. K. Yadav, A Stack Based Ensemble Framework for Detecting Cancer-microRNA Biomarkers, Genomics, Proteomics & Bioinformatics, (2016).
8. J. Prakash, B. R. Jose, Jimson Mathew and B. A. Jose, A triple-mode hexa-standard reconfigurable TI cross-coupled modulator, International Journal of Electronics, 104, (2017).
9. Nemi Chandra Rathore and Somanath Tripathy, A Trust-based Collaborative Access Control Model with Policy Aggregation for Online Social Networks, Social Network Analysis and Mining, (2017).
10. J Jacob, B.R. Jose, Jimson Mathew, An antenna selection scheme with MRE and AWC for decision fusion in cognitive radio, Transactions on Emerging Telecommunications Technologies, DOI:10.1002/ett.3161 (2017).
11. J. Jacob, B. R. Jose, Jimson Mathew, Bayesian Analysis of Spectrum Occupancy Prediction in Cognitive Radio, Smart Science http://dx.doi.org/10.1080/23080477.2016.1182360, 19 May (2016).
12. S. C. Rajat, R. R. Jeldi. I. Saha and Jimson Mathew, Binary Decision Diagram Assisted Modeling of FPGA-based Physically Unclonable Function by Genetic Programming, IEEE Transactions on Computers, 26 August (2016).
13. S. Saha, A. Alok and A. Ekbal, Brain Image Segmentation using Semi-supervised Clustering, Expert Systems with Applications, Vol. 52: 50-63 (2016).
14. Raju Halder, Angshuman Jana and Agostino Cortesi, Data Leakage Analysis of the Hibernate Query Language on a Propositional Formulae Domain, LNCS Transactions on Large-Scale Data- and Knowledge-Centered Systems, Volume 23: 23-44 (2016).
15. Sangita Roy and Ashok Singh Sairam, Distributed Star Coloring of Network for IP Traceback, International Journal of Information Security, ISSN=1615-5270 (2017).
16. Sriparna Saha, Enhancing point symmetry-based distance for data clustering, Soft Computing, 10.1007/s00500-016-2 (2017).
17. S. Saha and R. Das, Exploring Differential Evolution and Particle Swarm Optimization to Develop Some Symmetry Based Automatic Clustering Techniques: Application to Gene Clustering, Neural Computing and Applications, doi: 10.1007/s00521-0 (2016).
18. S. Mishra, S. Saha and S. Mondal, GAEMTBD: Genetic Algorithm based Entity Matching Techniques for Bibliographic Databases, Applied Intelligence, 10.1007/s10489-016-0 (2016).
19. X. Yang, A. Adeyemo, A. Jabir, Jimson Mathew, High Performance Single Cycle Memristive Multifunction logic Architecture, Electronics Letters, 52, Issue- 11, May (2016).
20. S. Acharya and S. Saha, Importance of proximity measures in clustering of cancer and miRNA datasets: proposal of an automated framework, Molecular BioSystems, 12, 3478-3501 (2016).
21. M. I. Bandan, S. Pagliarini, Jimson Mathew, and D. K Pradhan, Improved Multiple Faults-Aware Placement Strategy: Reducing the overheads and Error rates in Digital Circuits, IEEE Transactions on Reliability, 66, March (2017).
22. Samant Saurabh and Ashok Singh Sairam, Increasing the Effectiveness of Packet Marking Schemes using Wrap-Around Counting Bloom Filter, Security and Communication Networks, 9 pp: 3467-3482 (2016).
23. Nilotpal Chakraborty, Arijit Mondal, Samrat Mondal, Intelligent Scheduling of Thermostatic Devices for Efficient Energy Management in Smart Grid, IEEE Transaction on Industrial Informatics, Accepted (2017).
24. Debasis Das, Rajiv Misra, IntersectionCast: Approximation Algorithm for Multi-Directional Broadcast Storm in VANETs, International Journal of Communication Networks and Distributed Systems (IJCNDS, In Press (2017).
25. Rajiv Misra, Ram Narayan Yadav, k-Hop Neighbour Knowledge Based Clustering in CRN under Opportunistic Channel Access, International Journal of Communication Networks and Distributed Systems (IJCNDS)., In Press (2017).
26. Y. Yang, Jimson Mathew, R. S. Chakraborty, M. Ottavi, D. K. Pradhan, Low Cost Memristor Associative Memory Design for Full and Partial Matching Applications, IEEE Transactions on Nanotechnology, 15, Issue: 3, May (2016).
27. C Abraham, B R Jose, Jimson Mathew, M. Evzelman, Modelling, Simulation and Experimental investigation of a New Two Input, Series Parallel Switched Capacitor Converter, IET Power Electronics-DOI: 10.1049/iet-pel.2015.1000, 10, Issue: 3, March (2017).
28. A. Alok, S. Saha and A. Ekbal, Multi-objective Semi-supervised Clustering for Automatic Pixel Classification from Remote Sensing Imagery, Soft Computing, 20 (12): 4733-4751 (2016).

29. A. Ekbal and S. Saha, On Active Annotation for Named Entity Recognition from Indian Language and Biomedical Domain, Journal of Machine Learning and Cybernatics, 7(4): 623-660 (2016).
30. Nilesh Chakraborty and Samrat Mondal, On Designing A Modied-UI Based Honeyword Generation Approach For Overcoming The Existing Limitations, Computers & Security, Vol: 66, pp. 155-168 (2017).
31. RamNarayan Yadav, Rajiv Misra, On k-Channel Connectivity in Cognitive Radio Networks through Channel Assignment, International Journal of Electronics and Communications, In Press (2017).
32. Rakesh Matam and Somanath Tripathy, 'Secure Multicast Routing Algorithm for Wireless Mesh Networks', Journal of Computer Networks and Communications, (2016).
33. Ajay Pratap, Rajiv Misra and Utkarsh Gupta, Randomized Graph Coloring Algorithm for Physical Cell ID Assignment in LTE-A Femtocellular Networks, Wireless Personal Communications, 91(3), pp.1213-1235 (2016).
34. Md. Imran Alam and Raju Halder, Refining Dependences for Information Flow Analysis of Database Applications, International Journal of Trust Management in Computing and Communications, 3(3), 193-223 (2016).
35. Sumit Mishra, Samrat Mondal and Sriparna Saha, Sensitivity- An Important Facet of Cluster Validation Process for Entity Matching Technique, Transactions on Large-Scale Data and Knowledge-Centered Systems, Vol: 29, pp. 1-39 (2016).
36. A. Ekbal and S. Saha, Simultaneous Feature and Parameter Selection Using Multiobjective Optimization: Application to Named Entity Recognition, Journal of Machine Learning and Cybernetics, 7(4): 597-611 (2016).
37. S. Saha, A. Alok and A. Ekbal, Use of Semi-supervised Clustering and Feature Selection Techniques for Gene-Expression Data, IEEE Journal of Biomedical and Health Informatics (Retitled from the IEEE Transactions on Informatio, 20(4): 1171-117 (2016).
38. Shukla, Shailendra, Rajiv Misra, and Abhishek Agarwal, Virtual coordinate system using dominating set for GPS-free adhoc networks, Annals of Telecommunications, 72.3-4 pp 199-208 (2017).

Papers Presented in Conferences

1. Md Shad Akhtar, Ayush Kumar, Asif Ekbal,Pushpak Bhattacharyya, A Hybrid Deep Learning Architecture for Sentiment Analysis, COLING 2016, Osaka, Japan (2016)
2. Md Shad Akhtar, Asif Ekbal,Pushpak Bhattacharyya, Aspect Based Sentiment Analysis in Hindi: Resource Creation and Evaluation, LREC, Portorož, Slovenia (2016)
3. Sachin Pawar, Pushpak Bhattacharyya,Girish Palshikar, End-to-End Relation Extraction using Markov Logic Networks, CICLING 2016, Turkey (2016)
4. Shehzaad Dhuliawala, Diptesh Kanojia,Pushpak Bhattacharyya, SlangNet: a WordnNet like Resource for English Slang, LREC, Portorož, Slovenia (2016)
5. Sudha Bhingardive, Rajita Shukla, Jaya Jha, Lakshmi Kashyap, Dhirendra Singh,Pushpak Bhattacharyya, Synset Ranking of Hindi WordNet, LREC, Portorož, Slovenia (2016)
6. Angshuman Jana and Raju Halder, (Poster) SemDDA: A Semantics-based Database Dependency Analyzer, 14th ACM/IEEE International Conference on Formal Methods and Models for System Design (MEMOCODE 16), IIT Kanpur (2016)
7. S. Yadav, A. Ekbal, S. Saha, P. Bhattacharyya, A Deep Learning Architecture for Protein-Protein Interaction Article Identification, 23rd International Conference on Pattern Recognition (ICPR), Cancun Mexico (2016)
8. Shweta, Asif Ekbal, Sriparna Saha and Pushpak Bhattacharyya, A Deep Learning Architecture for Protein-Protein Interaction Article Identification, 23rd International Conference of Pattern Recognition (ICPR 2016), Mexico (2016)
9. Rudra Murthy, Pushpak Bhattacharyya, A Deep Learning Solution to Named Entity Recognition, CICLING 2016, Turkey (2016)
10. Joe Cheri Ross, Aditya Joshi, Pushpak Bhattacharyya, A Framework That Uses the Web for Named Entity Class Identification: Case Study for Indian Classical Music Forums, CICLING 2016, Turkey (2016)
11. Deepak Gupta, Shweta, Shubham Tripathi, Asif Ekbal and Pushpak Bhattacharyya, A Hybrid Approach for Entity Extraction in Code-Mixed Social Media Data, Indian Languages (CMEE-IL) in conjunction with FIRE 2016, ISI-Kolkata (2016)
12. S. Yadav, A. Kumar, A. Ekbal, S. Saha and P. Bhattacharyya, A Recurrent Neural Network Architecture for De-identifying Clinical Records, Thirteenth International Conference on Natural Language Processing (ICON-2016), IIT Varanasi (2016)
13. Sapana Rani, Dileep Kumar Koshley and Raju Halder, A Watermarking Framework for Outsourced and Distributed Relational Databases, 3rd International Conference on Future Data and Security Engineering (FDSE 16), Can Tho City, Vietnam (2016)
14. Sumit Mishra, Sriparna Saha and Samrat Mondal, An Automatic Framework for Entity Matching in Bibliographic Databases, IEEE CEC 2016, Canada (2016)
15. A.Adeyemo, X.Yang, A.Bala, Jimson.Mathew, A Jabir, Analytic Models for Crossbar Read Operation, 22nd IEEE International Symposium on On-Line Testing and Robust System Design, Catalunya, Spain (2016)

16. Aditya Joshi, Vaibhav Tripathi, Kevin Patel, Pushpak Bhattacharyya,Mark Carman, Are Word Embedding-based Features Useful for Sarcasm Detection?, EMNLP 2016, Austin (2016)
17. M. S. Akhtar, A. Ekbal and P. Bhattacharyya, Aspect based Sentiment Analysis in Hindi: Resource Creation and Evaluation, Proceeding of the 10th edition of the Language Resources and Evaluation Conference (LREC), Portorož, Slovenia (2016)
18. M. S. Akhtar, A. Ekbal and P. Bhattacharyya, Aspect Based Sentiment Analysis: Category Detection and Sentiment Classification for Hindi, Proceedings of 17th International Conference on Intelligent Text Processing and Computational Linguistics (CICLING), Turkey (2016)
19. Pracheta Sahoo, Sudipta Acharya, Sriparna Saha, Automatic Generation of Biclusters from Gene Expression Data Using Multi-Objective Simulated Annealing Approach, ICPR 2016, Cancun Mexico (2016)
20. Ashish Bhuker, Rajiv Misra, Bhanu Pratap Singh, Balancing Maximal Independent Sets using Hadoop, 18th International Conference on Distributed Computing and Networking, Hyderabad (2017)
21. Ojas Mangal Vedhekar, Ashok Singh Sairam and Abha Kumari, Binary Countdown Anti-collision Protocol for RFID Tag Collision Problem, IEEE International Conference on Accessibility to Digital World, Guwahati, India (2016)
22. Amit Majumder, Asif Ekbal and Sudip Kumar Naskar (2016), Biomolecular Event Extraction using a Stacked Generalization based Classifier, Proceeding of the 13th International Conference on Natural Language Processing (ICON-2016), IIT BHU (2016)
23. Prerana Singhal and Pushpak Bhattacharyya, Borrow a Little from your Rich Cousin: Using Embeddings and Polarities of English Words for Multilingual Sentiment Classification, COLING 2016, Osaka, Japan (2016)
24. Dipawesh Pawar, Mohammed Hasanuzzaman and Asif Ekbal, Building Tempo-HindiWordnet-A resource for temporal information access in Hindi, Proceeding of the 10th edition of the Language Resources and Evaluation Conference (LREC), Portorož, Slovenia (2016)
25. Debajyoty Banik, Sukanta Sen, Asif Ekbal and Prof. Pushpak Bhattacharyya, Can SMT and RBMT Improve each other's Performance?- An Experiment with English-Hindi Translation, Proceeding of the 13th International Conference on Natural Language Processing (ICON-2016), IIT BHU (2016)
26. Aditya Gupta, Nilotpal Chakraborty and Samrat Mondal, CETD: An Efficient Clustering Based Energy Theft Detection Technique in Smart Grid, IEEE TENSYMP 2017, Kochi, Kerala, India (2017)
27. Monalisa Pal, Sriparna Saha and Sanghamitra Bandyopadhyay, Clustering based Online Automatic Objective Reduction to aid Many-Objective Optimization, IEEE CEC 2016, Vancouver, Canada (2016)
28. Nemi Chandra Rathore, Somanth Tripathy, Collaborative Access Control Model for Online Social Networks, International Advanced Computing Conference, India (2016)
29. Smita Roy, Samrat Mondal, Asif Ekbal and Maunendra Sankar Desarkar, CRDT: Correlation Ratio Based Decision Tree Model for Healthcare Data Mining, IEEE 16th International Conference on BioInformatics and BioEngineering, Taichung, Taiwan (2016)
30. S. Yadav, A. Ekbal, S. Saha and P. Bhattacharyya, Deep Learning Architecture for Patient Data De-identification in Clinical Records, Clinical Natural Language Processing Workshop at COLING 2016, Osaka, Japan (2016)
31. Angshuman Jana and Raju Halder, Defining Abstract Semantics for Static Dependence Analysis of Relational Database Applications, 12th International Conference on Information Systems Security (ICISS 16), MNIT Jaipur, India (2016)
32. R. Matam, S. Tripathy, Denial of Service attack on Low Rate Wireless Personal Area Networks, NCC, India (2016)
33. Sarbpreet, Somanath Tripathy and Jimson Mathew, Design and Evaluation of an IoT Enabled Secure Multi-service Ambulance Tracking System, Tencon, Singapore (2016)
34. Ajay Pratap, Sri Sanjeevini Devi Ganni, Rajiv Misra, Distributed Algorithm for Resource Allocation in Downlink Heterogeneous Small Cell Networks, ACM MobiMWareHN 2017 to be held in conjunction with 18th ACM MobiHoc 2017, IIT Madras (2017)
35. Ritik Prasad Mathur, Ajay Pratap, Rajiv Misra, Distributed Algorithm for Resource Allocation in Uplink 5G Networks, ACM MobiMWareHN 2017 to be held in conjunction with 18th ACM MobiHoc 2017, IIT Madras (2017)
36. Ram Narayan Yadav, Rajiv Misra, Ayush Jain, Distributed Algorithm for Robust and Interference Free Topology in Cognitive Radio Networks, ACM MobiMWareHN 2017 to be held in conjunction with 18th ACM MobiHoc 2017, IIT Madras (2017)
37. Divya Saini, Rajiv Misra, Ram Narayan Yadav, Distributed Event Driven Cluster based Routing in Cognitive Radio Sensor Networks, 2016 Annual IEEE India Conference (INDICON), IISC Bangalore (2016)
38. Sumit Mishra, Sriparna Saha and Samrat Mondal, Divide and Conquer Based Non-dominated Sorting for Parallel Environment, IEEE World Congress on Computational Intelligence, Vancouver, Canada (2016)
39. Akash Yadav, Ashok Singh Sairam and Rituraj Singh, Efficient user assignment in crowd sourcing applications, International Conference on Advances in Computing, International Conference on Advances in Computing, Communication and Informatics, Jaipur, India (2016)

40. Shweta Yadav, Asif Ekbal, Sriparna Saha, Pushpak Bhattacharyya, Entity Extraction in Biomedical Corpora: An Approach to Evaluate Word Embedding Features with PSO based Feature Selection, European Chapter of the Association for Computational Linguistics, Valencia, Spain (2017)
41. Ranjita Das and Sriparna Saha, Evidence Accumulation from some clustering algorithms to improve gene expression data classification, 3rd Intl. Conference on Soft Computing & Machine Intelligence (ISCMI 2016), Dubai (2016)
42. Manish Bhanu and Joydeep Chandra, Exploiting Response Pattern in Identifying Topical Experts in StackOverflow, IEEE International Conference on Digital Information Management, Porto, Portugal (2016)
43. Sumit Mishra, Samrat Mondal and Sriparna Saha, Fast Implementation of Steady State NSGA-II, IEEE World Congress on Computational Intelligence, Vancouver, Canada (2016)
44. Raju Halder, José Proença, Nuno Macedo and André Santos, Formal Verification of ROS-based Robotic Applications using Timed-Automata, FME Workshop on Formal Methods In Software Engineering (FORMALISE), co-located with ICSE, BUENOS AIRES, ARGENTINA (2017)
45. Ranjita Das and Sriparna Saha, Gene Expression Data Classification using Automatic Differential Evolution Based Algorithm, IEEE CEC 2016, Vancouver, Canada (2016)
46. Abhijit Mishra, Diptesh Kanojia, Kuntal Dey, Seema Nagar, Pushpak Bhattacharyya, Harnessing Cognitive Features for Sarcasm Detection, ACL 2016, Berlin, Germany (2016)
47. Aditya Joshi, Vaibhav Tripathi, Pushpak Bhattacharyya,Mark J Carman, Harnessing Sequence Labeling for Sarcasm Detection in Dialogue from TV Series `Friends, CoNLL 2016, Berlin, Germany (2016)
48. Kumar, S. Kohail, A. Kumar, A. Ekbal and C. Biemann, IIT-TUDA at SemEval-2016 Task 5: Beyond Sentiment Lexicon: Combining Domain Dependency and Distributional Semantics Features for Aspect Based Sentiment Analysis, SemEval-2016, Collocated with NAACL, USA (2016)
49. Sukanta Sen, Debajyoty Banik, Asif Ekbal and, Pushpak Bhattacharyya, IITP English-Hindi Machine Translation System at WAT 2016, proceeding of the 3rd Workshop on Asian Translation (WAT2016) in conjunction with COLING 2016, Osaka, Japan (2016)
50. S. Kumar, A. Sinha Ray, A. Ekbal, S. Saha and P. Bhattacharyya, Improving Document Ranking using Query Expansion and Classification Techniques for Mixed Script Information Retrieval, Thirteenth International Conference on Natural Language Processing (ICON-2016), IIT Varanasi (2016)
51. Abhijit Mishra, Diptesh Kanojia, Kuntal Dey, Seema Nagar, Pushpak Bhattacharyya, Leveraging Cognitive Features for Sentiment Analysis, CoNLL 2016, Berlin, Ger,many (2016)
52. Roshni Chakraborty and Joydeep Chandra, Link Dynamics in Social Collaboration Networks, International Conference on Communication Systems & Networks, Bangalore (2016)
53. Nilotpal Chakraborty, Arijit Mondal and Samrat Mondal, MinPeak: An Intelligent Scheduler for Non-Preemptive Appliances in Smart Grid, IEEE TENSYMP 2017, Kochi, Kerala, India (2017)
54. Nilesh Chakraborty, Gurpinder Singh Randhawa, Kuntal Das and Samrat Mondal, MobSecure: A Shoulder Surfing Safe Login Approach Implemented On Mobile Device, 6h International Conference on Advances in Computing and Communications, Kochi, India (2016)
55. S. Acharya, A. Ekbal, S. Saha, P. Santhanam, J. Moreno, and G. Dias, Multi-Objective Word Sense Induction based on Content and Interlink Connections, 21st International Conference on Applications of Natural Language to Information Systems, University of Salford, MediaCity UK Camp (2016)
56. Dhirendra Singh, Sudha Bhingardive, Pushpak Bhattacharyya, Multiword Expressions Dataset for Indian Languages, LREC, Portorož, Slovenia (2016)
57. Nilesh Chakraborty, S.Vijay Anand, Gurpinder Randhawa and Samrat Mondal, On Designing Leakage-Resilient Vibration Based Authentication Techniques, IEEE Trustcom/BigDataSE/ISPA, Tianjin, China (2016)
58. Deepak Gupta, Ankit Lamba, Asif Ekbal and Pushpak Bhattacharyya, Opinion Mining in a Code-Mixed Environment: A Case Study with Government Portals, Proceeding of the 13th International Conference on Natural Language Processing (ICON-2016), IIT BHU (2016)
59. Anoop Kunchukuttan,Pushpak Bhattacharyya, Orthographic Syllable as basic unit for SMT between Related Languages, EMNLP 2016, Austin, Texas (2016)
60. Sanjeet Kumar Nayak and Somanath Tripath, Privacy Preserving Provable Data Possession for Cloud based Electronic Health Record System, IEEE TrustCom-16, China (2016)
61. Abhijit Mishra, Diptesh Kanojia, Seema Nagar, Kuntal Dey,Pushpak Bhattacharyya, Scanpath Complexity: Modeling Reading Effort using Gaze Information, AAAI, California (2016)
62. Pracheta Sahoo, Asif Ekbal, Sriparna Saha, Diego Molla and Kaushik Nandan, Semi-supervised Clustering of Medical Text, Proceeding of the Workshop on Clinical Natural Language Processing (ClinicalNLP) in conjunction with COLING 2016, Osaka, Japan (0)

63. Suryakanta Panda and Samrat Mondal, SG-PASS: A Safe Graphical Password Scheme to Resist Shoulder Surfing and Spyware Attack, 8th International Conference on Human Computer Interaction, BITS-Pilani, India (2016)
64. Deepak Gupta, Shubham Tripathi, Asif Ekbal and Pushpak Bhattacharyya, SMPOST: Parts of Speech Tagger for Code-Mixed Indic Social Media Text, Proceeding of the NLP tools contests in conjunction with ICON-2016, IIT BHU (2016)
65. Karthik Gopalakrishnan and Joydeep Chandra, Social Interactions in Flickr: Mechanisms and Role in Link Formation, International Conference on Communication Systems & Networks, Bangalore, India (2016)
66. Ankit Maheshwari and Samrat Mondal, SPOSS: Secure Pin-based-authentication Obviating Shoulder Surfing, 12th International Conference on Information and Systems Security, Jaipur, India (2016)
67. Anoop Kunchukuttan, Pushpak Bhattacharyya, Mitesh M. Khapra, Substring-based Unsupervised Transliteration with Phonetic and Contextual Knowledge, CoNLL 2016, Berlin, Germany (2016)
68. Mohammed Hasanuzzaman, Sabyasachi Kamila, Mandeep Kaur, Sriparna Saha and Asif Ekbal, Temporal Orientation of Tweets for Predicting Income of User, ACL, Canada (2017)
69. T. Shaikh, S. Naskar, A. Ekbal and S. Bandyopadhyay, Textual Entailment using Machine Translation Evaluation Metrics., CICLING, Hungary (2017)
70. Diptesh Kanojia, Aditya Joshi, Pushpak Bhattacharyya,Mark James Carman, Thatll do fine!: A Coarse Lexical Resource for English-Hindi MT, Using Polilingual Topic Models, LREC, Portorož, Slovenia (2016)
71. Nilesh Chakraborty and Samrat Mondal, Towards Improving Storage Cost and Security Features of Honeyword Based Approaches, 6th International Conference on Advances in Computing and Communications, Kochi, India (2016)
72. 1. Ravi Sharma, Ashok Singh Sairam, Akash Yadav and Axel Sikora, Tunable Synchronization in Duty-cycled Wireless Sensor Networks, 10th IEEE International Conference on Advanced Networks and Telecommunications Systems, Bangalore, India (2016)
73. Sumit Mishra, Sriparna Saha and Samrat Mondal, Unsupervised Method to Ensemble Results of Multiple Clustering Solutions for Bibliographic Data, IEEE World Congress on Computational Intelligence, Donostia - San Sebastián, Spain (2017)

Sponsored Research Projects

1. A Platform for Cross-lingual and Multilingual Event Monitoring in Indian Languages (Imprint, Overall Grant: Rs.375.00 Lakhs; Grant for IIT Patna: Rs.85.00 Lakhs) (PI : Prof. Pushpak Bhattacharyya and Dr. Asif)
2. A Software Tool for the Planning and Design of Smart Micro Power Grids (MHRD & Ministry of Power, Rs.202.92 Lakhs) (PI : Dr. Arijit Mondal)
3. Accenture IIT AI Lab (Accenture, Rs.65.00 Lakhs) (Investigators : Prof. Pushpak Bhattacharyya [lead], Dr. Asif Ekbal, Dr. Sriparna Saha)
4. Development of solution to defend against Collaborative attacks in Peer-to-Peer networks (DIETY, Rs.35.40 Lakhs) (PI : Somanath Tripathy)
5. Disaster Management Using Sparse Crowd Source Data (MeiTY (Approved for funding), Rs.89.00 Lakhs) (PI : Dr. Ashok Singh Sairam and Dr. Joydeep C)
6. Elsevier Center for Excellence (Elsevier, Rs.213.00 Lakhs) (PI : Prof. Pushpak Bhattacharyya)
7. IITB IITP NLP ML (COLING, Rs.45.00 Lakhs) (PI : Prof. Pushpak Bhattacharyya)
8. Indian Language to English Machine Translation (MeiTY, Rs.77.00 Lakhs) (PI : Prof. Pushpak Bhattacharyya)
9. Information Leakage Analysis of Database Query Languages (DST-SERB, Rs.19.92 Lakhs) (PI : Raju Halder)
10. Shusrut: ezDI Research Lab on Health Informatics-IITP (ezDI, Rs.145.00 Lakhs) (PI : Prof. Pushpak Bhattacharyya)
11. SmartWeather: Location based Deep weather event prediction using spatial big data computing (IMPRINT INDIA(MHRD) (PI : Rajiv Misra)
12. SMDP-C2SD (DeitY, Delhi) (PI : Dr. K. C. Ray)
13. Speech Based Patient Assistance System (Imprint) (PI : Prof. Pushpak Bhattacharyya and Dr. Asif)
14. Three GIAN Courses (MHRD, Rs.19.00 Lakhs) (PI : Prof. Pushpak Bhattacharyya)
15. Tunable Synchronization of Spatially Distributed Cyber-Physical Systems (DST- DAAD, Rs.10.00 Lakhs) (PI : Ashok Singh Sairam)

Consultancy Projects

1. Natural Language Processing and Machine Learning (Bluepool Limited, Rs.5.00 Lakhs) Consultant Name: Pushpak Bhattacharyya

7.4 Other Activities

Member - Professional Bodies

1. Arijit Mondal - IEEE
2. Ashok Singh Sairam (2010) IEEE
3. Ashok Singh Sairam (2016) ACM
4. Asif Ekbal (2013) IEEE
5. Asif Ekbal (2006) ACL
6. Jimson Mathew (2014) IEEE
7. Joydeep Chandra - ACM
8. Joydeep Chandra - IEEE
9. Pushpak Bhattacharyya (2016) ACL
10. Samrat Mondal (2011) IEEE
11. Somanath Tripathy (2006) CRSI (Cryptology Research Society of India)
12. Somanath Tripathy (2016) IEEE
13. Sriparna Saha (2015) The Association of Computer, Electronics and Electrical Engineers (ACEEE)
14. Sriparna Saha (2015) International Association of Computer Science and Information Technology (IACSIT),
15. Sriparna Saha (2015) International Association of Engineers (IAENG),
16. Sriparna Saha (2016) Indian Unit for Pattern Recognition and Artificial Intelligence (IUPRAI)
17. Sriparna Saha (2016) Bioclues Organization (An affiliate of International Society for Computational Biology and Asia-Pacific Bioinformatics Network)
18. Sriparna Saha (2015) IEEE
19. Suman Kumar Maji (2016) Indian Science Congress Association

Member - Editorial Board

1. Asif Ekbal (2016) Associate Editor - Sadhana
2. Jimson Mathew (2016) Special issue Guest Editor - ACM Transactions on Embedded Computing
3. Pushpak Bhattacharyya - Associate Editor - Sadhana

Awards & Honours

1. Sriparna Saha (2016) Best paper award in Clinical-NLP workshop at COLING 2016
2. Asif Ekbal (2016) Best Paper Award, Clinical NLP Workshop, COLING-16
3. Sriparna Saha (2016) BIRD Award
4. Rajiv Misra (2016) Elevated to Senior IEEE Member
5. Pushpak Bhattacharyya (2016) Eminent Engineer Award
6. Sriparna Saha (2016) IEI Young Engineers Award in Computer Engineering Discipline
7. Sriparna Saha (2016) NASI YOUNG SCIENTIST PLATINUM JUBILEE AWARD
8. Suman Kumar Maji (2017) SERB Early Career Research Award
9. Sriparna Saha (2016) Travel Grant to attend ICPR 2016
10. Sriparna Saha (2016) VENUS International Young Faculty Award 2016 for outstanding contributions in Pattern Recognition
11. Asif Ekbal (2017) Visvesvaraya Young Faculty Research Award

Fellowships

1. Asif Ekbal (2016) JSPS (invitation Fellowship)
2. Raju Halder (2016) Research fellowship Award from INESC TEC - Instituto de Engenharia de Sistemas e Computadores, Tecnologia e Ciencia, Portugal
3. Sriparna Saha (2016) Humboldt Research Fellowship

Patents (filed / granted)

1. Patent Name: A Question Answering Mechanism in Restricted Domain; Patent Owners: Pushpak Bhattacharyya, Asif Ekbal

Visits Abroad by Faculty Members

1. Ashok Singh Sairam - 2-July-2016 to 18-July-2016 (University of Applied Sciences, Offenburg, Germany) DST- DAAD Project based Personnel Exchange Programme
2. Sriparna Saha - To avail Humboldt Fellowship (University of Mainz Germany) 5 months (25 April-25 September, 2016)
3. Sriparna Saha - To present paper in ICPR 2016 (Cancun, Mexico) December 4-8, 2016
4. Sriparna Saha - To deliver Talk (Technische Universität Darmstadt) 15 June 2016
5. Sriparna Saha - To attend Annual Meeting of the Alexander von Humboldt Foundation (TU Berlin) 06 - 08 July 2016
6. Raju Halder - Research (HasLab, University of Minho) May-Aug, Dec
7. Joydeep Chandra - Presenting Paper at Conference (Porto, Portugal) September, 19-21, 2016
8. Asif Ekbal - Academic Visit (Darmstadt University, Germany) May-July, 2016
9. Asif Ekbal - Attending LREC Conference (Slovenia) May 23-28, 2016

Invited Lectures by Faculty Members

1. Smart Grid: Communication & Demand Side Management by Arijit Mondal (IIT Patna)
2. Overview of Linear Algebra by Arijit Mondal (IDLI through YouTube Online)
3. Verilog by Arijit Mondal (IIT Patna)
4. Scalable Distributed Machine Learning and Open power HPC by Rajiv Misra (Indo-German Workshop on HPC Applications and Architectures, C-DAC Pune, India)
5. Multiobjective Semi-supervised Clustering by Sriparna Saha (University of Mainz Germany)
6. Multiobjective Search Result Clustering by Sriparna Saha (Technische Universität Darmstadt)
7. Natural language Processing: Tutorial by Sriparna Saha (University of Allahabad)
8. Clustering by Sriparna Saha (Patna University)
9. Image Segmentation using Evolutionary Clustering Techniques by Sriparna Saha (Government College of Engineering & Textile Technology, Berhampore)
10. Summarization by Sourav Kumar Dandapat (VIGNAN)
11. Security in Cloud Storage System by Somanath Tripathy (IIT ISM Dhanbad)
12. Password Security by Samrat Mondal (Muthoot Institute of Technology & Science, Kochi, Kerala)
13. Security and Usability Issues of Password Based Authentication Scheme by Samrat Mondal (Albertian Institute of Science and Technology, Kochi)
14. Social Interaction in the Flickr Social Network by Joydeep Chandra (TIFR, Bangalore)
15. Data Mining and Social Media by Joydeep Chandra (VIIT, Vizag)
16. Sentiment Analysis by Asif Ekbal (College of Textile Technology, Berhampore)
17. Sentiment Analysis in Less Resource Languages by Asif Ekbal (College of Textile Technology, Berhampore)
18. Opinion Mining in Social Media Contents by Asif Ekbal (Patna University)
19. TempoHindi WordNet: Temporal Sense Detection in Hindi. TU Darmstadt, Germany, June 2016
20. Sentiment Analysis in Multiple Domains and Languages, University of Mainz, Germany, June 2016
21. Evolutionary Optimization to NLP Applications. BIT Mesra, September 2016

Books Published

1. V Mistra, Jimson Mathew, L. C. Tong : QoS and Energy management in Cognitive Radio Networks published by Springer DE ISBN 978-3-319-45860-1 (2017)

Short-Term Courses, Training Programmes and Workshops organised

1. Internet of Things (IoT) Security: Issues, Innovations, and Interplays (Under GIAN) (One week)
2. Number Systems for Digital Signal Processing (One week)
3. Reliability Engineering and Fault Tolerant Computing (One week)

Electrical Engineering

8.1 Faculty Members

Dr. Maheshkumar H. Kolekar *Associate Professor*	Digital Signal, Image and Video Processing, Video Surveillance, Multimedia Communication, Medical Image Processing, Computer Graphics, Signal Processing for communication, Tele-medicine
Dr. Preetam Kumar *Associate Professor*	Physical Layer issues in Wireless Communications, Signal Processing for Communication Systems, VLSI for Communication, Wideband Antenna Design, Underwater Communications
Dr. Ranjan Kumar Behera *Associate Professor*	Power Electronics, Electrical Machine Drive, and Renewal Energy Integration
Dr. Sanjoy Kumar Parida *Associate Professor*	Optimal Operation and Control of Power Systems, Electricity Market, Renewable Energy, Smart Energy Network, Flexible AC Transmission Systems
Dr. Shovan Bhaumik *Associate Professor*	Statistical signal processing, Non linear estimation, Aerospace target tracking and Smart material
Dr. Sumanta Gupta *Associate Professor*	Digital Signal Processing for Communication, Coherent Optical Communication, Photonic Integrated Circuits (PICs), All-Optical Signal Processing, Design, Characterization, and Optimization of Fiber-Optic Transmission Systems and Networks
Dr. Saurabh Kumar Pandey *Assistant Professor*	Optoelectronics Devices, Semiconductor thin films, Solar Cells. Micro-Nanoelectronics, MEMS, Modeling & Simulation
Dr. Ahmad Ali *Assistant Professor*	Control Systems, Evolutionary algorithms, New tuning strategies for controller design, Relay based system identification
Dr. Aneek Adhya *Assistant Professor*	Physical layer impairment-aware WDM backbone networks; traffic grooming, energy efficiency in backbone and access networks; hybrid wireless-optical broadband access networks; computer communication and networks
Dr. Kailash Chandra Ray *Assistant Professor*	VLSI architectural design, VLSI Signal Processing, Digital VLSI Design, Hardware design methodologies, FPGA based System Design, CORDIC
Dr. Pramod Kumar Tiwari *Assistant Professor*	Modeling, Simulation and Fabrication of Semiconductor Devices
Dr. Sudhan Majhi *Assistant Professor*	Wireless communications and signal processing, estimation and detection, time and frequency domain signal analysis, blind signal parameters estimation, blind signal classification, blind wireless receiver design, estimation includes carrier frequency, symbol rate, symbol timing offset, carrier frequency offset, blind OFDM signal parameter estimation and synchronization, cooperative communications, MIMO, OFDM , cognitive radio and UWB systems, implementation of a universal blind receiver estimation algorithm on National Instrument (NI) hardware, experiment and measurement
Dr. Yatendra Kumar Singh *Assistant Professor*	RF MEMS, Computational Electromagnetics
Dr. Sudhir Kumar *Assistant Professor*	Wireless Sensor Networks, Cyber Physical Systems, Pervasive Mobile Computing, Internet of Things (IoT), Applications of Signal Processing, Machine Learning, and Data Mining

8.2 Academic Programs

- B.Tech in Electrical Engineering
- M.Tech in Communication System Engineering
- Ph.D Program

8.3 Research & Development Activities

Papers Published in Journals

1. Abhinoy Kumar Singh, Paresh Date, Shovan Bhaumik, A Modified Bayesian Filter for Randomly Delayed Measurements, IEEE Transactions on Automatic Control, VOL. 62 419-24 (2017).
2. Abhinoy Kumar Singh, Paresh Date, Shovan Bhaumik, A new algorithm for continuous-discrete filtering with randomly delayed measurements, IET Control Theory & applications, Vol10 pp.2298 – 23 (2016).
3. Deepika Shukla Rajib Kumar Jha Aparajita Ojha, A New Composite Multi-Constrained Differential-Radon Warping Approach for Digital Video Affine Motion Stabilization, Journal of Computer Vision and Image Understanding, 155 Pages 83–105 (2017).
4. K. K. Soundra Pandian and K. C. Ray, An algorithm and architecture for non-recursive pseudorandom sequence generation using sequence folding technique, Int. J. of Computers and Applications, 39(1), 45-56 (2016).
5. Gopi krishna Saramekala, Pramod Kumar Tiwari, An Analytical threshold voltage model for a fully-depleted (FD) recessed-source/drain (Re-S/D) SOI MOSFET with back-gate control, IEEE/TMS Journal of Electronic Materials, 45, 5367 (2016).
6. S. Payami, and R. K Behera, An Improved DTC Technique for Low Speed Operation of a Five-Phase Induction Motor, IEEE Transactions on Industrial Electronics, 64 3513 - 3523 (2017).
7. M. A. Hasan, and S. K. Parida, An overview of solar photovoltaic panel modeling based on analytical and experimental viewpoint, Renewable and Sustainable Energy Reviews, Vol. 60 (2016).
8. M. Ajmeri and A. Ali, Analytical design of modified Smith predictor for unstable second-order processes with time delay, International Journal of Systems Science, 1-11 (2017).
9. Visweswara Rao Samoju, Sradhanjali Mohapatra, Shiv Bhushan, and Pramod Kumar Tiwari, Analytical Modeling and Simulation of Subthreshold Characteristics of RecessedSource/Drain (Re-S/D) Silicon-on-Insulator MOSFETs with Gaussian Doping Profile, Journal of Nanoelectronics and Optoelectronics, 12, 490-498 (2017).
10. Gopi krishna Saramekala, Pramod Kumar Tiwari, Analytical subthreshold current and subthreshold swing models for a fully-depleted (FD) recessed-source/drain (Re-S/D) SOI MOSFET with back-gate control, IEEE/TMS Journal of Electronic Materials, 10.1007/s11664-017-5 (2017).
11. Saurabh Kumar Pandey and Shaibal Mukherjee, Bias dependent photo-detection of dual ion beam sputtered MgZnO thin films, Bulletin of Materials Science, 39 (2016).
12. Sandeep Raj, K. C. Ray and Om Shankar, Cardiac arrhythmia beat classification using DOST and PSO tuned SVM, Computer Methods and Programs in Biomedicine, Vol.136, pp163-177 (2016).
13. Vinay Kumar Trivedi and Preetam Kumar, Carrier Interferometry Coded Single Carrier FDMA (CI/SC-FDMA) for Next Generation Underwater Acoustic Communication, Spriger Wireless Personal Communications, (2017).
14. Jitendra Gupta, Aneek Adhya, Clustering-based multi-hop protection scheme for long-reach passive optical network against single shared-risk link group failure, Photonic Network Communications, 32, 372–385 (2016).
15. Nagendra Kumar and Yatendra Kr Singh, Compact Constant Bandwidth Tunable Wideband BPF with Second Harmonic Suppression, IEEE Microwave and Wireless Component Letters, vol. 26, page 870 (2016).
16. Suman Kr. Dey, Aneek Adhya, Delay-Aware Green Service Migration Schemes for Data Center Traffic, Journal of Optical Communications and Networking, 8, 962-976 (2016).
17. Deepika Shukla Rajib Kumar Jha Aparajita Ojha, Digital Image Stabilization Using Similarity Transformation over Constrained Differential-Radon Warping Vectors, Journal of Signal Processing: Image Communication, 47 Pages 115-130 (2016).
18. S. Payami, R. K Behera, and A. Iqbal, DTC of Three-Level NPC Inverter fed Five-Phase Induction Motor Drive with Novel Neutral Point Voltage Balancing Scheme, IEEE Transactions on Power Electronics, PP (2017).
19. K. K. Soundra Pandian and K. C. Ray, Dynamic Hash key based stream cipher for secure transmission of real time ECG signal, Security and Communication Networks, 9(17),4391 – 4402 (2016).
20. Sandeep Raj, K. C. Ray, ECG Signal Analysis Using DCT-Based DOST and PSO Optimized SVM, IEEE Transactions on Instrumentation and Measurement, Vol.66(3),pp470-479 (2017).
21. Piyush Sharma and K. C. Ray, Efficient methodology for electrocardiogram beat classification, IET Signal Processing, vol.10 (7), 825 - 832 (2016).
22. Saurabh Kumar Pandey, Enhanced performance and defects analysis of Mg- ZnO based CIGS solar cell, J. of Nanoelectronics & Optoelectronics, 11 (2016).
23. Nidhi Gupta, Rajib Kumar Jha, Enhancement of dark images using dynamic stochastic resonance with anisotropic diffusion, Journal of Electronic Imaging, 25 no. 2, 023017 (2016).

24. Vinay Kumar Trivedi, Sarswati Kumari and Preetam Kumar, Generalized Error Analysis of FRFT-OFDM over Nakagami-m Fading Channel with Arbitrary m, IET Communications, (2017).
25. A. K. Singh and S. K. Parida, Impact analysis of RESs based DGs with Economical Consideration in Restructured Electricity Market, Energy Sources, Part B: Economics, Planning, and Policy, Vol. 11, No. 5, (2016).
26. Saurabh Kumar Pandey, Modeling Cd-free buffer layer and defects analysis in CZTS solar cell, J. of Optoelectronics and Advance Materials, 18 (2016).
27. G.L. Raja and A. Ali, Modified parallel cascade control strategy for stable, unstable and integrating processes, ISA Transactions, vol 65, pp. 394-406 (2016).
28. A. K. Singh, and S. K. Parida, Novel sensitivity factors for DG placement based on loss reduction and voltage improvement, International Journal of Electrical Power and Energy Systems, Vol. 74, pp.453-456 (2016).
29. Prashant Kumar and Preetam Kumar, Performance evaluation of ϖ/4-DQPSK OFDM over underwater acoustic channels, Springer Wireless Personal Communications, 91, 1137-1152 (2016).
30. S Pal, S Gupta, Proposal and Analysis of a Silicon MMI Coupler-Based Electronically Controllable Photonic Switch, IEEE Journal of Selected Topics in Quantum Electronics, 22 (2016).
31. Abhinoy Kumar Singh, Shovan Bhaumik, and Paresh Date, Quadrature filters for one-step randomly delayed measurements, Applied Mathematical Modelling, vol.40, 8296–8308 (2016).
32. Prabina Pattanayak, Preetam Kumar, Quantized feedback MIMO scheduling for heterogeneous broadcast networks, Springer Wireless Networks, (2016).
33. D Shukla, RK Jha, Robust motion estimation for night-shooting videos using dual-accumulated constraint warping, Journal of Visual Communication and Image Representation, 38 217-229 (2016).
34. G.L. Raja and A. Ali, Smith predictor based parallel cascade control strategy for unstable and integrating processes with large time delay, Journal of Process Control, 57-65 (2017).

Papers Presented in Conferences

1. Abhinoy Kumar Singh Rahul Radhakrishnan Shovan Bhaumik Paresh Datte, Computationally efficient sparse-grid Gauss-Hermite filtering, Indian control conference 2017, IIT Guwahati (2017)
2. P. Chandra Babu Naidu, S.S. Dash, R. K. Behera, C. Subramani, R. Bayindir, “Analysis and experimental investigation for grid-connected 10 kw solar pv system in distribution networks, IEEE International Conference on Renewable Energy Research and Applications, Birmingham, United Kingdom (2016)
3. Nikhil Kumar Singh, Shovan Bhaumik, and Samar Bhattacharya, A comparison of several nonlinear filters for ballistic missile tracking on re-entry, IEEE First International Conference On Control, Measurement And Instrumentation (CMI), Jadavpur University, Kolkata (2016)
4. Sumit Kumar Snehan Shourya and Rajib Kumar Jha, Adaptive Fractional Differential Approach to Enhance Underwater Images, International Symposium in Embedded systems & Design, IIT Patna (2017)
5. Shiv Bhushan, Arun Kumar, Deepti Gola, and Pramod Kumar Tiwari, An Analytical Subthreshold Current Model of Short-Channel Symmetrical Double Gate-All- Around (DGAA) Field-Effect-Transistors, Devices for Integrated Circuits, Kalyani University, West Bengal (2017)
6. Pramit Biswas, Suman Kr. Dey, Aneek Adhya, Auxiliary graph based energy-efficient dynamic connection grooming for elastic optical networks, IEEE International Conference on Advanced Networks and Telecommunication Systems, Indian Institute of Science, Bangalore (2016)
7. Prabina Pattanayak, Vinay Kumar Trivedi, Sayan Chakraborty, Preetam Kumar, BER Performance of Multi User Scheduling for MIMO-STBC and MIMO-OFDM Broadcast Network with Imperfect CSI, 4th International Conference on Signal Processing and Integrated Networks, Noida, India (2017)
8. Abhishek Kumar, S.K. Parida, Sailesh Sourabh, Comparative analysis of Linearization and Point Estimate Methods for Solving Probabilistic Load Flow, 7th Power India International Conference(PIICON), Govt. Engineering College Bikaner (2016)
9. K. C. Ray and A. S. Dhar, CORDIC-based parallel architecture for one dimensional discrete Mellin transform, 2016 IEEE Region 10 Conference (TENCON), Singapore (2016)
10. M.A.Hasan, N .K. Vemula, S.K.Parida, Cost based dynamic load dispatch for an autonomous parallel converter hybrid AC-DC microgrid, 19th National Power Systems Conference, IIT Bhubaneswar (2016)
11. Saurabh Kumar Pandey and Krishna Kumar, Device Modeling, Optimization and Analysis of CdTe solar cell, IEEE Uttar Pradesh Section International Conference on Electrical, Computer and Electronics Engineering (UPCON), Indian Institute of Technology B.H.U (2016)

12. G.L. Raja and A. Ali, Enhanced Delay Compensator Based Parallel Cascade Control Scheme, 6th IEEE International Conference on Control Systems, Computing and Engineering (ICCSCE 2016), Malaysia (2016)
13. Sumit Kumar Rajib Kumar Jha, Enhancement of high dynamic range images using variational calculus regularizer with stochastic resonance, Proceedings of the Tenth Indian Conference on Computer Vision, Graphics and, IITG (2016)
14. Prova Biswas, Shovan Bhaumik, and Ishan Patiyat, Estimation of glucose and insulin concentration using nonlinear Gaussian filters, IEEE First International Conference On Control, Measurement And Instrumentation, Kolkata (2016)
15. Ahmad, M.S., Sivasubramani, S., Feasibility of V2G ideology in developing economy : Operation, analysis and impact, Source of the Document 2016 National Power Systems Conference, NPSC 2016, IIT Bhubaneswar (2016)
16. K. K. Soundra Pandian and K. C. Ray, FPGA Implementation of hash key based stream cipher using NFSR and its security aspects, IEEE Int. Conf. on Computing, Analytics and Security Trends (CAST), Pune, India (2016)
17. Vinay Kumar Trivedi and Preetam Kumar, FRFT-SCFDMA Scheme for Uplink in 5G Radio Access Networks, IEEE International Conference on Communications (ICC-17), Paris, France (2017)
18. M. A. Hasan, Sailesh Sourabh, S. K. Parida, Impact of a Microgrid on Utility Grid Under Symmetrical and Unsymmetrical Fault Conditions, 7th Power India International Conference(PIICON), Govt. Engineering College Bikaner (2016)
19. Chaudhari M Shamrao, Prashant Kumar and Preetam Kumar, Interference Reduction by Switching the Underlaying Transmitter in {D2D} Communications, COMSNETS 2017, Bangalore (2017)
20. Vikas Kumar, Dr. Kailash Chandra Ray and Dr. Preetam Kumar, Low-complexity CORDIC-based VLSI Design and FPGA Prototype of CI-OFDMA System for Next-generation, 12th IEEE Colloquium on Signal Processing and its Applications,SPA 2016, Malaysia (2016)
21. S Pal, S Gupta, MMI Coupler Based Miniature Electronically Controlled Photonic Switch on InGaAsP on Insulator Platform, International Conference on Fibre Optics and Photonics, IIT Kanpur (2016)
22. M.Ajmeri and A. Ali, Modified Smith predictor and controller for unstable first order processes, Indian Control Conference (ICC), IIT Guwahati (2017)
23. Ahmad, M.S., Sivasubramani, S., Multi-objective V2G energy storage system for grid support with cost and emission reduction, Source of the Document IEEE Region 10 Annual International Conference, Proceedings/TENCON, Singapore (2016)
24. R. K. Behera, Multiple Feedback Control and Phase Plane Analysis of AC-DC Converter System, IEEE PEDES'16, Trivandrum, India (2016)
25. Vivek S Verma Anuj Bhardwaj Rajib Kumar Jha, Robust Image Watermarking using Combined DSR-SVM with PCA based Feature Reduction, International Symposium in Embedded systems & Design, IIT Patna (2017)
26. YK Kanth, S Majhi, S Gupta, Selection of path and wavelength for setting up a free space optical link, IEEE Technology Symposium (TechSym), IIT Kharagpur (2016)
27. Kopal Dwivedi, Akash Agarwal and Preetam Kumar, SER Performance of OFDM-Based AF and DF Cooperative Networks over Asymmetric Fading Channels, ICDCN, Hyderabad, India (2017)
28. G.L.Raja and A. Ali, Series Cascade Control: An Outline Survey, Indian Control Conference (ICC), IIT Guwahati (2017)
29. Prabina Pattanayak, Preetam Kumar, SINR Based Limited Feedback Scheduling For MIMO-OFDM Heterogeneous Broadcast Networks, NCC 2016, IIT Guwahati (2016)
30. Nagendra Kumar and Yatendra K Singh, Tunable and Switchable Dual-Band BPF with reconfigurable Selectivity and Bandwidth Control, European Microwave Conference, London (16)
31. Ajay Kumar Yadav Vikas Kumar Mishra Abhinoy Kumar Singh Shovan Bhaumik, Unscented Kalman filter for arbitrary step randomly delayed measurements, Indian control conference 2017, IIT Guwahati (2017)
32. Akash Agarwal and Preetam Kumar, Variable Rate Multicarrier Schemes over Integrated Satellite-Terrestrial System, IEEE International Conference on Communications (ICC-17), Paris, France (2017)

Sponsored Research Projects

1. A Software Tool for the Planning and Design of Micro Power Grids (IMPRINT, Ministry of Human Resource Development, Government of India, Rs.207.12 Lakhs) (PI : Dr Ranjan K Behera)
2. Design and Analysis of High Performance RF MEMS-based Electronically Reconfigurable Filters for Wireless Communication Applications (SERB, DST, Rs.26.75 Lakhs) (PI : Yatendra Kumar Singh)
3. Design and FPGA prototyping of multicarrier multiple access schemes for variable rate multimedia satellite communication (DeitY, Govt. Of India, Rs.104.05 Lakhs) (PI : Dr. Kailash Chandra Ray and Dr. Preetam)
4. Design and FPGA prototyping of multicarrier multiple access schemes for variable rate multimedia satellite communication (DEIT, Delhi, Rs.105.05 Lakhs) (PI : Dr. Preetam Kumar and Dr. Kailash Chandra Ray)

5. High Power AC Drives for Electric Locomotive and General Purpose off Highway Applications (Department of Science & Technology, Rs.19.75 Lakhs) (PI : Dr Ranjan K Behera)
6. Integrated Automatic Voltage Control of a High Efficient Solar PV System (Department of Science & Technology, Rs.34.12 Lakhs) (PI : Dr Ranjan K Behera)
7. SiNT FET modeling & simulation (DRDO, Rs.19.98 Lakhs) (PI : Pramod K. Tiwari)
8. Special Man Power Development- Chip to System Design (DeitY, Govt. Of India, Rs.215.00 Lakhs) (PI : Dr. Kailash Chandra Ray)
9. Teaching Learning Centre for Internet-of-Things (Department of Higher Education, Ministry of Human Resource Development, Government of India, Rs.753.60 Lakhs) (PI : Dr Ranjan K Behera and Dr Sanjoy K Parida)

8.4 Other Activities

Member - Professional Bodies

1. Aneek Adhya (2006) IEEE
2. Kailash Chandra Ray (2004) IEEE
3. Pramod Kumar Tiwari (2012) IEEE Electron Device Society
4. Preetam Kumar (2015) IEEE
5. Rajib Jha (2008) IEEE
6. Rajib Jha (2016) IUPRAI
7. Ranjan Kumar Behera (2014) IEEE
8. S. Sivasubramani (2014) IEEE
9. Sanjoy Kumar Parida (2016) IEEE
10. Sanjoy Kumar Parida (2010) IEEE, Power and Energy Society
11. Sanjoy Kumar Parida (2015) IEEE, Power Electronics Society
12. Sanjoy Kumar Parida (2016) IEEE, Control Systems Society
13. Saurabh Kumar Pandey (2017) IEEE
14. Saurabh Kumar Pandey (2015) IRED (UACEE)
15. Saurabh Kumar Pandey (2015) IAENG
16. Saurabh Kumar Pandey (2015) IACSIT
17. Saurabh Kumar Pandey (2003) IETE
18. Sumanta Gupta (2007) IEEE

Member - Editorial Board

1. Preetam Kumar (2016) Assocaiate Editor - Wireless Personal Communications
2. Ranjan Kumar Behera (2017) Sub committee member - Industrial Electronics Society
3. Saurabh Kumar Pandey (2014) Editorials Board - Scientific Committee - Scientific Publication

Awards & Honours

1. Saurabh Kumar Pandey (2016) Best Research Paper Award at IEEE Conference IIT BHU

Fellowships

1. Rajib Jha (2017) Visvesvaraya Young Faculty Fellowship

Patents (filed / granted)

1. Patent Name: An Improved Squirrel Cage Induction Motor With Enhanced Efficiency And Wide Range Of Operating Speed For Application In Electric Vehicle; Patent Owner(s): Ranjan Kumar Behera, Sanjoy Kumar Parida

Visits Abroad by Faculty Members

1. Ranjan Kumar Behera - Collaborative research (University of Pretoria South Africa) 30 days
2. Yatendra Kumar Singh - Conference (London) 1-9 Oct, 2016
3. Aneek Adhya - Technical discussion with Assoc. Prof. Ratislav Roka and his research group (Slovak University of Technology, Bratislava, Slovakia) 25 Days
4. Kailash Chandra Ray - To present a paper in IEEE TENCON 2016 (Singapore)

Invited Lectures by Faculty Members

1. Optoelectronics Devices by Saurabh Kumar Pandey (Bhagalpur College of Engineering, Bhagalpur)
2. Empowering the youth of India by Ranjan Kumar Behera (Haldia Institute of Technology Haldia WB)
3. Sensorless Control of Multiphase Induction Motor Drives by Ranjan Kumar Behera (NIT Patna)
4. Smart Electrical Grid by Ranjan Kumar Behera (B.I.T. Mesra Off – Campus Deoghar)
5. Multiphase Induction Motor Drives by Ranjan Kumar Behera (Madanapalle Institute of Technology & Science (MITS), Madanapalle, Andhra Pradesh, INDIA.)
6. M Tech in IOT by Ranjan Kumar Behera (IIT Kanpur)
7. Future of MOSFETs scaling by Pramod Kumar Tiwari (GB Pant Engg College, Pauri Garhwal)
8. Some Important research Problems in MOSFET modeling by Pramod Kumar Tiwari (GB Pant Engg College, Pauri Garhwal)
9. AC-DC HYBRID MICROGRID by Sanjoy Kumar Parida (National Institute of Technology Raipur)
10. Trends in Microgrid Control by Sanjoy Kumar Parida (National Institute of Technology Raipur)
11. Promotion of energy efficiency & RES mechanism for transaction of renewable by Sanjoy Kumar Parida (National Institute of Technology Jamshedpur)
12. Optimal Power Flow Studies by Sanjoy Kumar Parida (National Institute of Technology Jamshedpur)
13. Ancillary Services: An Overview and Key Issues by Sanjoy Kumar Parida (College of Engineering Kidangoor, Kerala)
14. Congestion Management in a Deregulated Electricity Environment by Sanjoy Kumar Parida (College of Engineering Kidangoor, Kerala)
15. Role of Renewable Energy Sources in SmartGrid and MicroGrid by Sanjoy Kumar Parida (Birla Institute of Technology, Mesra, OffCampus Deoghar)
16. 5G Wireless Communications by Preetam Kumar (ViMEET, Raigad, Maharashtra)
17. Research Paradigms in Communication Engineering by Preetam Kumar (Visvesvaraya National Institute of Technology, Nagpur)
18. 5G Waveform Design by Preetam Kumar (NIT Patna)
19. 5G Summit by Preetam Kumar (Kolkata)
20. 5G Smart City by Preetam Kumar (NIT Patna)
21. Deployment Issues in Passive Optical Networks by Aneek Adhya (Robert Bosch Engineering and Business Solutions Private Limited, Koramangala, Bangalore)
22. Technology Trends in Optical Communication by Sumanta Gupta (Bhagalpur College of Engineering)

Short-Term Courses, Training Programmes and Workshops organised

1. Recent Advances in Power Electronics Applications in Smartgrid and Electric Drives (3rd to 5th March 2016)
2. Smart Grid: Cyber Physical Energy Systems (02nd to 08th December 2016)

Humanities and Social Sciences

9.1 Faculty Members

Dr. Nalin Bharti *Associate Professor*	Macroeconomic Reforms, Labour Economics, WTO and India
Dr. Smriti Singh *Associate Professor*	Contemporary Literary Theory, Linguistics and Language Teaching, Indian Writing in English
Dr. Aditya Raj *Assistant Professor*	Sociology of Education, Migration and Diaspora Studies, Development Discourse, Qualitative Research Design, Youth
Dr. Papia Raj *Assistant Professor*	Health Care Management, Population and Public Health, Gender and Development, Environmental Health, Regional Development, Quantitative Methods
Dr. Priyanka Tripathi *Assistant Professor*	Gender Studies, Indian Writing in English, Short Fiction
Dr. Sweta Sinha *Assistant Professor*	Linguistics, Natural Language Processing, Phonology, Communication Skills, ESL, ELT and Speech Forensics
Dr. Richa Chaudhary *Assistant Professor*	Corporate Social Responsibility, Work Engagement, Human Resource Development Climate, Occupational Self-efficacy, Leadership, Entrepreneurship

9.2 Academic Programmes

- Ph.D Program

9.3 Research & Development Activities

Papers Published in Journals

1. Sujay Saha and Smriti Singh, Collaborative Learning through Language Games in ESL Classroom, Language in India, 180-189 (2016).
2. Chaudhary, R., Corporate Social Responsibility and Employee Engagement: Can CSR help in redressing the engagement gap?, Social Responsibility Journal, 13(2) (2017).
3. Chaudhary, R., Demographic factors, Personality & Entrepreneurial Inclination: A Study among Indian University Students, Education+Training, 59(2), 171-187 (2017).
4. Partha Bhattacharjee and Priyanka Tripathi, Ethnic Tensions and Political Turmoil: Postcolonial Reading of Chimamanda Ngozi's Purple Hibiscus, Language in India, Vol.17, No.2, 443-45 (2017).
5. Takács István, Nalin Bharti, FDI in Central and Eastern Europe's (CEE) Agribusiness What Lessons for India?, Foreign Trade Review, Vol 51, Issue 2 (2016).
6. Aiman Reyaz and Priyanka Tripathi, Fight with/for the Right: An Analysis of Power-politics in Arundhati Roy's walking with the Comrades, ASEBL (New York, USA), Vol.12, No.1, 64-72 (2016).
7. Sujay Saha and Smriti Singh, Game Based Language Learning in ESL classroom - A theoretical Perspective, ELT vibes, (2016).
8. S Ghazal and Smriti Singh, Game-Based Language Learning: Activities for ESL Classes with Limited Access to Technology. ELT voices, 1-8 (2016).
9. Sweta Sinha, Indian Schools of Logic: A Critical Assessment, International Journal of Sanskrit Research, 170- 172 (2016).
10. Papia Raj & Aditya Raj, International Call Centers: Consumptionscapes of Urban India, Research Process, 4(1): 22-31 (2016).
11. Nalin Bharti and Gopal Ganesh, Is Labour Law a Hindrance in India's Public Enterprises Reforms?, OPTIMUM STUDIA EKONOMICZNE, NR 5 (83) (2016).
12. Nalin Bharti, Kumar Gaurav and Chandan Kumar, IT-ITES trade of SAARC countries: does kaleidoscopic comparative advantage work?, Int. J. Transitions and Innovation Systems, Vol. 5, No. 1 (2016).
13. Sandeep Sharma, Sweta Sinha, Psycho- Analytical Investigation of Stress among students of Higher Technical Education in India: A Case Study, International Journal of Indian Psychology, 4(2) 93 (2017).

14. Priyanka Tripathi, Reinventing the Intimate Voices: A Close Reading of Indian Women's Autobiography in English, Consciousness, Literature and the Arts, Vol.17, No. 3,Online (2016).
15. Sanjib Kr Biswas and Priyanka Tripathi, Relocating Women's Role in War: Rereading Tahmina Anam's A Golden Age, The Criterion: An International Journal in English, Vol.8, No.1, 522-528 (2017).
16. Chaudhary, R. & Rangnekar, S, Sociodemographic contextual factors & Work Engagement: An Empirical Analysis, Emerging Economy Studies, 13(1), 1-18 (2017).
17. Ramjit Kumar and Smriti Singh, The State of Science Education in Post-Independent India: A Synoptic Review and Future Direction, IOSR Journal of Humanities and Social Science, 55-58 (2017).
18. Hasanuzzaman Biswas and Smriti Singh, Vijay Tendulkars Silence The Court is in Session!- A critique of contemporary power structure and court culture, Contemporary Discourse, 67-73 (2017).
19. Chaudhary, R. & Rangnekar, Work engagement in India & Thailand: A Comparative Analysis, Global business Review, Jan-Feb 2018 Issue (2018).
20. Chaudhary, R. (2017). CSR & Turnover Intentions: Examining the Underlying Psychological Mechanisms. Social Responsibility Journal, Vol. 13 No.3, I
21. Chaudhary, R. & Rangnekar, S. (2017). Development Climate & Work Engagement: A Multilevel Study. Evidence-based HRM: a global forum for empirical scholarship, Vol.5 No.2

Papers Presented in Conferences

1. Panda, C. and Chaudhary, R., A Study of Corporate Social Responsibility with Special Reference to Vedanta Aluminium Limited, International Conference on Global Trends in Business and Sustainability Research (ICGTBSR), IIT Roorkee (2016)
2. Aditya Raj, A STUDY OF DIFFERENT PUBLIC POLICIES FOR RURAL DEVELOPMENT, PPM CONFERENCE 2016, IIM Kolkata (0)
3. Chaudhary, R. and Panda, C., Authentic Leadership, Trust, Work Engagement & Gender: A Conceptual Study., Fore International OB & HR Conference (FIOHC), Fore School of Management, New Delhi (2016)
4. Sujay Saha and Smriti Singh, Collaborative Learning through Language Games in ESL Classroom, 3rd International ELT Conference, Amity Lucknow, Lucknow (2016)
5. Akhouri, A. and Chaudhary, R., Corporate Social Responsibility and Organizational Citizenship Behaviour: Examining Gender as Moderator. International Conference on Global Trends in Business and Sustainability Research (ICGTBSR), IIT Roorkee (2016)
6. Chaudhary, R., CSR & Turnover Intentions: Examining the Underlying Psychological Mechanisms, Fourth Pan-IIM World Management Conference, IIM Ahmedabad (2016)
7. S Ghazal and Smriti Singh, Developing Speaking Skills through Learner Autonomy, 37th Annual Conference of Linguistic Society of Nepal, Kathmandu, Nepal (2016)
8. Sweta Sinha, Differential approach to Technology Aided English language Teaching: A Case Study in a Multilingual Setting, 18th International Conference on applied Linguistics and Foreign Language Teaching, Hong Kong (2016)
9. Nalin Bharti, Discussant in a Technical sessions on the theme relating to Education, Employment and Labour Markets, 58th Annual Conference of Indian Socity of Labour Economics, Guwahati, Assam, India. (2016)
10. Priyanka Tripathi, ELT, Social Sixth Sense and Shakespeare, National Conference of Revisiting Shakespeare, IIT Patna (2016)
11. Srishti & Papia Raj, Exploring the Potential of Health Informatics as an approach for Improving Maternal Health in Bihar, 61st Annual National Conference of Indian Public Health Association, Jodhpur, India (2017)
12. Priyanka Tripathi, Framing an Indian Feminist Poetics: A Critical Evaluation of Indian Women's Short Fiction in English, International Seminar on New Feminist Writings: Emancipation to Representation, Pondicherry University, Puducherry (2017)
13. S Ghazal and Smriti Singh, From writing to speaking: Creating talk-time in a traditional classroom, 3rd International ELT Conference, Amity Lucknow, Lucknow (2016)
14. Kumar Gaurav and Nalin Bharti, Has SAFTA enhanced Employment?: Implications for India and its Neighbors, 58th Annual Conference of Indian Socity of Labour Economics, Guwahati, Assam, India. (2016)
15. Aditya Raj & Papia Raj, Health education: Need of the Hour, 42nd All India Sociological Conference, Tezpur, India (2016)
16. Sujay Saha and Smriti Singh, Immigration as Quest for Identity in Divakarunis Arranged Marriage, HERSO, Pune (2016)
17. Aditya Raj, Knowing in contemporary society: engagement with public and theories, 42nd All India Sociological Conference, Tezpur University, Assam (0)
18. Akhouri, A. and Chaudhary, R., Linking CSR and Turnover Intentions: Modeling Work Engagement as a Mediator., Fore International OB & HR Conference (FIOHC), Fore School of Management, New Delhi (2016)

19. Hasanuzzaman Biswas and Smriti Singh, Merging Keats' 'Negative Capability' with Mills' 'Sociological Imagination': A Study of Select Poems by John Keats, HERSO, Pune (2016)
20. Smriti Singh, Multilingual classrooms: Challenges, opportunities and innovative practices, Factors of Poor Learning: Challenges, Opportunities and Practices for Learning Improvement in Socially Diverse Elementary Schools of India, New Delhi (2016)
21. Vibhuti Nayak & Papia Raj, Perception of health among female adolescents of Oraon tribe in Jharkhand, Holistic Anthropological Approach for Tribal Health, Sagar, India (2017)
22. Hasanuzzaman Biswas and Smriti Singh, Reconstructing Power-Relations: A Study of Legal Language and Court Culture in Vijay Tendulkar's Silence! The Court is in Session, 3rd International ELT Conference, Amity Lucknow, Lucknow (2016)
23. Sweta Sinha, Social Status of Women in India: How Hindi Accounts for it, 37th Annual Conference of Linguistic society of Nepal, Kathmandu (2016)
24. Sandeep Kumar Sharma, Sweta Sinha, Substandard Status of hindi in Competitive Examinations in india: cause & remedy, National Seminar on Role of Evaluation in Quality Maintenance in Teaching Indian Languages with special refernce to Hindi, CIIL, Mysore (2016)
25. Singh, Anupama & Papia Raj, Sustainable Recycling Practices to Reduce Health Hazards of Municipal Solid Waste in Patna, India, 19th International Conference on Environment, Energy and Waste Management, Mumbai, Mumbai, India (2017)
26. Papia Raj, The Challenge of Solid Waste Management and its Health Hazards in Patna, 42nd All India Sociological Conference, Tezpur, India (2016)
27. Sweta Sinha, Sandeep Kumar Sharma, The Reflection of Language Linked to Gender Inequality in Discourse Behaviour, World congress on Interrelationship among arts, culture, humanities, Religion, education, ethics, Philosophy, spirituality, science and Society for Holistic Humane Development, New Delhi (2016)
28. Sandeep Kumar Sharma, Sweta Sinha, The Vital Role of Technology in Learning English as Second Language for Students in Technical Institutes: Case Study, Excellence in Education by AIAER, Bodh Gaya, Bihar (2016)
29. S Ghazal and Smriti Singh, Twofold transformation: Promoting Learner Autonomy and Teaching Speaking Skills to ESL Learners, Teachers Research! IATEFL ReSIG International Conference, Istanbul, Turkey (2016)
30. Sujay Kumar Saha, Mamta Kumari and Nalin Bharti, Why Copyrights Protection is More Challenging in the Digital Age ?, Second International Conference on Law and Economics, IIT Kanpur (2016)

Sponsored Research Projects

1. Antecedents & Consequences of Authentic Leadership: Examining the Underlying Mechanisms and Contingencies (ICSSR) (PI : Richa Chaudhary)

9.4 Other Activities

Member - Professional Bodies

1. Aditya Raj (2001) - Indian Sciological Society
2. Nalin Bharti (2011 Associate member) Virtual Institute UNCTAD
3. Nalin Bharti (2011 Life Time) The Indian Science Congress Association
4. Nalin Bharti (2013 Life Time) Indian Economic Association
5. Nalin Bharti (Life Time) Indian Labour Economics Society (2013)
6. Richa Chaudhary (2010) Indian Society of Training & Development
7. Richa Chaudhary (2011) International Society of Asia Pacific Studies
8. Smriti Singh (2009 Life member) Melus-Melow
9. Smriti Singh (2009 Life member) IATEFL
10. Smriti Singh (2009 Life member) Centre for Contemporary theory
11. Smriti Singh (2009 Life member) ELTAI
12. Sweta Sinha (2014) Linguistic Society of India
13. Sweta Sinha (2015) Indian Society of Teacher Educators
14. Sweta Sinha (2015) All India Association of Educational Research

Member - Editorial Board

1. Aditya Raj (2005) Editor - Research and Practice in Social Sciences
2. Aditya Raj (2014) Member - Comparative and International Education
3. Nalin Bharti (2009) Member - Journal of Management & Public Policy
4. Nalin Bharti (2013) Member - International Journal of History and Research
5. Nalin Bharti (2016) Member - ISSUES AND IDEAS IN EDUCATION
6. Richa Chaudhary (2015) Member - Review of Human Resource Management
7. Richa Chaudhary (2017) Member - SAMVAD
8. Sweta Sinha (2017) Member - Indian Journal of Applied Linguistics

Awards & Honours

1. Richa Chaudhary (2016) Best Research Paper Award at PAN IIM World Management Conference

Visits Abroad by Faculty Members

1. Sweta Sinha - Conference (Kathmandu) 25- 28 November, 2016
2. Sweta Sinha - Conference and Personal (Hong Kong) 3 December, 2016- January 5, 2017
3. Nalin Bharti - Field Visit as a part of MHRD delegation for conducting JEE Advance in Bangladesh from 2017 (Bangladesh) 4days
4. Smriti Singh - Conference (Kathmandu) 25- 28 November, 2016

Invited Lectures by Faculty Members

1. Leadership & Innovation for a Sustainable World by Richa Chaudhary (Xavier Institute of Social Service (XISS) Ranchi)
2. Perception and Decision Making 2.Leadership and Team Building 3.Keeping employees engaged by Richa Chaudhary (3 lectures for Indian Oil Corporation Employees under 'Project DISHA' on 18-19th Nov 2016 in IIT Patna Campus)
3. Perception and Decision Making 2.Keeping employees engaged 3.How to excel at customer service? by Richa Chaudhary (4 lectures for Indian Oil Corporation Employees under 'Project DISHA' on 24-25th April 2017 in IIT Patna Campus)
4. Psycholinguistic Approaches to Cognitive Development by Sweta Sinha (CSE, IIT Patna)
5. Culture, Logic and Cognition by Sweta Sinha (CSE, IIT Patna)
6. Linguistic Interfaces by Sweta Sinha (GIAN Lecture, CSE, IIT Patna)
7. Startup India and Intellectual Property Rights in Bihar by Nalin Bharti (M R M College Darbhanga)

Books Published

1. Nalin Bharti: Infrastructure Economics published by NPTEL (2016)

Short-Term Courses, Training Programmes and Workshops organised

1. Disha – A Training Program for Retail Outlet Dealers of Indian Oil (18-19 November)

Material Science and Engineering

10.1 Faculty Members

Dr. Anirban Chowdhury *Assistant Professor*	Materials Chemistry - chemical synthesis - structural and spectroscopic characterisations - thin films & coatings - nanomaterials- sol gel – ceramics
Dr. Anup Kumar Keshri *Assistant Professor*	Carbon Nanotube Reinforced Ceramic Matrix and Metal Matrix Composites, Thermal Spraying, Tribology of Materials, Process-Structure-Property Relationship
Dr. Dinesh Kumar Kotnees *Assistant Professor*	Polymer Science and Technology with specialization in Adhesion, Blends, Composites, Fillers and Bulk/Surface properties of Polymers

10.2 Academic Programmes

- M.Tech in Material Science and Engineering
- Ph.D Program

10.3 Research & Development Activities

Papers Published in Journals

1. R Kumar, K Singh, D Chakravarty, A Chowdhury, Attaining near-theoretical densification in nanograined pyrochlore La2Zr2O7 (LZ) ceramic at 1150° C by spark plasma sintering, Scripta Materialia, 117, 37-40 (2016).
2. P.R. Sreenath, Seema Singh, M.S. Satyanarayana, Prolay Das, K. Dinesh Kumar, Carbon dot e Unique reinforcing filler for polymer with special reference to physico-mechanical properties, Polymer, 112, 189-200 (2017).
3. Anil Kumar, Asfak Ali Mollah, Anup Kumar Keshri, Manoj Kumar, Kulvir Singh, Krishna Dutt Venkata Shiva Rallabhandi, and Raghunandan Seelaboyina, Development of Macroporous Silicone Rubber for Acoustic Applications, Industrial and Engineering Chemistry Research, 55, 8751–8760 (2016).
4. R Kumar, K Kumar, A Chowdhury, Discrepancies in the hardness data and the role of grinding induced surface effects for a porous zirconate ceramic, Journal of the American Ceramic Society, 100 (4), 1717-1723 (2017).
5. Anup Kumar Keshri, Lovish Behl, Debrupa Lahiri, George S Dulikravich, Arvind Agarwal, Dry Sliding Wear Behavior of Hafnium-Based Bulk Metallic Glass at Room and Elevated Temperatures, Journal of Materials Engineering and Performance, 25, 3931-3937 (2016).
6. P Arunkumar, Padmalochan Panda, M Sribalaji, R Ramaseshan, Anup Kumar Keshri, K Suresh Babu, Enhancing the Oxygen Ionic Conductivity of (111) Oriented Ce 0.80 Sm 0.20 O 2- Thin film through Strain Engineering, Electrochimica Acta, 240, 437–446 (2017).
7. OS Asiq Rahman, Nitin P Wasekar, G Sundararajan, Anup Kumar Keshri, Experimental investigation of grain boundaries misorientations and nano twinning induced strengthening on addition of silicon carbide in pulse electrodeposited nickel tungsten composite coating, Materials Characterization,116,1-7 (2016).
8. Aarthi Uthayakumar, Arunkumar Pandian, Sribalaji Mathiyalagan, Ashutosh Kumar, Anup Kumar Keshri, Shobit Omar, Kantesh Balani, Suresh Babu Krishna Moorthy, Interfacial Effect of the Oxygen-Ion Distribution on the Conduction Mechanism in Strontium-Added Ce0. 8Sm0. 2O2– /Na2CO3 Nanocomposite, The Journal of Physical Chemistry C, 120, 25068-25077 (2016).
9. Swarnima Singh, M Sribalaji, Nitin P Wasekar, Srikant Joshi, G Sundararajan, Raghuvir Singh, Anup Kumar Keshri, Microstructural, phase evolution and corrosion properties of silicon carbide reinforced pulse electrodeposited nickel–tungsten composite coatings, Applied Surface Science, 364,264-272 (2016).
10. M Sribalaji, OS Asiq Rahman, Tapas Laha, Anup Kumar Keshri,Nanoindentationand nanoscratch behavior of electroless deposited nickel-phosphorous coating, Materials Chemistry and Physics, 177,220-228 (2016).
11. Satyanarayana M. S., A. K. Bhowmick, K. Dinesh Kumar, Preferentially fixing nanoclays in the phases of incompatible carboxylated nitrile rubber (XNBR)-natural rubber (NR) blend using thermodynamic approach and its effect on physico mechanical properties, Polymer, 99, 21-43 (2016).

12. M Sribalaji, OS Asiq Rahman, P Arun Kumar, K Suresh Babu, Nitin P Wasekar, G Sundararajan, Anup Kumar Keshri, Role of Silicon Carbide in Phase-Evolution and Oxidation Behaviors of Pulse Electrodeposited Nickel-Tungsten Coating, Metallurgical and Materials Transactions A, 48, 501-512 (2017).
13. U Aarthi, P Arunkumar, M Sribalaji, Anup Kumar Keshri, K Suresh Babu, Strontium mediated modification of structure and ionic conductivity in samarium doped ceria/sodium carbonate nanocomposites as electrolytes for LTSOFC, RSC Advances, 6, 88 (2016).
14. B Paul, K Singh, T Jaro , A Roy, A Chowdhury, Structural properties and the fluorite–pyrochlore phase transition in La2Zr2O7: The role of oxygen to induce local disordered states, Journal of Alloys and Compounds, 686, 130-136 (2016).
15. Biswajyoti Mukherjee, OS Asiq Rahman, M Sribalaji, Srinivasa Rao Bakshi, Anup Kumar Keshri, Synergistic effect of carbon nanotube as sintering aid and toughening agent in spark plasma sintered molybdenum disilicide-hafnium carbide composite, Materials Science and Engineering: A, 678, 299-307 (2016).
16. M Sribalaji, Biswajyoti Mukherjee, Aminul Islam, Anup Kumar Keshri, , Materials Science and Engineering: A, 702 (2017), 10–21
17. K Singh, R Kumar, A Chowdhury, Synergistic effects of ultrasonication and ethanol washing in controlling the stoichiometry, phase-purity and morphology of rare-earth doped ceria nanoparticles, Ultrasonics Sonochemistry, 36, 182-190 (2017).
18. K Singh, R Kumar, A Chowdhury, Synthesis of La-doped ceria nanoparticles: impact of lanthanum depletion, Journal of Materials Science, 51, 4134–4141 (2016).
19. S. S. Banerjee, K. Dinesh Kumar, A.K. Bhowmick, Distinct melt viscoelastic properties of novel nanostructured and microstructured thermoplastic elastomeric blends from polyamide 6 and fluoroelastomer, Macromolecular Materials and Engineering, 300, 283-290 (2015).

Papers Presented in Conferences

1. Anup Kumar Keshri, Comprehensive Process Maps for Synthesizing High Density Aluminum Oxide-Carbon Nanotube Coatings by Plasma Spraying for Improved Mechanical and Wear Properties, International Conference on Functional Materials, Tirunelveli, India. (2016)
2. Dr. Dinesh K. Kotnees and Prof. Anil K. Bhowmick, Interplay between bulk viscosity and surface energy in autohesive tack of rubber-tackifier blends, RUBBERCON 2015, ITC Grand Chola Hotel, Chennai, India. (2016)
3. Dr. Dinesh K. Kotnees, Preferentially fixing nanoclays in the phases of incompatible carboxylated nitrile rubber (XNBR)-natural rubber (NR) blend using thermodynamic approach and its effect on physico mechanical properties, APM-2017, Bangalore, India (2017)
4. Sribalaji M, Biswajyoti Mukherjee, Asiq Rahman O.S, Srinivasa Rao Bakshi, Anup Kumar Keshri, Spark Plasma Sintering Of Carbon Nanotube Reinforced Hafnium Carbide Composite, International Conference on Materials Science and Engineering Technology, Tokyo, Japan (2016)
5. Kundan Kumar, Anirban Chowdhury, ZnO-stabilized cubic ZrO2 at room temperature and the additional benefit of photocatalytic property, International Conference on Functional Materials, IIT Kharagpur, Kharagpur, India (2016)
6. Anirban Chowdhury, Kushal Singh, Rishu Kumar, Barnita Paul, Tomasz Jaron, Anushree Roy, Attaining Near-theoretical Densification in La2Zr2O7 (LZ) Ceramic at 1150 ºC and Investigations on its Fluorite – Pyrochlore Transition, 6th International Congress on Ceramics (ICC-6) at Dresden, Germany, (2016)
7. Anirban Chowdhury, Kushal Singh, Rishu Kumar, Kundan Kumar, Compositional Anomalies in Oxide Nanoparticles: Impact on the Target Functional Properties, International Conference of Young Researchers on Advanced Materials (IUMRS-ICYRAM 2016), IISc, Bangalore (2016)
8. Kushal Singh, Rishu Kumar, Anirban Chowdhury, Lanthanum doped Ceria Nanoparticles: a Promising Material for Energy Applications, Accepted for the "International Conference on Advances in Energy Research (ICAER-2015)" IIT Bombay, (2015)
9. Kushal Singh, Rishu Kumar, Anirban Chowdhury, Structural and Catalytic Properties of Ce0.8La0.2O2-x Nanoparticles, International Conference on Multifunctional Materials for Future Application (ICMFA-2015); IIT (BHU), 2015
10. Kushal Singh, Kundan Kumar, Anirban Chowdhury Catalytic Properties of Phase-pure La-doped CeO2 Nanoparticles, NMD-ATM, IIT Kanpur (2016)
11. Kushal Singh, Kundan Kumar, Anirban Chowdhury, Structural and Enhanced Catalytic Reduction Properties for LaxCe1–xO2– (x = 0.1, 0.2and 0.5) Nanoparticles along with the Additional Benefit of Photocatalytic Activity, 9th International Conference on Materials for Advance technologies, Suntec, Singapore (2017)

Sponsored Research Projects

1. Fabrication of Robust Plasma Sprayed Rare Earth Oxide Hydrophobic Coating for the High Temperature and Wear Resistance Applications (SERB-DST, Rs.26.74 Lakhs) (PI : Dr. Anup Kumar Keshri)
2. Improvement of low temperature performance and room temperature physical properties of chloroprene rubber (CR) by blending with silicone rubber based (DENKA Co., Ltd., Tokyo, Japan, Rs.20.00 Lakhs) (PI : Dr. Dinesh Kumar Kotnees)
3. Plasma Sprayed Carbon Nanotube and Graphene Reinforced Alumina Hybrid Nanocomposite Coating with Enhanced Properties for Light Metal Alloys (ISRO, Rs.19.40 Lakhs) (PI : Dr. Anup Kumar Keshri)
4. Plasma Sprayed Carbon Nanotube reinforced Molybdenum Disulfide Anti-friction Nano Composite Coating with enhanced Mechanical and Wear Properties (Naval Research Board (NRB)) (PI : Dr. Anup Kumar Keshri)
5. Surface modified metallic orthopedic implant for sustained drug release (DST/TSG/AMT, Rs.92.49 Lakhs) (PI : Dr. Debrupa Lahiri (IIT Roorkee))
6. Synthesis & characterisation of faceted nanocrystalline powders of Ceria-Zirconia and related systems (SERB-DST, Rs.26.75 Lakhs) (PI : Dr. Anirban Chowdhury)

Consultancy Projects

1. Development of Comprehensive Plasma Spray Process Maps for Ceramic Powder Manufactured by Carborundum Universal Limited (CUMI), Kerala (Carborundum Universal Limited (CUMI), Kerala, Rs.8.00 Lakhs) Consultant Name: Dr. Anup Kumar Keshri
2. Factors influencing the tack strength of rubbers (MRF Tyres, Chennai, India, Rs.23.00 Lakhs) Consultant Name: Dr. Dinesh Kumar Kotnees

10.4 Other Activities

Member - Professional Bodies

1. Anup Kumar Keshri - Indian Institute of Metals (IIM)

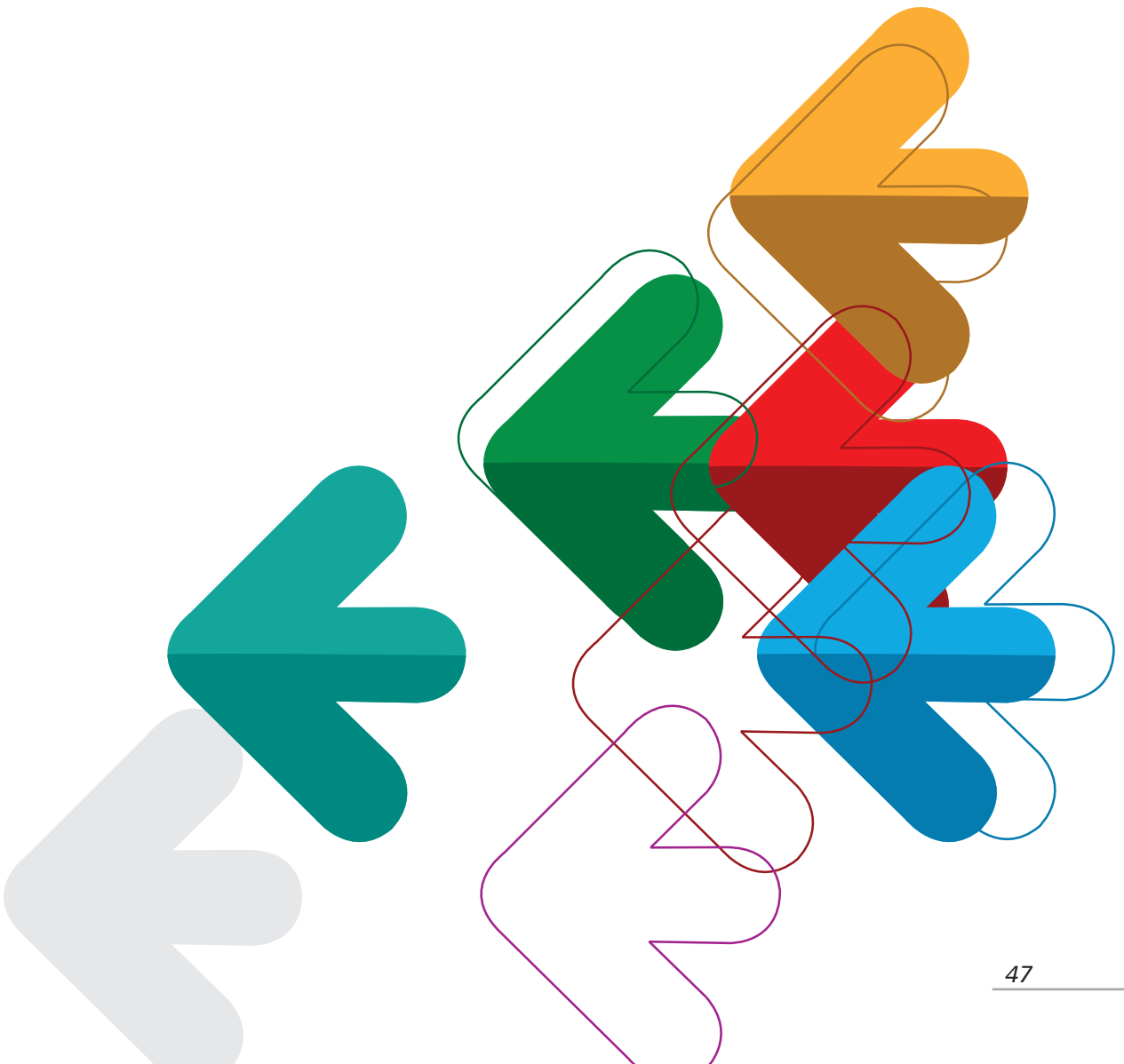
Visits Abroad by Faculty Members

1. Dinesh Kumar Kotnees - Project discussion (DENKA Co., Ltd., Tokyo, Japan) April 2017
2. Anirban Chowdhury - attending 6th International Congress on Ceramics (ICC-6) for an oral presentation (Dresden, Germany) Aug. 21-25, 2016

Invited Lectures by Faculty Members

1. Interplay between bulk viscosity and surface energy in autohesive tack of rubber-tackifier blends by Dinesh Kumar Kotnees (ITC Grand Chola Hotel, Chennai, India)
2. Innovative Application of Plastics in Various Fields by Dinesh Kumar Kotnees (CIPET Hajipur, Bihar, India)
3. Preferentially fixing nanoclays in the phases of incompatible polymer blend using thermodynamics by Dinesh Kumar Kotnees (M. G. University, Kottayam, India)
4. Role of tackifier and nanoclay on tack strength of rubber by Dinesh Kumar Kotnees (MRF Tyres, Chennai, India)
5. Preferentially fixing nanoclays in the phases of incompatible polymer blends by Dinesh Kumar Kotnees (APM-2017, Bangalore, India)
6. Enhanced rubber-filler interactions for better dynamic properties by Dinesh Kumar Kotnees (Anna University, Chennai, India)
7. Preferentially fixing nanoclays in the phases of incompatible polymer blend using thermodynamics by Dinesh Kumar Kotnees (MRF Tyres, Chennai, India)
8. Strengthening of Institute-Industry Interactions: Issues & Perspectives by Anirban Chowdhury (NIT Patna)
9. Compositional Anomalies in Oxide Nanoparticles: Impact on the Target Functional Properties by Anirban Chowdhury (Mahatma Gandhi University, Kottayam, Kerala.)

10. Comprehensive Process Maps for Synthesizing High Density Aluminum Oxide-Carbon Nanotube Coatings by by Anup Kumar Keshri (Bharathiar University, Coimbatore, India)
11. Plasma Spray Composite Coating with Improved Mechanical and Wear Properties by Anup Kumar Keshri (Tata Steel, Jamshedpur, India)
12. Nanoindentation and Nano-scratch Approach to Determine the Mechanical Properties of Plasma Sprayed A by Anup Kumar Keshri (Toyohashi University of Technology, Toyohashi, Aichi, Japan)
13. Plasma Sprayed Composite Coating with Improved Mechanical and Wear Properties by Anup Kumar Keshri (Carborundum Universal Limited (CUMI), Ernakulam, India)
14. Plasma sprayed composite coating with improved mechanical and wear properties by Anup Kumar Keshri (NIT Surathkal, Mangalore, India)
15. Thermal Spray Coatings: Fundamentals, Properties and Applications by Anup Kumar Keshri (Pondicherry University (A Central University), Pondicherry, India.)
16. Thermal Sprayed Coatings & Composites: Science, Engineering and Applications (TSCC-2016) by Anup Kumar Keshri (MNIT Allahabad, India (Organized by Global Initiative of Academic Networks (GIAN))
17. Thermal Spray Coatings: Fundamentals, Properties and Applications by Anup Kumar Keshri (Bharat Forge, Pune, India)
18. High-temperature materials for defence & marine applications by Anirban Chowdhury (International Conference and Technology Meet on Military and Marine Applications, Hotel Crowne Plaza, Jaipur)



Mathematics

11.1 Faculty Members

Dr. Ashish Kumar Upadhyay *Associate Professor*	Combinatorial Topology, Geometric Topology, Algebraic Topology, Algorithmic and Combinatorial aspects of Low - dimensional Manifolds, Synthetic Geometry, Combinatorial Geometry, Graphs on Surfaces, Automorphism Groups
Dr. Om Prakash *Associate Professor*	Rings & Modules, Associated Prime Rings
Dr. Yogesh Mani Tripathi *Associate Professor*	Statistical Decision Theory, Statistical Inference
Dr. Debashree Guha Adhya *Assistant Professor*	Fuzzy logic and its application
Dr. Nutan Kumar Tomar *Assistant Professor*	Mathematical Control Theory, Nonlinear Functional Analysis, Optimal Control
Dr. Prashant Kumar Srivastava *Assistant Professor*	Mathematical Modeling in Ecology and Epidemiology, Applications of Differential Equations in Biology, Stability and Bifurcation, Mathematical Modeling of HIV dynamics :in vivo
Dr. Sudhan Majhi *Assistant Professor*	Signal processing for wireless communication, blind signal classification, blind signal synchronization , blind parameter estimation, secrecy capacity of cognitive radios and cooperative communications, MIMO, OFDM, MIMMO-OFDM, SC-FDMA, NOMA, UWB systems, receiver design and implementation on testbed, and Sequence design for wireless communication
Dr. Amit Kumar Verma *Assistant Professor*	Analysis of Nonlinear Differential Equations, Numerical Solutions of ODEs and PDEs
Dr. Pratibhamoy Das *Assistant Professor*	Numerical Analysis, Moving Mesh Methods, Singular Perturbation, A posteriori Error Estimates, r-refinement Strategy

11.2 Academic Programmes

- M.Tech in Mathematics and Computing
- M.Sc in Mathematics
- Ph.D Program

11.3 Research & Development Activities

Papers Published in Journals

1. Satyajit Das, Debashree Guha and Bapi Dutta, A web-based medical diagnostic support system driven by using fuzzy and intuitionistic fuzzy rule based inference mechanism, Applied Intelligence, 45 850-867 (2016).
2. S. Singh and Y.M. Tripathi, Bayesian estimation and prediction for a hybrid censored lognormal distribution, IEEE Transactions on Reliability, 65, 782-795 (2016).
3. A. Kundu, S. Kumar, N.K. Tomar and S. K. Gupta, Call option price function in Bernstein polynomial basis with no-arbitrage inequality constraints, Journal of Inequalities and Applications, 2016:153 (2016).
4. A Kumar, A Yadav and Prashant K Srivastava, Control of Infectious Diseases through Vaccination and Treatment, International Journal of Biomathematics and Systems Biology, 2, 1-17 (2017).
5. Y. M. Tripathi, Amulya Kumar Mahto, S. Dey, Efficient Estimation of the PDF and the CDF of a Generalized Logistic Distribution, Annals of Data Science, 4, 63–81 (2017).
6. Sanku Dey, Sukhdev Singh, Yogesh Mani Tripathi and A. Asgharzadeh, Estimation and Prediction for a Progressively Censored Generalized inverted Exponential Distribution, Statistical Methodology, 32, 185-202 (2016).
7. Tanmay Kayal, Y.M. Tripathi, Devendra Pratap Singh and M. K. Rastogi, Estimation and prediction for Chen distribution with bathtub shape under progressive censoring, Journal of Statistical Computation and Simulation, 87, 348-366 (2017).

8. Y. M. Tripathi and M. K. Rastogi, Estimation using hybrid censored data from a generalized inverted exponential distribution, Communications in Statistics- Theory and Methods, 45, 4858-4873 (2016).
9. Satyajit Das, Debashree Guha and Radko Mesiar, Extended Bonferroni Mean under Intuitionistic Fuzzy Environment Based on Strict t-conorm, IEEE Transactions on Systems, Man and Cybernetics: Systems, (2016).
10. Sudhan Majhi, M. Kumar, and W. Xiang, Implementation and Measurement of Blind Wireless Receiver Testbed for Single Carrier Systems, IEEE Transactions on Instrumentation & Measurement, (2017).
11. V.K. Mishra, N.K. Tomar, and Mahendra Kumar Gupta, Index reduction for rectangular descriptor systems via feedbacks, Cogent Engineering, 4(1) (2017).
12. S. Kumar and N.K. Tomar, Mild solution and constrained local controllability of semilinear boundary control systems, Journal of Dynamical and Control Systems, Accepted (2017).
13. A Kumar, Prashant K Srivastava and Y Takeuchi, Modeling the Role of Information and Limited Optimal Treatment on Disease Prevalence, Journal of Theoretical Biology, 414, 103-119, (2017).
14. A. Srivastava, R. K. Pandey and Om Prakash, Motzkins maximal density and related chromatic numbers, Uniform Distribution Theory, Upcoming volume (2017).
15. R. Radhakrishnan, A. K. Singh, S. Bhaumik, and N.K. Tomar, Multiple Sparse-grid Gauss-Hermite Filtering, Applied Mathematical Modelling, 40(7-8) (2016).
16. A. R. Adhikari, Z. Liu, Y. L. Guan, Sudhan Majhi, S. Budishin, Optimal Binary Periodic Almost-Complementary Pairs, IEEE Signal Processing Letters, 23 (2016).
17. Sheela Suthar, Om Prakash and Shalini Chandra, Some Properties of the Nilradical and Non-nilradical Graphs over Finite Commutative Ring Zn, Algebra Discrete Math., accepted (2016).
18. R. K. Mistri, R. K. Pandey and Om Prakash, Subset and subsequence sums in integers, J. Comb. Number Theory, 8(3), 207-223 (2017).
19. A Kumar and Prashant K Srivastava, Vaccination and Treatment as Control Interventions in an Infectious Disease Model with Their Cost Optimization, Communications in Nonlinear Science and Numerical Simulation, 44, 334-343 (2017).

Papers Presented in Conferences

1. Devendra Pratap Singh and Y. M. Tripathi, Inference for a Burr III Distribution under Progressive Type II Censoring, International Workshop On Reliability Theory and Survival Analysis, Savitribai Phule Pune University, Pune (2016)
2. Sudhan Majhi, A. Gupta, P. Kumar, and Y. Nasser, A Closed-Form Outage Probability of Opportunistic AF OFDMA Relaying over Rician Fading Channel, International Conference on Communication and Signal Processing, Chennai, India (2016)
3. Arindam Ghosh, Om Prakash and Sushma Singh, A Note on Jordan Automorphism over Algebra of Upper Triangular Matrices, International Conference of The Indian Mathematics Consortium (TIMC) in cooperation with The American Mathematical Society (AMS), BHU, Varanasi (2016)
4. P. Kumar, Sudhan Majhi and Y. Nasser, Analysis of Outage Performance of Opportunistic AF OFDM Relaying in Nakagami-m Channels, International Conference on Advances in Computing, Communications and Informatics, Jaipur, India (2016)
5. A Kumar and Prashant K Srivastava, Control of Infectious Diseases using Information, Screening and Treatment, International Conference on Mathematical Modeling and Simulation (ICMMS2016), Banaras Hindu University, India (2016)
6. S. Singh, A. Adhikary, A. Samad and Sudhan Majhi, Design and Performance Analysis of Quasi-Asynchronous SC-FDMA-CDMA System using Quasi Complementary Sequence Sets, International Conference on Advances in Computing, Communications and Informatics, Jaipur, India (2016)
7. Sheela Suthar and Om Prakash, Energy and Wiener index of Total Graph over Ring Zn with Zero, International Conference on Current Trends in Graph Theory and Computation, South Asian University, New Delhi (2016)
8. Sheela Suthar and Om Prakash, Energy and Wiener index of Total Graph over Ring Zn without Zero, International Conference on Recent Advances in Mathematics and Their Applications (ICRAMTA-2016), University of Rajasthan, Jaipur (2016)
9. Tanmay Kayal and Y. M. Tripathi, Estimation and Prediction for a Burr XII Distribution with Progressive Type I Hybrid Censored Data, International Workshop On Reliability Theory and Survival Analysis, Savitribai Phule Pune University, Pune (2016)
10. Amulya Kumar Mahto and Y. M. Tripathi, Estimation of Density and Distribution Functions of a Generalized Logistic Distribution, International Workshop On Reliability Theory and Survival Analysis, Savitribai Phule Pune University, Pune (2016)
11. Om Prakash, Generalized Armendariz Rings, 32nd Annual Conference of The Mathematical Society (Recent Trends in Mathematical Analysis and Its Applications), BHU, Varanasi (2017)
12. Kalpana and Om Prakash, Genrealised prime ideals of rings, The 33rd Ohio State-Dension Mathematics Conference, Ohio State University, Columbus, Ohio (U (2016)

13. A Yadav and Prashant K Srivastava, Impact of Information on Infectious Diseases when Treatment is Available, 10th European Conference on Mathematical and Theoretical Biology & SMB Meeting, of Nottingham, United Kingdom (2016)
14. A Yadav and Prashant K Srivastava, Impact of Limited Treatment on Dynamics of Infectious Disease in Prevalence of Information, International Conference on Mathematical Modeling and Simulation (ICMMS2016), Banaras Hindu University, India (2016)
15. A Kumar and Prashant K Srivastava, Impact of Screening and Treatment on Control of Infectious Diseases, Symposium on Modeling and Computation, One day Symposium on Modeling and Computation, IIT Patna (2016)
16. Raj Kamal Maurya and Y. M. Tripathi, On A Transmuted Burr XII Distribution, International Workshop On Reliability Theory and Survival Analysis, Savitribai Phule Pune University, Pune (2016)
17. Sudhan Majhi, P. Kumar, and Y. Nasser, Outage Probability of Opportunistic AF OFDM Relaying over Rician Fading Channel, 23rd International Conference on Telecommunications, Thessaloniki, Greece (2016)
18. P. Das, Parameter Uniform Higher Order Numerical Approximation on Equidistributed Meshes for Parabolic Initial Boundary Value Problems with Boundary Layers, 82nd Annual Conference, Indian Mathematical Society, 2016, Kalyani University (2016)
19. A. Samad, A. R. Adhikary, Sudhan Majhi, Receiver Design for Quasi-Asynchronous MC-CDMA by using QCSS Code, International Conference on Communication and Signal Processing, Jaipur, India (2016)
20. K. Kanth, S. Gupta, Sudhan Majhi, Selection of Path and Wavelength for Setting up a Free Space Optical Link, IEEE Students Technology Symposium, India (2016)
21. Sushma Singh, Om Prakash and Arindam Ghosh, Strongly Nil IFP, International Conference of The Indian Mathematics Consortium (TIMC) in cooperation with The American Mathematical Society (AMS), BHU, Varanasi (2016)
22. A Kumar and Prashant K Srivastava, Vaccination and Treatment as Control Interventions in an Infectious Disease Model with Their Cost Optimization, International Conference on Mathematical Modeling and Simulation (ICMMS2016), Banaras Hindu University, India (2016)
23. Ravindra Kumar, Om Prakash and R. K. Verma, Very Cost Effective Graph of Gamma(Zn), International Conference of The Indian Mathematics Consortium (TIMC) in cooperation with The American Mathematical Society (AMS), BHU, Varanasi (2016)

Sponsored Research Projects

1. A study of d-Covered triangulations and semi equivelar maps (SERB-DST, Rs.4.90 Lakhs) (PI : Ashish Kumar Upadhyay)
2. Blind Symbol Timing Offset (STO) and Carrier Frequency Offset (CFO) Estimation and Implementation over OFDM, and MIMO-SC-FDMA testbed (Rs.25.00 Lakhs) (PI : Dr. Sudhan Majhi)
3. Development of Aggregation operators for fusion of uncertain data: A special emphasis to interrelated data and information measures of uncertain data (SERB-DST, Rs.14.00 Lakhs) (PI : Dr. Debashree Guha Adhya)
4. Estimation Under Censored Data (DST (SERB), Rs.15.50 Lakhs) (PI : Y M Tripathi)
5. Nonlinear Singular Differential Equations Arising in Real Life (DST SERB, Rs.16.00 Lakhs) (PI : Amit K Verma)
6. One day Symposium on Modeling and Computation, IIT Patna, organized by Dr. P.K. Srivastava and Dr. A.K. Verma, Participants: 40
7. Workshop on Fluid Mechanics: Modeling, Analysis and Computation, IIT Patna organized by Dr. P.K. Srivastava and Dr. A.K. Verma, Participants: 29.
8. A GIAN Course on “Modeling approaches of nanoscale filtration processes of solutions and suspensions” is conducted by Department of Mathematics and Department of Mechanical Engineering, IIT Patna. The Guest faculty was Prof. Anatoly Filippov. Prof. Anatoly Filippov is Professor and Deputy Dean for Research at Gubkin Russian State University of Oil and Gas (National Research University). The coordinator for the course was Dr Amit K. Verma (Mathematics Dept.) and Co-coordinator was Dr. Manabendra Pathak (Mechanical Engineering).

11.4 Other Activities

Member - Professional Bodies

1. Amit Kumar Verma (2000) IMS
2. Amit Kumar Verma (2000) BGP
3. Nutan Kumar Tomar - Indian Mathematical Society
4. Om Prakash (2010) Calcutta Mathematical Society
5. Om Prakash (2012) The Indian Mathematical Society
6. Om Prakash (2005) The Indian Science Congress

7. Prashant Kumar Srivastava (2010) Indian Society for Mathematical Modelling and Computer Simulation (ISMMACS)
8. Prashant Kumar Srivastava (2012) Indian Mathematical Society (IMS)
9. Prashant Kumar Srivastava (2013) Society for Mathematical Biology
10. Pratibhamoy Das (2016) Indian Mathematical Society
11. Sudhan Majhi (2015) IEEE

Member - Editorial Board

1. Sudhan Majhi (2016) Associate Editor - CSSP

Awards & Honours

1. Debashree Guha Adhya (2017) Early Career Research Award
2. Sudhan Majhi (2017) Sir Visvesvaraya Young Faculty Research Fellowship

Fellowships

1. Sudhan Majhi (2016) Short Term Visiting Research Fellowship, UMICH, MI, USA

Visits Abroad by Faculty Members

1. Sudhan Majhi - Visiting Researcher (University of Michigan Dearborn, MI, USA) 90 Days
2. Prashant Kumar Srivastava - BIOMAT Symposium (Chern Institute of Mathematics, Nankai University, Tianjin, CHINA) October 30-November 3, 2016
3. Debashree Guha Adhya (2016) - Visiting Researcher (Slovak University of Technology, Bratislava) 60 Days
4. Debashree Guha Adhya (2016) - To present paper in ISAS 2016 (Luxembourg) July 5 to July 8, 2016

Invited Lectures by Faculty Members

1. Mathematical Model for Sequency constructoin by Sudhan Majhi (Vidyasagar University, WB, India) by Yogesh Mani Tripathi (NA)
2. Linguistic information processing and its applications in decision making by Debashree Guha Adhya (Patna University)
3. Mathematical Models using Differential Equations by Prashant Kumar Srivastava (UG Training programme under NPDE TCA IIT Bombay, held in Indian Institute of Space Science and Technology, Thiruvananthapuram)
4. Study of Global Stability and Optimal Treatment for an Infectious Disease Model by Prashant Kumar Srivastava (BIOMAT 2016, held in the Chern Institute of Mathematics, Nankai University, Tianjin, CHINA)
5. Study the Impact of Information and Treatment on the Dynamics of Infectious Diseases by Prashant Kumar Srivastava (NCMTB 2017 held in Jadavpur University Kolkata)
6. Motivational Talk on Life of Mathematicians like Euler, Riemann, Gauss by Amit Kumar Verma (Regional Mathematics Olympiad Camp at Jawahar Navodaya Vidyalaya, Bikram, Patna)
7. Fermats Last Theorem from Pythagoras to Andrew Wiles by Amit Kumar Verma (BBVP Pilani)
8. Parameter Uniform Higher Order Numerical Approximation on Equidistributed Meshes for Parabolic IBVPs by Pratibhamoy Das (Kalyani University)
9. Covered the course Rings & Modules of M. Sc. in TPM by Om Prakash (NISER Bhubaneswar)
10. Basic of Mathematics and its applications in Computer Science by Om Prakash (Kota University, Kota)
11. Introduction to Cryptography by Om Prakash (Magadh University, Bodh Gaya)

Short-Term Courses, Training Programmes and Workshops organised

1. Advanced Wireless Networks: Joint Design of Technology and Business Models (Two week)
2. Instructional Schools for Teachers on Topology (May 1-13, 2017)
3. Mathematical approaches of Nanoscale filtration processes of solutions and supensions (8 Days)
4. Number Systems for Digital Signal Processing (one week)
5. Workshop on Sobolev Spaces (16-02-2017 to 23-02-2017)

Mechanical Engineering

12.1 Faculty Members

Dr. Akhilendra Singh *Associate Professor*	FEM, XFEM, Meshfree Method, Computational Mechanics, Fracture and Fatigue, Thermal Engineering
Dr. Karali Patra *Associate Professor*	Smart materials and smart systems; Micromachining; Condition Monitoring; Robotics and Mechatronics
Dr. Manabendra Pathak *Associate Professor*	Computational fluid dynamics and heat transfer; Turbulence modeling; Two-phase flow in micro and minichannels; Dispersion of particles, droplets and bubbles at micro- and nano-scales; Rheological and heat transfer characteristics of viscoplastic fluids; Nuclear materials; Solar thermal technology
Dr. Mayank Tiwari *Associate Professor*	Tribology, Gear, bearing wear and dynamics, Vacuum Tribology, Machine Dynamics, Rotor dynamics, Vibrations, Acoustics
Dr. Mohd. Kaleem Khan *Associate Professor*	Nuclear Reactor Safety; Two-phase flow in microchannels; Solar Thermal Technology; Non-Newtonian fluids
Dr. Probir Saha *Associate Professor*	Conventional and non-conventional machining, Welding, Soft computing in manufacturing process
Dr. Somnath Sarangi *Associate Professor*	Continuum Mechanics
Dr. Sudhanshu Sekhar Panda *Associate Professor*	Tool condition monitoring, Soft Computing, Metal Cutting and Machining, Industrial application of Soft computing technique in Machining, Designing of experiments, Statistical modelling,Bio Machining, Sensors Calliberation
Dr. Atul Thakur *Assistant Professor*	Bio-inspired robotics, physics-aware planning of robotic systems, and application of robotics techniques for micro-manipulation of biological cells
Dr. Rishi Raj *Assistant Professor*	Phase Change Heat Transfer, Micro-/Nano-Scale Transport, Energy, Surface Science, Microgravity Science
Dr. Somnath Roy *Assistant Professor*	Computational Fluid Dynamics, Turbulence, Mixing and Heat Transfer, High Performance Computation
Dr. Subrata Kumar *Assistant Professor*	Heat transfer, Laser Material Processing, Flow of Granular Materials, CFD
Dr. Anirban Bhattacharya *Assistant Professor*	Incremental sheet metal forming, Rapid prototyping, Conventional machining, Grinding, Non-conventional machining, Welding, Modeling and simulation of Manufacturing processes and systems
Dr. Anirban Mahato *Assistant Professor*	Manufacturing processes; Materials Processing; Tribology
Dr. Chiranjit Sarkar *Assistant Professor*	Magnetorheological (MR) Fluids and Devices, Tribology, CFD of Grease flow
Dr. Sudheer Siddapureddy *DST INSPIRE Faculty*	Heat Transfer in Fire, Thermal Radiation, Computational Fluid Dynamics

12.2 Academic Programmes

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

12.3 Research & Development Activities

Papers Published in Journals

1. Aditi Raj and Atul Thakur, Fish-inspired robots: design, sensing, actuation, and autonomy a review of research, Bioinspiration & Biomimetics, 11(3):031001 (2016).
2. S. Suman, M.K. Khan, M. Pathak and R.N. Singh, Rupture behaviour of nuclear fuel cladding during loss-of-coolant accident, Nuclear Engineering and Design, 307 319-327 (2016).
3. S. Suman, M.K. Khan, M. Pathak and R.N. Singh, 3D simulation of hydride-assisted crack propagation in zircaloy-4 using XFEM, International Journal of Hydrogen Energy, 10.1016/j.ijhydene.2 (2017).
4. Sathish P. Gundupalli, Subrata Hait and Atul Thakur, A review on automated sorting of source-separated municipal solid waste for recycling, Waste Management, 60:56-74 (2017).
5. Manish Kumar, Somnath Roy, A Sharp Interface Immersed Boundary Method for Moving Geometries with Mass Conservation and Smooth Pressure Variation, Computers and Fluids, 137, 15-35 (2016).
6. S. Raj, M. Pathak and M.K. Khan, An analytical model for predicting growth rate and departure diameter of a bubble in subcooled flow boiling, International Journal of Heat and Mass Transfer, 109470-485 (2017).
7. Manish Kumar, Somnath Roy, Md. Sujat Ali, An Efficient Immersed Boundary Algorithm for Flow in Curved and Moving Geometries, Computers and Fluids, 129, 159-178 (2016).
8. Ashu Garg, Anirban Bhattacharya, An insight to the failure of FDM parts under tensile loading: finite element analysis and experimental study, International Journal of Mechanical Sciences, 120, pp 225–236 (2017).
9. S. Mandal, S. Kumar, P. Bhargava and C. P. Paul, Analysis of discontinuous bead formation by PTAW process, Materials and Manufacturing Processes, 31 (2016).
10. K. Patra, A. K. Jha, T. Szalay, J. Ranjan and L. Monostori, Artificial neural network based tool condition monitoring in micro mechanical peck drilling using thrust force signals, Precision Engineering, Vol. 48, pp. 279–2 (2017).
11. Y. K. Prajapati, M. Pathak and M.K. Khan, Bubble dynamics and flow boiling characteristics in three different microchannel configurations, International Journal of Thermal Sciences, 112 371-382 (2017).
12. Ashu Garg, Anirban Bhattacharya, Ajay Batish, Chemical Vapor Treatment of ABS Parts built by FDM: Analysis of Surface Finish and Mechanical Strength, International Journal of Advanced Manufacturing Technology, 89(5),pp 2175–2191 (2017).
13. Adera, S., Antao, D. S., Raj, R., and Wang, E. N, Design of Micropillar Wicks for Thin-Film Evaporation, International Journal of Heat and Mass Transfer, 101, pp. 280-294 (2016).
14. Anirban Bhattacharya, Sanchit Singla, Dissimilar GTAW between AISI 304 and AISI 4340 Steel: Multi-response Optimization by Analytic Hierarchy Process, Proceedings of the Institution of Mechanical Engineers, Part E: Journal of Process Mechanical Engine, Online: 13-4-2016 (2016).
15. Kumar, A., and Raj, R., Droplets on Microdecorated Surfaces: Evolution of the Polygonal Contact Line, Langmuir, 33 (19), pp. 4854-4862, (2017).
16. Ashu Garg, Anirban Bhattacharya, Ajay Batish, Effect of Cold Vapour Treatment on Geometric Accuracy of Fused Deposition Modelling Parts, Rapid Prototyping Journal, Accepted: 11-11-2016 (2016).
17. Kriti Arya S. Sarangi, Effect of Damage on the Free Radial Oscillations of an Incompressible Isotropic Tube, Mathematics and Mechanics of Solids, Accepted (2017).
18. S. Suman, M.K. Khan, M. Pathak and R.N. Singh, Effects of hydride on crack propagation in zircaloy-4, Procedia Engineering, 173 1185-1190 (2017).
19. Sudheer Siddapureddy and Prabhu SV, Experimental and Numerical Simulation Studies on Heat Transfer to Calorimeters Engulfed in Diesel Pool Fires, Journal of Fire Sciences, 35, 156-176 (2017).
20. Shashi Prakash and Subrata Kumar, Experimental and theoretical analysis of defocused CO2 laser microchanneling on PMMA for enhanced surface finish, Journal of Micromechanics and Microengineering, 27 (2017).
21. Shashi Prakash and Subrata Kumar, Experimental investigations and analytical modeling of multi-pass CO2 laser processing on PMMA, Precision Engineering, In Press (2017).
22. C Sarkar and H Hirani, Experimental studies on Magnetorheological Brake containing Plane, Holed and Slotted Discs, Industrial Lubrication and Tibology, 69 (2017).
23. Shashi Prakash and Subrata Kumar, Fabrication of rectangular cross-sectional microchannels with a CO2 laser and underwater fabricated copper mask, Optics and Laser Technology, 94 (2017).
24. D. Sagapuram, K. Viswanathan, A. Mahato, N.K. Sundaram, R. MSaoubi, K.P. Trumble, S. Chandrasekar, Geometric flow control of shear bands by suppression of viscous sliding, Proceedings of the Royal Society A, 472 (2192) 20160167 (2016).

25. Sudheer Siddapureddy, Klaus-Dieter Wehrstedt and Prabhu SV, Heat Transfer to Bodies Engulfed in Di-tert-butyl Peroxide Pool Fires - Numerical Simulations, Journal of Loss Prevention in the Process Industries, 4, 204-211 (2016).
26. Manish Kumar, Somnath Roy, Immersed boundary method simulation of natural convection over fixed and oscillating cylinders in square enclosure, International Journal of Heat and Fluid Flow, 61, 407-424 (2016).
27. Dwaipayan Sarkar, Nishant Agarwal, Somnath Roy, Subhas Chnadra Rana, Immersed boundary simulation of flow through arterial junctions, Sadhana, (2017).
28. L G Westerberg, C Sarkar, J F Lladós, T. S Lundström and E Höglund, Lubricating grease flow in a double restriction seal geometry: a Computational Fluid Dynamics approach, Tribology Letter, Accepted (2017).
29. Anirban Bhattacharya, Sanchit Singla, Mechanical Properties and Metallurgical Characterization of Dissimilar Welded Joints between AISI 316 and AISI 4340, Transactions of the Indian Institute of Metals, 70(4), pp 893–901 (2017).
30. Ravi Shankar Anand and Karali Patra, Mechanistic cutting force modeling for micro-drilling of CFRP composite laminates, CIRP Journal of Manufacturing Science and Technology, Vol. 16, pp. 55–63 (2017).
31. A K Verma, S Sarangi and M. H. Kolekar, Misalignment Faults Detection in Induction Motor Based on Multiscale Entropy and Artificial Neural Network, Electric power Components and Systems, 44(8):916–927 (2016).
32. Debashish Sheth, Santanu Das, Avik Chatterjee, Anirban Bhattacharya, Modeling of Closed-Die Forging for Estimating Forging Load, Journal of the Institution of Engineers (India), Series C, 98(1), pp 53-61 (2017).
33. L G Westerberg, E Höglund and C Sarkar, Modelling and Experimental Validation of Grease Flow, Eurogrease, 4 (2016).
34. Himanshu Pathak, Akhilendra Singh, I. V. Singh, Numerical Simulation of 3-D Thermo-Elastic Fatigue Crack Growth Problems using Coupled FE-EFG Approach, Institution of Engineers: Mechanical Series C, 97,1-18 (2016).
35. Pintu Kumar, S S Panda, Numerical simulation of Al1070 alloy through hybrid SPD process, JAMT, (0).
36. C Sarkar, L G Westerberg and E Hoglund, Numerical simulations of lubricating grease flow in a rectangular channel with- and without restrictions, Tribology Transactions, pp 1-13 (2017).
37. Ashu Garg, Anirban Bhattacharya, On Lap Shear Strength of Friction Stir Spot Welded AA6061 Alloy, Journal of Manufacturing Processes, 26, pp. 203–215 (2017).
38. D.S. Thakur, M.K. Khan and M. Pathak, Performance evaluation of solar air heater with novel hyperbolic rib geometry, Renewable Energy, 105 786-797 (2017).
39. C K Nirala, P Saha, Precise μEDM-drilling using Real-time Indirect Tool Wear Compensation, Journal of Materials Processing Technology, 240, pp. 176-189 (2017).
40. Raj Kumar Sahu and Karali Patra, Rate dependent mechanical behavior of VHB4910 elastomer, Mechanics of Advanced Materials and Structure, Vol. 23, pp. 170-179 (2016).
41. S. Suman, M.K. Khan, M. Pathak and R.N. Singh, Rupture behaviour of nuclear fuel cladding during loss-of-coolant accident, Nuclear Engineering and Design, vol.307, pp.319-327 (2016).
42. A. Mahato, H. Yeung, Y. Guo, K. Viswanathan, N. K. Sundaram, A. Udupa, J.B. Mann, S. Chandrasekar, Sinuous flow and folding in metals: Implications for delamination wear and surface phenomena in sliding and cutting, Wear, accepted (2017).
43. Ashu Garg, Anirban Bhattacharya, Strength and failure analysis of similar and dissimilar friction stir spot welds: Influence of different tools and pin geometries, Materials & Design, Available online (2017).
44. K. Viswanathan, A. Mahato, H. Yeung, S. Chandrasekar, Surface phenomena revealed by in situ imaging: studies from adhesion, wear and cutting, Surface Topography: Metrology and Properties, 5 (1) 014002 (2017).
45. Tarun Kumar Bera, Sushank Dixit, Anirban Bhattacharya, Devender Kumar, Arun Kumar Samantaray, Thermal modelling, simulation and experimental validation of heat accumulation in a framed glass cabin, Journal of Theoretical and Applied Mechanics, Accepted: 05-04-2017 (2017).
46. Himanshu Pathak, Akhilendra Singh, I. V. Singh, Three-dimensional quasi-static interfacial crack growth simulations in thermo-mechanical environment by coupled FE-EFG approach, Theoretical and Applied Fracture Mechanics, 86,267-283 (2016).
47. Deepak Kumar Prajapati, Mayank Tiwari, Topography Analysis of Random Anisotropic Gaussian rough surfaces, ASME Journal of Tribology, 139(4) (2017).
48. Y. K. Prajapati, M. Pathak and M.K. Khan, Transient heat transfer characteristics of segmented finned microchannels, Experimental Thermal and Fluid Science, 79134-142 (2016).
49. DK Prajapati, Mayank Tiwari, Use of Artificial Neural Network (ANN) to determine roughness parameters, friction coefficient and wear during pin-on-disc tribotesting, Key Engineering Materials, 2017, Vol. 739, pp 87-95.

Papers Presented in Conferences

1. S. Suman, M.K. Khan, M. Pathak and R.N. Singh, 3D simulation of hydride-assisted crack propagation in zircaloy-4 using XFEM, 5th International Conference on Energy Engineering and Environmental Engineering (ICEEEE-2017), Xiamen, China (2017)
2. S. Suman, M.K. Khan, M. Pathak and R.N. Singh, Effects of Hydrogen on Thermal Creep Behaviour of Zircaloy, 3rd Indo-Austrian Symposium on Advances in Materials Engineering (AME 2016), 19-20, IIT Bombay, Mumbai, India (2016)
3. D.S. Thakur, M.K. Khan and M. Pathak, 3D CFD Simulation of Solar Air Heater Artificially Roughened with Novel Hyperbolic Ribs, 6th International and 43rd National Conference on Fluid Mechanics and Fluid Power, MNNIT Allahabad (2016)
4. Deepak Kumar Prajapati, Mayank Tiwari, A comparison of wear parameters for aluminium and steel materials during pin-on- disc tribotesting, National Tribology Conference, IIT BHU (2016)
5. A. Ranjan, R Gauda, M. Pathak and M. K. Khan, A Review on Bubble Growth, Departure Diameter and Release Frequency in Pool Boiling, 6th International and 43rd National Conference on Fluid Mechanics and Fluid Power, MNNIT Allahabad (2016)
6. Kishan Gopal Karwa, Samiran Mondal, Amarjeet Kumar and Atul Thakur, An Open Source Low-Cost Alligator-Inspired Robotic Research Platform, 6th International Symposium on Embedded computing & system Design (ISED), IIT Patna (2016)
7. Aditi Raj, Amarjeet Kumar and Atul Thakur, Automated Locomotion Parameter Tuning for an Anguilliform-inspired Robot. In Systems, 2016 IEEE International Conference on Systems, Man, and Cybernetics, Budapest, Hungary (2016)
8. Sathish G. Paulraj, Subrata Hait, and Thakur A., Automated municipal solid waste sorting for recycling using a mobile manipulator, 40th International Conference on Mechanisms and Robotics (MR) at 2016 ASME-IDETC, Charlotte, NC, USA (2016)
9. Pranav Kulkarni, Aditya Kumar, Ajay D. Thakur and Atul Thakur, Automated non-prehensile magnetic micromanipulation in presence of spatially varying flow field, 10th International Conference on Micro- and Nanosystems (MNS)at 2016 ASME-IDETC, Charlotte, NC, USA (2016)
10. Raj, R., and Thakur, A., Buoyancy Induced Detachment of Pendant Droplets, 6th International and 43rd National Conference on Fluid Mechanics and Fluid Power, MNNITA, Allahabad, U.P., India (2016)
11. Amarjeet Kumar, Biswaranjan Das and Atul Thakur, Case Studies on Design for Fast Prototyping of Bio-Inspired Robots Using 2D Laser Cutting, 6th International & 27th All India Manufacturing Technology, Design and Research Conference (AIMTDR2016), College of Engineering Pune (2016)
12. Shashi Prakash and Subrata Kumar, CO2 Laser Microchanneling Process: Effects of Com- pound Parameters and Pulse Overlapping, IConAMMA 2016, Amrita University Bangalore (2016)
13. Kumar, N., Raza, Md. Qaisar, and Raj, R., Effect of Orientation on Pool Boiling Heat Transfer with Aqueous Surfactant Solution, 6th International and 43rd National Conference on Fluid Mechanics and Fluid Power, MNNITA, Allahabad, U.P., India (2016)
14. Shukla, V., Raza, Md. Qaisar, Kumar, N., and Raj, R., Effect of Sidewall Containment on Pool Boiling with Aqueous Surfactant Solution on an Inverted Heater, 6th International and 43rd National Conference on Fluid Mechanics and Fluid Power, MNNITA, Allahabad, U.P., India (2016)
15. S. Suman, M.K. Khan, M. Pathak and R.N., Effects of Hydride on Crack Propagation in Zircaloy-4, 11th International Symposium on Plasticity and Impact Mechanics, IMPLAST 2016, IIT Delhi (2016)
16. S. Suman, M.K. Khan, M. Pathak and R.N. Singh, Effects of Hydrogen on Thermal Creep Behaviour of Zircaloy, 3rd Indo-Austrian Symposium on Advances in Materials Engineering (AME 2016), IIT Bombay, Mumbai (2016)
17. S.Suman, M.K.Khan, M.Pathak and R.N. Singh, Effects of Hydrogen on Thermal Creep of Zircaloy, 5th International Conference on Nuclear and Renewable Energy Resources, NURER2016, Hefei,China (2016)
18. A. Saini, D. Ahmad and K. Patra, Electro-mechanical performance analysis of inflated dielectric elastomer membrane for micro pump applications, Proc. SPIE 9798, Electroactive Polymer Actuators and Devices (EAPAD) 2016, Las Vegas, Nevada, USA (2016)
19. Ghosh, D. P., Sharma, D., Raj, R., and Saha, S. K., Enhancement of Flow Boiling Heat Transfer via Suppression of Pressure Drop Fluctuations in Nanostructured Microchannels, 6th International and 43rd National Conference on Fluid Mechanics and Fluid Power, MNNITA, Allahabad, U.P., India (2016)
20. Kumar, A., and Raj, R., Evolution of Droplets with Polygonal Contact Line on Microstructured Surfaces, 6th International and 43rd National Conference on Fluid Mechanics and Fluid Power, MNNITA, Allahabad, U.P., India (2016)
21. Pankaj Kumar and Akhilendra Singh, Experimental and Simulation Study of AA 5754 Tearing Energy, International Conference of Material Processing and Characterization (ICMPC-2016), Hyderabad (2016)
22. Adera, S., Antao, D. S., Raj, R., and Wang, E. N., Experimental Characterization and Modeling of Capillary-Pumped Evaporation from Micropillar Wicks, Heat Transfer, Fluids Engineering, & Nanochanneels, Microchannels, and MInichannels Conferences, Washington DC, USA (2016)

23. Adera, S., Antao, D. S., Raj, R., and Wang, E. N., Extreme Hotspot Heat Flux Thermal Management via Thin-Film Evaporation from Microstructured Surfaces, Hilton Head 2016 Workshop, A Solid-State Sensors, Actuators and Microsystems Workshop, Sonesta Resort, SC 29928, USA (2016)
24. Tej Pratap and Karali Patra, Fabrication and surface characterization of tool based micro—dimple texture on Ti-6Al-4V for biomedical implants, 6th International & 27th All India Manufacturing Technology, Design and Research (AIMTDR 2016), College of Engineering, Pune, India (2016)
25. Sharma, D., Ghosh, D. P., Raj, R., and Saha, S. K., Flow Boiling in Microchannels: Experimental Study of Heat Transfer and Pressure Drop Fluctuations, 6th International and 43rd National Conference on Fluid Mechanics and Fluid Power, MNNITA, Allahabad, U.P., India (2016)
26. Y. K. Prajapati, M. Pathak and M.K. Khan, Flow Visualization Study of Reverse Flow Phenomenon in Microchannel, 6th International and 43rd National Conference on Fluid Mechanics and Fluid Power, MNNIT Allahabad (2016)
27. S. Gore, M. Pathak and M. K. Khan, Heat transfer Enhancement of Phase Change Material (PCM) with Nanoparticle for Thermal Storage System, 6th International and 43rd National Conference on Fluid Mechanics and Fluid Power, MNNIT Allahabad (2016)
28. Adera, S., Antao, D. S., Raj, R., and Wang, E. N., Hotspot Thermal Management via Thin-Film Evaporation, The Intersociety Conference on Thermal and Thermomechanical Phenomena in Electronic Systems, Cosmopolitan Hotel, Las Vegas, NV, USA (2016)
29. Manish Kumar, Somnath Roy, Immersed Boundary Simulation of Flow in Channel with Moving Indentation, FMFP, Allahbad (2016)
30. Pankaj Kumar and Akhilendra Singh, Investigation of Fracture Behaviour of Aluminum Alloy 5754, 2nd International Conference of Fatigue and Durability, IISC Banglore (2016)
31. Sudheer Siddapureddy and Satapathy AK, Liquid Sloshing in a Moving Tank – CFD, 6th International & 43rd National Conference on Fluid Mechanics and Fluid Power (FMFP-2016), Allahabad (2016)
32. A. Pratap, K. Patra and A. A. Dyakonov, Manufacturing miniature products by microgrinding: a review, International Conference on Industrial Engineering, Chelyabinsk, Russia (2016)
33. Himanshu Pathak, Akhilendra Singh and I.V Singh, Meshfree Modelling and Analysis of Cracked Panel Repaired by Bonded Composite Patch, International Congress on Computational Mechanics and Simulation(ICCMS 2016), IIT Bombay (2016)
34. Gunjan, M. R., and Raj, R., Modelling and Characterization of Mixed Mode of Droplet Evaporation, 6th International and 43rd National Conference on Fluid Mechanics and Fluid Power, MNNITA, Allahabad, U.P., India (2016)
35. L G Westerberg, E Höglund and C Sarkar, Modelling and experimental validation of lubricating grease flow, ELGI Annual General Meeting, Venice, Italy (2016)
36. Shashi Prakash, Nitish Kumar and Subrata Kumar, Monte-Carlo Based Uncertainty Analysis For CO2 Laser Micro-channeling Model, IConAMMA 2016, Amrita University Bangalore (2017)
37. I Ahmad, M. Pathak and M. K. Khan, Natural Convection in a Square Enclosure with Transpiration and Ventilation Port, 6th International and 43rd National Conference on Fluid Mechanics and Fluid Power, MNNIT Allhabad (2016)
38. S.Suman, M.K.Khan, M.Pathak and R.N. Singh, Numerical Investigation into Effects of Hydride Precipitated at a Crack Tip on the Crack Propagation in Zircaloy Cladding, 5th International Conference on Nuclear and Renewable Energy Resources, NURER2016, Hefei,China (2016)
39. L G Westerberg, E Höglund and C Sarkar, On the Flow of Lubricating Greases: a Computational Fluid Dynamics Approach, STLE Tribology Frontiers Conference, Chicago, USA (2016)
40. D.S. Thakur, M.K. Khan and M. Pathak, Parametric study of a solar air heater with different rib geometries, 12th International Conference on Heat Transfer, Fluid Mechanics and Thermodynamics, (HEFAT-2016), Costa del Sol, Spain (2016)
41. Brual C. Shah, Petr Švec, Atul Thakur and Satyandra K. Gupta, Path Planning for Unmanned Vehicles Operating in Time-Varying Flow Fields, ICAPS Workshop on Planning and Robotics (PlanRob 2016), London, UK, (2016)
42. S. Raj, M. Pathak and M.K. Khan, Prediction of Bubble Lift-off Diameter in Sub-Cooled Flow Boiling, 6th International and 43rd National Conference on Fluid Mechanics and Fluid Power, MNNIT, Allahabad (2016)
43. Nitish Kumar, Shashi Prakash and Subrata Kumar, Studies of laser textured Ti-6Al-4V wettability for implants, IConAMMA 2016, Amrita University Bangalore (2017)
44. Raza, Md. Qaisar, Kumar, N., and Raj, R., Surfactant Enhanced Pool Boiling Heat Transfer in Confined Spaces, 6th International and 43rd National Conference on Fluid Mechanics and Fluid Power, MNNITA, Allahabad, U.P., India (2016)
45. S. Suman, M.K. Khan, M. Pathak and R.N. Singh, Understanding Influence of Hydride Precipitated at a Crack Tip on Crack Propagation in Zircaloy-4 Fuel Cladding using XFEM, International Conference of Young Researchers on Advanced Materials, IUMRS-ICYRAM 2016, IISc Bangalore (2016)

46. Deepak Kumar Prajapati,Mayank Tiwari, Use of Artificial Neural Network (ANN) to determine roughness parameters, friction coefficient and wear during pin-on-disc tribotesting, ICETAT, Taipei Taiwan (2016)

Sponsored Research Projects

1. A Self Adaptive Cooling System by enhanced pool boiling (DST, Rs.36.25 Lakhs) (PI : Manabendra Pathak)
2. Acoustic Detection of Leidenfrost Dynamics on Scalable Micro-/ Nanostructured Surfaces (DST Nanomission, Rs.27.00 Lakhs) (PI : Rishi Raj)
3. Design and Development of an Agricultural Waste Based Gasifier Heating System for GreenCHILLTM (MDRD, DST and Newleaf, Rs.95.00 Lakhs) (PI : Rishi Raj)
4. Design of an Integral Squeezed Film Damper (Aeronautics R&D Board, Rs.36.41 Lakhs) (PI : Dr. Mayank Tiwari)
5. Enhancement of Boiling Heat Transfer via the Suppression of Coalescence in Microgravity (ISRO, Rs.27.00 Lakhs) (PI : Rishi Raj)
6. Flow Boiling Heat Transfer in Scalable Nanostructured Microchannels for High Heat Flux Applications (DST SERB, Rs.49.00 Lakhs) (PI : Rishi Raj)
7. Immersed Boundary Simulation of Flows over Oscillating Airflois (AR&DB, Rs.22.00 Lakhs) (PI : Somnath Roy)
8. Immersed boundary simulation of low Reynolds number flow over oscillating airfoils (ARDB, Rs.24.00 Lakhs) (PI : Somnath Roy)
9. Influence of Hydrogen Content on Burst Characteristics of Zircaloy-4 Cladding (BRNS, Rs.32.79 Lakhs) (PI : Mohd Kaleem Khan)
10. Influence of Secondary Heat in Friction Stir Welding: Mechanical Properties and Metallurgical Observations (SERB-DST, Rs.16.03 Lakhs) (PI : Dr. Anirban Bhattacharya)
11. Modeling and analysis of high speed hybrid micromachining (DST, Rs.23.34 Lakhs) (PI : Dr. Karali Patra)
12. Need Assesment Survey for Agricultural Implement Clusters Nalanda Noorsarai (DST, TIFAC, Rs.10.23 Lakhs) (PI : Somnath Roy)
13. Need Assesment Survey for Brass Metal Clusters (DST, TIFAC, Rs. 23.76 Lakhs) (PI: Somnath Sarangi)
14. Soft active dielectric elastomers for human motion based energy harvesting (DST, Rs.41.14 Lakhs) (PI : Dr. Karali Patra)
15. Technology gap analysis for combined study proposal for the following clusters: copper & bronze utensils clusters, Mahua, Vaishali, Brass & German S (TIFAC, Rs.23.76 Lakhs) (PI : Dr. Somnath Sarangi)
16. Technology Gap Analysis Study for Jhula Cluster, Kanhaiyaganj, Nalanda. (DST TIFAC, Rs.10.23 Lakhs) (PI : Somnath Sarangi)
17. Technology Gap Analysis Study for the Agricultural Implements Cluster, Noorsarai, Nalanda, Bihar (TIFAC, Rs.10.23 Lakhs) (PI : Dr. Somnath Roy)

Consultancy Projects

1. CFD-Simulation in a Co-Current Pressure Nozzle-Spray Dryer (Haryana Leather Chemicals, Rs.0.45 Lakhs) Consultant Name: Rishi Raj
2. Preparation of DPR for Central Instrumentation Facility and Central Robotics Center (DST, Govt. of Bihar, Rs.3.25 Lakhs) Consultant Name: Dr. Atul Thakur
3. To determine the fault features of Faulty Bearings of Induction Motor from Current signal and Power Factor Signal at low sampling rate. (Prophecy Sensorlytics India Private Limited, Rs.1.00 Lakhs) Consultant Name: Somnath Sarangi

12.4 Other Activities

Member - Professional Bodies

1. Akhilendra Singh (2012) Socity of Automotive Engineers
2. Akhilendra Singh (2012) Indian Society of Theoratical and Applied Mechanics
3. Atul Thakur (2011) IEEE
4. Atul Thakur (2008) ASME
5. Karali Patra (2011) International Association of Engineers
6. Manabendra Pathak (2013) Indian Society for Heat and Mass Transfer (ISHMT)
7. Manabendra Pathak (2012) Society of Automotive Engineers India (SAE India)

8. Manabendra Pathak (2015) American Society of Thermal and Fluids Engineers (ASTEF)
9. Manabendra Pathak (2010) American Society of Mechanical Engineers (ASME)
10. Mayank Tiwari (2006) Tribology Society of India
11. Mohd. Kaleem Khan (2011) ASME
12. Mohd. Kaleem Khan (2010) ASHRAE
13. Somnath Roy (2013) ISHMT
14. Sudheer Siddapureddy (2016) National society of fluid mechanics and fluid power

Member - Editorial Board

1. Karali Patra (2016) Member, Editorial Council - Bulletin of South Ural State University, Series: Mechanical engineering

Awards & Honours

1. Mohd. Kaleem Khan (2017) Best Paper Award in ICEEEE-2017, Xiamen China
2. Manabendra Pathak (2017) Best Paper Award in ICEEEE-2017, Xiamen China in (2017).

Patents (filed / granted)

1. Patent Name: An improved valveless micropump with dome shaped dielectric elastomer diaphragm, pumping chamber and nozzle diffuser as flow control element'; Patent Owner: Karali Patra
2. Patent Name: Hybrid process for material repair deposition and soft coating for life extension; Patent Owner: Mayank Tiwari

Visits Abroad by Faculty Members

1. Mohd. Kaleem Khan - Paper presentation and chairing a session at Inter-national Conference HEFAT-2016 (Costa del Sol, Spain) 11-13 July 2016
2. Somnath Sarangi - Research Collaboration (Rolls-Royce Singapore) 30th January 1st February
3. Mayank Tiwari - attending ICETAT 2016 (Taipei Taiwan) 4 days
4. Sudhansu Sekhar Panda - Conference (Venice Italy) Oct 2016
5. Karali Patra-Joint Research (South Ural State University (SUSU), Chelyabinsk, Russia) 24-29 July, 2016
6. Karali Patra - Joint Research (NUS, Singapore) 24-28 June, 2016

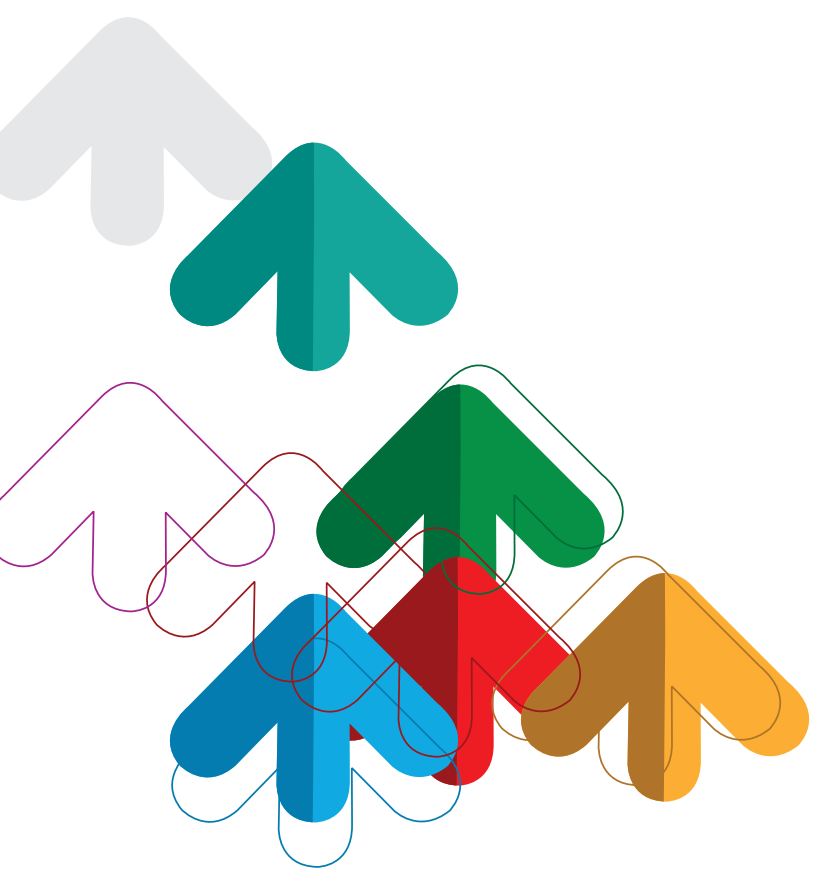
Invited Lectures by Faculty Members

1. Performance Enhancement of a Solar Air Heater with Novel Hyperbolic Ribs by Mohd. Kaleem Khan (IIT Patna: DST-SERB Sponsored Workshop on Fluid Mechanics: Modeling, Analysis and Computation)
2. Boiling Heat Transfer: Introduction to Applications by Rishi Raj (BCE Bhagalpur)
3. Critical Heat Flux Mechanism during Boiling with Surfactants by Rishi Raj (6th International and 43rd National Conference on Fluid Mechanics and Fluid Power)
4. Incremental Sheet Metal Forming – A Novel Method for Die-less Forming by Anirban Bhattacharya (Visvesvaraya National Institute of Technology (VNIT Nagpur))
5. FEA vs XFEM and Natural Frequency Evaluation by FEA by Akhilendra Singh (College of Engineering Adoor, Kerala)
6. Induction Motor Fault Diagnostics by Somnath Sarangi (NIT Durgapur)
7. Condition Monitoring by Probir Saha (NIT Durgapur)
8. Mobile Robotics Research at IIT Patna by Atul Thakur (NIT Durgapur)
9. Bio-inspired mobile robotics: An introduction by Atul Thakur (G H Patel College of Engineering and Technology)
10. Research on fish-inspired underwater robots by Atul Thakur (G H Patel College of Engineering and Technology)
11. Bio-inspired mobile robotics by Atul Thakur (Noida Institute of Engineering and Technology)
12. Segmented finned microchannels for enhanced boiling heat transfer and reduced flow instabilities by Manabendra Pathak (6th International and 43rd National Conference on Fluid Mechanics and Fluid Power (FMFP2016), MNNIT, Allahabad,)

13. A Parabolic Collector for Small Scale Solar Thermal Technology Applications by Manabendra Pathak (National Workshop on Advances in Renewable Energy, Cambridge Institute of Technology, Ranchi)
14. Boundary integral method for solving two-phase Stokes flow by Manabendra Pathak (Workshop on Fluid Mechanics: Modeling Analysis and Computation, IIT Patna)
15. Surface Failures in Mechanical Components by Mayank Tiwari (QIP course on Material Tribology IIT BHU)
16. Modelling and analysis of Mechanical Micromachining by Karali Patra (National Workshop on Micromachining Technology, IIT BHU, Varanasi)
17. Introduction to mechanical micromachining techniques for fabrication of micro-featured products by Karali Patra (South Ural State University (SUSU), Chelyabinsk, Russia)
18. Tool condition monitoring in micromachining by Karali Patra (TEQIP-II sponsored short term course on 'Machine Condition Monitoring (MCM-2016)', NIT Durgapur, Durgapur)
19. Electro-mechanical characterization of soft electro-active polymers for actuator applications by Karali Patra (National Workshop on Recent Trends in Electro Mechanical System (RTEMS), Bankura Unnayani Institute of Engineering, Bankura)
20. Soft and Stretchable Transducers for Robotics and Energy Harvesting Applications by Karali Patra (Laxmi Niwas Mittal Institute of Information Technology (LNMIIT), Jaipur)
21. Soft and Stretchable Smart Materials for Actuators and Generator Applications by Karali Patra (Key note Talk, International Conference on Materials, Design Systems and Manufacturing (ICMDSM), Jaipur Engineering College, Jaipur)

Short-Term Courses, Training Programmes and Workshops organised

1. GIAN course on Modeling approaches of nanoscale filtration processes of solutions and suspensions (13-20 July 2016)
2. Hierarchical Computational Methods in Cross Disciplinary MultiScale Methods (October 16-22)



Physics

13.1 Faculty Members

Dr. Manoranjan Kar *Associate Professor*	Condensed Matter Physics, Nanomaterials, Materials Science
Dr. Naveen Kumar Nishchal *Associate Professor*	Applied Optics (Optical Information Processing, Image Encryption, Watermarking, Digital Holography, Fractional Fourier Transform-based Signal Processing, Correlation-based Optical Pattern Recognition)
Dr. Utpal Roy *Associate Professor*	Bose-Einstein condensate, Nonlinear Optics, Quantum Optics
Dr. Ajay D. Thakur *Assistant Professor*	Earth abundant elements based advanced electronic materials for energy and sensing applications. Here the emphasis is on nanomaterials for energy harvesting and sensing applications
Dr. Alpana Nayak *Assistant Professor*	Condensed matter physics (experimental) Nanoionic devices; atomic switches; Scanning probe microscopy; Organic thin films
Dr. Awalendra K. Thakur *Assistant Professor*	Renewable Energy Resources, Composite Nano Structures, Solid State Ionics, Dielectrics and Ferroelectrics, Super Capacitors, E.M.I. Shielding
Dr. Ayash Kanto Mukherjee *Assistant Professor*	Transport in Conjugated Polymer, Metal-Organic Semiconductor interface, Organic electronic Devices, Molecular Electronics
Dr. Jayakumar Balakrishnan *Assistant Professor*	Experimental Condensed Matter: Spintronics, Graphene, 2D Materials
Dr. Jobin Jose *Assistant Professor*	Computational atomic and molecular physics: Photoionization / Scattering from atoms and molecules; Electronic structure properties of confined atomic systems; Strong field ionization
Dr. Manas Kumar Sarangi *Assistant Professor*	Biophysics and Ultrafast spectroscopy, Structure function relation in biopolymers
Dr. Raghavan K Easwaran *Assistant Professor*	Quantum Optics (Theory and Experiment)
Dr. R. Prabhu *Assistant Professor*	Quantum information theory and its interface with many-body physics and quantum optics
Dr. Soumya Jyoti Ray *Assistant Professor*	Condensed Matter and Nonoscale Physics (in general) with recent interests (not limited to) towards Superconductivity, Magnetism, Two-dimensional Layered Materials, Nanoelectronics, Spintronics
Dr. Venkata R. Dantham *Assistant Professor*	Bio-Photonics, Nanophotonics, Ultrasensitive optical biosensors, Photonic atoms
Dr. Prashant Kumar *Ramanujan Faculty*	Laser-based photo-chemical and photo-physical transformations; Graphene and its analogues, CNTs and Nanodiamond; Hybrid nanomaterials; Nanoplasmonics; Trace level molecular detection; Straintronics

13.2 Academic Programmes

- M.Tech in Nano Science and Technology
- M.Sc in Physics
- Ph.D Program

13.3 Research & Development Activities

Papers Published in Journals

1. S. Chatterjee, A. B. Ringane, A. Arya, G. M. Das, V. R. Dantham, R. Laha, S. Hussian, A high-yield, one-step synthesis of surfactant-free gold nanostars and numerical study for single-molecule SERS application, Journal Nanoparticle Research, 18, 242 (2016).

2. Pranay Ranjan, Tulika, Ranjit Laha, Jayakumar Balakrishnan, Au concentration-dependent quenching of Raman 2D peak in graphene, Journal of Raman Spectroscopy, 48, 586 (2017).
3. P Kulkarni, A Kumar, AD Thakur, A Thakur, Automated Non-Prehensile Magnetic Micromanipulation in Presence of Spatially Varying Flow Field, ASME 2016 International Design Engineering Technical Conferences and Computers and Information in En, V004T08A024-V004T08A (2016).
4. Asutosh Kumar, Sudipto Singha Roy, Amit Kumar Pal, R. Prabhu, Aditi Sen(De), and Ujjwal Sen, Conclusive identification of quantum channels via monogamy of quantum correlations, Physics Letters A, Vol. 380 pp. 3588 (2016).
5. Y Hu, P Kumar, Y Xuan, B Deng, M Qi, GJ Cheng, Controlled and Stabilized Light–Matter Interaction in Graphene: Plasmonic Film with Large-Scale 10-nm Lithography, Adv. Opt. Mater, 4, 1811 (2016).
6. Sweety Supriya, Sunil Kumar and M. Kar, Correlation between AC and DC transport properties of Mn substituted cobalt ferrite, J. Appl. Phys., 120, 215106 (2016).
7. R. Kumar, M. Kar, Correlation between lattice strain and magnetic behavior in non-magnetic Ca substituted nano-crystalline Cobalt Ferrite, Ceramics international, 42, 6640-6647 (2016).
8. Akash Arya and Venkata Ramanaiah Dantham, Development of experimental setup for fabrication of nanoplasmonic-photonic hybrid biosensors for the real-time detection and sizing of single molecules, Proceedings of Optical Society of America, Tu4A.9 (2016).
9. A Fatima and N K Nishchal, Discussion on comparative analysis and a new attack on optical asymmetric cryptosystem, Journal of Optical Society of America A, 33, 2034 (2016).
10. P. Kour, S. K. Pradhan, Pawan Kumar, S. K. Sinha, M. Kar, Enhanced ferroelectric and piezoelectric properties in La-modified PZT ceramics, Appl. Phys. A, 10.1007/s00339-016-0 (2016).
11. Chandrakanta Panda, Pawan Kumar, Rajnish Kumar and M. Kar, Enhanced Magnetic Properties near MPB in Ho and Mn Co-Substituted Nanocrystalline BiFeO3, Advanced Science Letters, 22, 766-772 (2016).
12. G. M. Das, R. Laha and V. R. Dantham, Enhancement of Raman Scattering Signal of a Few Molecules Using Photonic Nanojet Mediated SERS Technique, Proceedings of American Institute of Physics, 1728, 020564 (2016).
13. A Kumar, H Sharma, CV Tomy, AD Thakur, Extreme sensitivity of magnetic properties on the synthesis routes in La0. 7Sr0. 3MnO3, AIP Conference Proceedings 1728 (1), 020494, 1728 (1), 020494 (2016).
14. Asutosh Kumar, Himadri Shekhar Dhar, R. Prabhu, Aditi Sen(De), and Ujjwal Sen, Forbidden regimes in the distribution of bipartite quantum correlations due to multiparty entanglement, Physics Letters A, Vol. 381 pp. 1701 (2017).
15. B. Wilson, K. Fulfer, S. Mondal, X. Ren, J. Tross, E. Poliakoff, J. Jose, A-T Le, R. Lucchese, and C. Trallero, High order harmonic generation from SF6: Deconvolution of macroscopic effects., Journal of Chem. Physics, 145, 224305 (2016).
16. Lawrence Kumar, Pawan Kumar, Mukesh Kumar Zope and M. Kar, High-Temperature Magnetic Behaviour of 10 % Aluminium-Substituted Cobalt Ferrite, J Supercond Nov Magn, DOI 10.1007/s10948-0 (2017).
17. Sweety Supriya, Sunil Kumar and Manoranjan Kar, Impedance and DC resistivity studies on chromium substituted cobalt ferrite, Journal of Materials Science: Materials in Electronics, 10.1007/s10854-017-6 (2017).
18. AV Sanchela, AD Thakur, CV Tomy, Improvement in thermoelectric properties by tailoring at In and Te site in In2Te5, Journal of Electronic Materials 45 (11), 5540-5545, 45 (2016).
19. R. Kumar, M. Kar, Lattice strain induced magnetism in substituted nanocrystalline cobalt ferrite, Journal of Magnetism and Magnetic Materials, 416,335-341. (2016).
20. A Kumar, H Sharma, CV Tomy, AD Thakur, Magnetism in La0. 7Sr0. 3Mn1-xCoxO3 (0≤ x≤ 1), AIP Conference Proceedings 1731 (1), 130045, 1731 (1), 130045 (2016).
21. Chaitrali Sengupta, Manas Kumar Sarangi, Abhishek Sau and Samita Basu, Micellar control over tautomerization and photo-induced electron transfer of Lumichrome in the presence of aliphatic and aromatic amines: a transient absorption study, Methods and Applications in Fluorescence, 5 (2017).
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2. Sumit Bhushan and Raghavan K Easwaran, A compact and versatile design of two dimensional magneto optical trap for slow light experiments, CP-04.42, 108 (2016), DAE-BRNS National Laser Symposium -25 (NLS-25), KIIT University, Bhubhaneswar (2016)
3. A Fatima and N K Nishchal, Asymmetric optical cryptosystem Attack analysis, Int'l. Confer. on Light and Light-based Technologies (ICLLT-2016), Tezpur University (2016)
4. S. K. Rajput, D. Kumar, and N. K. Nishchal, Asymmetric security system using photon counting imaging and phase truncation approach, Symp. on Optics and Photonics based Technologies & Instruments for Civil Society (OPTICS-2016), CSIO Chandigarh (2016)
5. Yatish, A Fatima, and N. K. Nishchal, Barcode-based watermarking and optical encryption, The Int'l. Confer. on Fiber Optics and Photonics (PHOTONICS-2016), IIT Kanpur (2016)
6. S. Supriya, S.Kumar and M. Kar, CFO-Graphene Composite for High Performance Electrode Material, ICMDA, NIT Patna (2016)
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8. Akash Arya and V. R. Dantham, Development of experimental setup for fabrication of nanoplasmonic-photonic hybrid biosensors for the real-time detection and sizing of single molecules, International Conference on Fibre Optics and Photonics, IIT Kanpur, India (2016)
9. S. Kumar, S. Supriya, P. Kumar and M. Kar, Dielectric investigations on co-substituted bismuth ferrite (Bi1-xLaxFe1-xMnxO3), International Conference on Condensed Matter & Applied Physics, Bikaner, Rajasthan (2016)
10. D Kumar and N K Nishchal, Digital holography for recognition and information security of 3D objects, 3rd Int'l. Confer. on Opto-elctronics & Applied Optics (OPTRONIX-2016), Univ. of Engineering & Management, Kolka (2016)
11. Pranay Ranjan, Atul Kumar, Jayakumar Balakrishnan, Ajay D. Thakur, Dye adsorption behavior of graphene oxide, The 2nd International Conference on Emerging Materials: Characterization and Application (EMCA 2017), NIT Durgapur, West Bengal (2017)
12. Ajay D. Thakur, Earthabundant non-toxic element based functional materials-Scope, Prospects and Challenges, International Conference on Materials Science (ICMS-2017), Tripura University, Tripura (2017)
13. S. Kumar, S. Supriya and M. Kar, Electrical Properties of Barium Hexaferrites and Reduced Graphene Oxide Nanocomposite for Microwave Devices, 3rd International Conference on Emerging Electronics (ICEE), IIT Bombay (2016)
14. Sumit Bhushan and Raghavan K Easwaran, Electromagnetically Induced Transparency based Quantum Memory in a Cold Atomic Medium in a 2D-Magneto Optical Trap, PS-1-4, 60 (2017), National Conference of Atomic and Molecular Physics-XXI (NCAMP), Physical Research Laboratory Ahmedabad (2017)

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16. L. K. Pradhan, R. Pandey, and M. Kar, Existence of multi crystallographic phase in BNT-BTO solid solution near morphotropic phase boundary, DAE Solid State Physics Symposium, KIIT Bhubaneswar (2016)
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21. Akash Arya and V. R. Dantham, High yield synthesis of surfactant-free gold nanostars for biosensing, photothermal therapy and drug delivery applications, International conference on Nanomedicine and Drug Delivery, Osaka, Japan (2017)
22. A Fatima and N K Nishchal, Image encryption using Hartley transform domain polarization encoding, The Int'l. Confer. on Fiber Optics and Photonics (PHOTONICS-2016), IIT Kanpur (2016)
23. S. Supriya, S. Kumar and M. Kar, Impedance spectroscopy studies in cobalt ferrite reduced graphene oxide nanocomposite, DAE Solid State Physics Symposium, KIIT Bhubaneswar (2016)
24. Atul Kumar, Ajay D. Thakur, Improvement of efficiency in CZTSSe solar cells by using back surface field, International Conference on material science and technology, St. Thomas College, Palai, Kerala (2016)
25. N K Nishchal, Nature of light and laser, Workshop on Technology Trends in Optical Communications, Bhagalpur College of Engineering (2016)
26. A Fatima and N K Nishchal, Optical asymmetric cryptosystem using polarization-based equal modulus decomposition, Workshop on Optics and Photonics: Theory & Computational Techniques (OPTCT-2017), IIT Delhi (2017)
27. S. K. Rajput and N. K. Nishchal, Optical cryptosystem based on photon counting imaging and phase truncation approach, Workshop on Optics and Photonics: Theory & Computational Techniques (OPTCT-2017), IIT Delhi (2017)
28. N K Nishchal, Optical Security, Workshop on Technology Trends in Optical Communications, Bhagalpur College of Engineering (2016)
29. Gour Mohan Das, V. R. Dantham, Photonic nanojet mediated surface enhanced Raman scattering and fluorescence techniques for single molecule study, Research Scholar Day Celebration, IIT Patna (2017)
30. R. Pandey, C. Panda, P. Kumar, L. K. Pradhan and M. Kar, Role of Grain and Grain Boundary on the Electrical and Thermal Conductivity of Bi0.9Y0.1Fe0.9Mn0.1O3 Ceramics, DAE Solid State Physics Symposium, KIIT Bhubaneswar (2016)
31. Atul Kumar, Pranay Ranjan, Ajay D. Thakur, Secondary Phase in CZTS thin film grown using direct liquid coating, International Conference on Processing of Materials, Minerals and Energy (PMME 2016), Ongole, Andhra Pradesh (2016)
32. N K Nishchal, Securing digital holograms through watermarking, The Int'l. Confer. on Fiber Optics and Photonics (PHOTONICS-2016), IIT Kanpur (2016)
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34. Sumit Bhushan and Raghavan K Easwaran, Slow Light in Two Dimensional Magneto Optical Trap, Research Scholars Day, IIT PATNA (2017)
35. Ashutosh Kumar, Ajay D Thakur, SrBi4Ti4O15 Aurivillius Phase Thin Films by Pulsed Laser Deposition using Nd:YAG Laser, International Conference on Recent Trends in Chemical Science (ICRCS 2017), GEC, Bikaner, Rajasthan (2017)
36. Ashutosh Kumar, C. V. Tomy and Ajay D. Thakur, Structural and Magnetic Properties in Sr and Mn co substituted LaCoO3, International Conference on Magnetic Materials and Applications (ICMAGMA-2017), Hyderabad (2017)
37. S. Kumar, S. Supriya and M. Kar, The effect of sintering on the electrical properties of BaFe12O19, ICMDA, NIT Patna (2016)
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40. U. Roy, Coherent Control of Bose-Einstein condensate under external confinement, 21st National Conference on Atomic & Molecular Physics (NCAMP-21), Physical Research Laboratory, Ahmedabad, Jan. 3-6, 2017.

41. J. Bera and U. Roy, Higher Harmonic Generation in Bose-Einstein condensate under time varying Optical Lattices, 21st National Conference on Atomic & Molecular Physics, Physical Research Laboratory, Ahmedabad, Jan. 3-6, 2017.

Sponsored Research Projects

1. Study of Optical Image Fusion Techniques for Securing Multispectral Data (CSIR New Delhi, Rs.21.24 Lakhs) (PI : Naveen Kumar Nishchal)
2. Identification of Biological Micro-organisms with Digital Holography (DRDO HQ New Delhi, Rs.16.71 Lakhs) (PI : Naveen Kumar Nishchal)
3. Coherent Control and Interferometry using Bose-Einstein condensate (DST, Rs.15.24 Lakhs) (PI : Utpal Roy)
4. Design and Development of an Agricultural Waste Based Gasifier Heating System for GreenChillTM (UAY, DST & New Leaf Dynamics (Industry Partner), Rs.95.07 Lakhs) (PI : Dr. Rishi Raj, CO-PI: Dr. Ajay D. Thakur)
5. DST INSPIRE Faculty Fellowship (DST, Rs.35.00 Lakhs) (PI : Jayakumar Balakrishnan)
6. Electromagnetically Induced Transparency and Slow Light in a Two dimensional Magneto Optical Trap (2D MOT) (SERB, DST, Rs.21.20 Lakhs) (PI : Dr Raghavan K Easwaran)
7. Enhancement of Raman scattering signal of single molecules using photonic nanojet mediated surface enhanced Raman scattering (SERS) technique (Council of Scientific & Industrial Research (CSIR), Rs.30.00 Lakhs) (PI : Dr. Venkata Ramanaiah Dantham)
8. Fluctuation in DNA dynamics for molecular recognition (SERB, Rs.43.48 Lakhs) (PI : Dr Manas Kumar Sarangi)
9. Photoionization and Electron Scattering Dynamics of Free and Confined Atomic Systems. (Science & Engineering Research Board (SERB), Rs.25.58 Lakhs) (PI : Jobin Jose)
10. Polymer And Perovskite Based Nanocomposite For Under Water Acoustic Transducer (Nrb (Submitted), Rs.32.00 Lakhs) (PI : Manoranjan Kar)
11. Quantum Information Theory (INSPIRE Faculty Award, Department of Science and Technology, Valid till May-2017, Rs.35.00 Lakhs) (PI : R. Prabhu)
12. Real-time detection and sizing of single protein molecule using a nanoplasmonic-whispering gallery mode hybrid microresonator (Science and Engineering Research Board (SERB), Rs.54.40 Lakhs) (PI : Dr. Venkata Ramanaiah Dantham)
13. Spin Transport in 2D materials (Graphene-Perovskite (LSMO) Heterostructures (DST-Nanomission, Rs.31.79 Lakhs) (PI : Dr. Jayakumar Balakrishnan)
14. Spin transport in Graphene/LSMO heterostructure (DST NanoMission, Rs.31.79 Lakhs) (PI : Jayakumar Balakrishnan)
15. Superconducting spintronics using hybrid superconducting-ferromagnetic metamaterials (DST, Rs.35.00 Lakhs) (PI : Dr. S. J. Ray)
16. Synthesis of 2D materials, their hybrids and their novel applications (SERB, Rs.89.00 Lakhs) (PI : Prashant Kumar)

13.4 Other Activities

Fellow - Professional Bodies

1. Naveen Kumar Nishchal (2005) Optical Society of India

Member - Professional Bodies

1. Ajay D. Thakur (2016) Magnetics Society of India
2. Ajay D. Thakur (2011) Indian Physics Association
3. Jobin Jose (2009) Indian Society of Atomic and Molecular Physics
4. Manas Kumar Sarangi (2016) International Biophysical Society
5. Manas Kumar Sarangi (Lifetime) Indian Biophysical Society
6. Manas Kumar Sarangi (Lifetime) Indian Society for Radiation and Photochemical Sciences
7. Naveen Kumar Nishchal (2015) OSA-The Optical Society
8. Naveen Kumar Nishchal (2015) The International Society for Optical Engineering
9. Naveen Kumar Nishchal (2004) Lasers and Spectroscopy Society of India
10. Naveen Kumar Nishchal (2010) Indian Science Congress Association

11. Prashant Kumar (2011) American Physical Society
12. Prashant Kumar (2011) SPIE
13. Prashant Kumar (2011) American Nano Society
14. Prashant Kumar (2012) Royal Society of Chemistry
15. Soumya Jyoti Ray (2015) DPG- German Physics Society
16. Utpal Roy (2016) Indian Society of Atomic & Molecular Physics

Member - Editorial Board

1. Naveen Kumar Nishchal (2014) Academic Editor - The Scientific World Journal: Signal Processing
2. Prashant Kumar (2014) Member - Advances in natural sceinces
3. Prashant Kumar (2016) Member - Journal of NanoScience, NanoEngineering & Applications

Awards & Honours

1. Naveen Kumar Nishchal (2016) Best paper award
2. Venkata Ramaniah Dantham (2017) Best poster award on the occasion of Research scholars day at IIT Patna
3. Venkata Ramaniah Dantham (2017) Merit award on the occasion of National Science Day at IIT Patna
4. Venkata Ramaniah Dantham (2016) Nominated for Inspire teachers network program initiated in 2013 by the Honorable President
5. Raghavan K Easwaran (2016) Nominated for Inspire Teachers Network, a program initiated in 2013 by the Honorable President

Fellowships

1. Manas Kumar Sarangi (2016) Novozymes and Holck-Larsen foundation fellowship (2016), U. of Aarhus, Denmark
2. Soumya Jyoti Ray (2016) DST INSPIRE Fellowship

Visits Abroad by Faculty Members

1. Manas Kumar Sarangi - Collaborative research (University of Illinois at Chicago) 2.5 months

Invited Lectures by Faculty Members

1. Basics of wave optics by Naveen Kumar Nishchal (IIT Patna)
2. Diffraction and Interference by Naveen Kumar Nishchal (IIT Patna)
3. Digital holography for recognition and information security of 3D objects by Naveen Kumar Nishchal (Kolkata)
4. A Glimpse into Quantum Communication Networks by R. Prabhu (Department of Physics, IIT Bombay)
5. Introduction to Numerical Techniques by Jobin Jose (St. Alloysious College Mangalore)
6. LASER: Concepts, experiment and applications in workshop Concepts of Physics through Experiments by Raghavan K Easwaran (IIT Patna)
7. Application of Rayleigh scattering towards single protein molecule detection by Venkata Ramaniah Dantham (IIT Patna in Workshop for RESPECT KVs)
8. Novel techniques for real-time detection of single viruses/protein molecules by Venkata Ramaniah Dantham (IIT Patna in Workshop for KV teachers)
9. Refraction and Dispersion in Workshop on Concepts of Physics through Experiments by Jobin Jose (IIT Patna)
10. Muon-spin rotation measurements of the vortex state in Sr2RuO4 by Soumya Jyoti Ray (IIT Roorkee)
11. The Art of Being Artificial by Manas Kumar Sarangi (IIT Patna)
12. Community Engagement Activity and Higher Education by Ajay D. Thakur (NCRI, Hyderabad)
13. Earth abundant non-toxic element based functional materials: scope, prospects and challenges by Ajay D. Thakur (Tripura University)
14. 2016 Nobel Prize in Physics by Ajay D. Thakur (IIT Patna Nobel Physics Colloquium, November 3, 2016)
15. Formulas in Physics: intuition and beyond by Ajay D. Thakur (IIT Patna, July 15, 2016)
16. Physics Pedagogy by Ajay D. Thakur (IAPT Three Day RESPECT-KV Workshop, IIT Patna (April 9, 2017))

17. Insights from similarities in physical phenomena-Intuition and beyond by Ajay D. Thakur (IAPT Three Day RESPECT-KV Workshop, IIT Patna (October 21-23, 2016))
18. Trap Engineering in a Cigar-Shaped Bose-Einstein Condensate: Exact Analytical Approach by Utpal Roy (IIT Ropar)
19. Coherent Control of Bose-Einstein condensate under external confinement by Utpal Roy (Physical Research Laboratory, Ahmedabad)
20. Condensed Ultracold Atoms: A Room for New Technology by Utpal Roy (Patna University)
21. Introduction to Rietveld refinement Technique and electron optics by Manoranjan Kar (NIT Durgapur)
22. Correlation Between Crystal Structure and Magnetic Behaviour of Substituted Nanocrystalline Bismu by Manoranjan Kar (NIT Nagaland)
23. Quantum confinement of electron in nanomaterial and Mechanical strength of nanomaterial: from Nan by Manoranjan Kar (NIT Durgapur)
24. Crystal structure and Magnetism in Substituted Nanocrystalline Ferrites by Manoranjan Kar (Madras University).
25. Coherent Control of Bose-Einstein condensate under external confinement by Utpal Roy, 21st National Conference on Atomic & Molecular Physics (NCAMP-21), Physical Research Laboratory, Ahmedabad, Jan. 3-6, 2017.
26. A tour in Quantum Space by Utpal Roy, Workshop for the Kendriya Vidyalay Physics teachers “RESPECT”, 7-9th April, 2017

Short-Term Courses, Training Programmes and Workshops organized

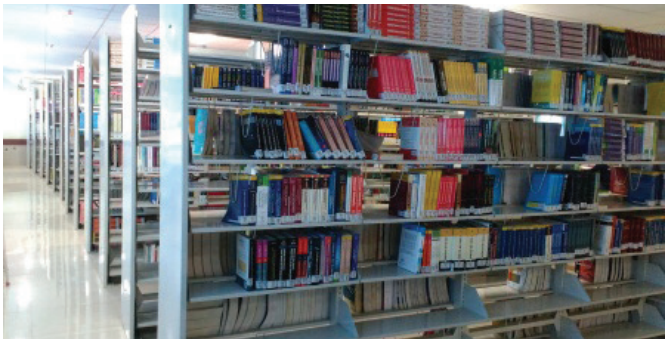
1. (15th and 16th July 2016)
2. Workshop for Revitalizing School Physics Education through concept oriented teaching for physics PGT KV”. (21st to 23rd October 2016).
3. “Research Training Workshop on Concepts and Practice of Material Characterization” (24th to 26th November 2016).

Centralized Services, Programmes and Units

14.1 Central Library [2016 – 2017]

The Central Library of IIT Patna has become an advanced library in a very short span of time. It has acquired a large collection of books and e-journals and provides excellent services to its users. Central Library caters the information needs of its highly demanding faculty members, research scholars, students as well as staff of the Institute by offering a wide range of knowledge based (and value added) services and products. The Central Library, IIT Patna has a collection of 17291 books till date. During 2016 - 2017, 3917 new books have been added to the Central Library. All books are RFID tagged and duly processed before use or circulation. Within this period Central Library has also subscribed various new e-resources in the form of full-text e-journals and e-books to disseminate the requirement of the users. Central Library has added two new e-journals collection i.e. SPIE Digital Library, PNAS and also procured backfiles i.e. archive collection of Science, Science Direct Journals (Engineering Collection, Material Science Collection and Computer Science Collection) and Wiley Journals (31 Titles) to satisfy the information need of the users of IIT Patna. Being a core member of E-Sodh Sindu Consortium Central Library is also getting access of various e-resources from the consortium. Central Library is subscribing Forty Six e-journals packages and twelve e-books packages of different publisher in total, which facilitate various knowledge based needs of the users. Central Library has also procured a good number of books in Hindi language. The Central Library has been also procuring few popular magazines and eight daily news paper of English and Hindi languages. Central Library successfully organized user awareness programmes for various e-resources such as Web of Science, SciFinder, Ebrary, IEEE etc.

The Central Library has published its own website during this reporting year.



14.2 Computer Center

Faculty inCharge:

Dr. Joydeep Chandra (Head of Department, Computer Center)

Dr. Abyayananda Maiti (Ass. Head of Department, Computer Center)

Staff:

Mr. Sandip Kishore, Scientific Officer

Mr. Rajender Kumar, STS

Mr. Ajay Kumar Sharma, JTS

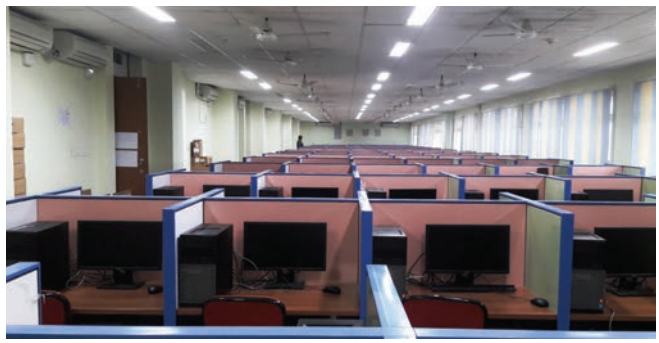
Preface

IIT Patna has a state of the art computer center. There are two computer center labs, CC-1 and CC-2. CC-1 is equipped with 172 desktops and CC-2 is equipped with 42 Desktops. These labs operate from 9:00 AM till 12:00 PM on all seven days. In addition there are twelve UNIX/Linux/VMware based servers that caters to the institute IT services like Mail, Institute Webserver, Intranet, Online recruitment and admissions and students' academic requirements and research purpose. Availability of the servers and resources is ensured with power back up provided by UPS grid.

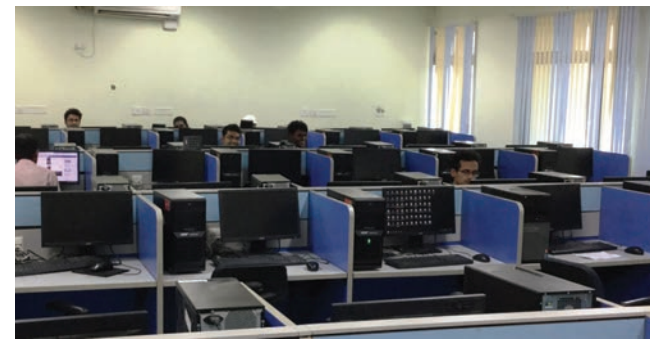
A local area network with IP telephony is catering to the needs of students, faculty and staff in academic as well as residential areas. Dedicated NKN (National Knowledge Network) link provides for state of the art virtual classroom service as well as internet. High speed and uninterrupted internet access is provided across the campus to everyone through multiple ISP (Internet Service Provider) leased lines provided by RailTel, Reliance and NKN. The bandwidth details of these leased lines are as follows:

Sl No	ISP	Bandwidth (Mbps)
1	RAILTEL	75
2	Reliance PRI	--
3	NKN	1000*

*Shared for virtual classroom and internet



CC LAB-1



CC LAB-2

Server Room

Hardware Resources

During the period of 2015-16, new state of the art hardware resources were added to Computer Center inventory. These resources align with the requirements of faculty, staff and students.

Following is the list of hardware resources procured:

Sl No.	Item	Unit	Price (INR)
	Pest control solution for server room and store room	12	184074
	Laptop	30	16,46,662
	Desktop	127	57,65,822
	CCTV for labs, server roomfuls room etc	10	2,60,366
	Antivirus	Campus license	3,72,840
	High end servers	4	31,68,214
	Printers	10	1,69,017
	Total	1,15,66,995	

Overall, hardware resources of value **INR 1, 15, and 66,995** only were procured to cater for needs of computer Center.

Maintenance and Software Resources

During the period of 2015-16, maintenance and renewal of existing H/W and S/W resources was taken up and new Software resources were added to Computer Center inventory. These resources align with the requirements of faculty, staff and students.

Following is the list of Software resources procured:

Sl No.	Item	Unit	Price (INR)
	Six months maintenance contract of online UPS	4	69,000
	Dell Warranty Extension	150	6,36,405
	Railed Payment	1	12,59,500
	Microsoft Campus Renewal	Campus License	8,85,012
	15 KVA Eaton UPS Commissioning and accessories Charges	3	21,000
	Wild card based SSL certificate for servers hosted under IIT Patna domain 'iitp.ac.in'	1	84,410
	Geotrust Single domain SSL certificate for "webmail.iitp.ac.in" renewal		33,350
	Cyberroam Upgarde	2	17,84,656
		Total	47,73,333

Overall, Software resources of value **INR 47, 73,333** only were procured to cater for needs of Computer Center.

Network

During the period of 2014-15, IIT Patna shifted to its permanent campus of 550 Acres. To provide LAN, internet and telephone service access across the campus, IIT Patna had floated a tender (via e-tendering) for turnkey solution including design, supply, installation, testing, commissioning, operation & maintenance for 3 years of backbone network for providing Data & Telephone services at Bihta campus. The project was awarded to M/S IBM India Pvt Ltd and currently it is final stage of completion.

The value of this project is around **Rs. 6,50,99,490.**

The technical solution offered by IBM (CISCO as Original Equipment Manufacturer for active components) has following salient features:

- The complete solution has 3 layers viz. Core with redundancy, Dual homed Distribution layer with redundancy and dual homed PoE (Power over Ethernet) enabled Access layer.
- Interconnection upto access layer is on OFC (Optical Fibre Cable). The bandwidth planned from core to distribution is 10G+10G upgradable to 40G, from distribution to access is 2G+2G upgradable to 10G and from access to LAN ports is 1G.
- Laying of 16 KM outdoor 48 core 4 tubes armored OFC backbone with 3 rings having enough dark fibers for future expansion. 6/12/24 core OFC cables are planned for indoor cabling.
- Around 130 wireless access points with redundant wireless controller.
- UPS (with 1+1 redundancy for core and distribution) and earthing for all active components with total 159 KVA capacity with 120 min. backup for core, 60 min backup for distribution and 30 min backup for access layer.

- Call Manager with 2000 capacity with redundant voice gateways to support 4 PRI lines and 854 IP telephones.
- NMS, VPN, firewall, Network access control, Identity service engine etc for management and control and network security.
- 3 years warranty with smartnet for CISCO components and 24X7 operation & maintenance. Shall provide 1 site manager+ 3Engineers+1 reliever.
- There are around 3800 end points for LAN/Internet and IP telephones implemented during this period across the campus.

The above project went Go-Live on 15th Feb, 2016 and acceptance testing was completed by 14th Aug, 2016. The above project is currently in maintenance phase.

Services and Support

- 365 X 24 X 7 support services for Network
- Desktop/Laptop/Server support on all working days during office hours
- Institute Website and e-mail support.
- VPN for remote access.
- Internet access.
- Wi-Fi (Boy's Hostel).
- Intranet, Leave portal, online academic module.
- Exam related services (GATE).
- Support during Student Placement.
- Conference Site Maintenance.
- Support for training programs organization.
- Support for student Gymkhana website for events like Anwesha, Celesta, Reverberance and other extra co-curricular activities.
- Support for Desktop, Laptop, Printer, network etc related issues.
- Library Libsys software support.
- License server support (MATLAB, Mathematica, ANSYS, and Tecplot 360 etc).
- Support for institute meeting resources like web conferencing, internet access etc.
- Support for procurement of departmental and institute assets (Computer and accessories, LAB, furniture and other infrastructure related items).

14.3 Rajbhasha Vibhag

IIT Patna has appointed Dr. Ashish Kumar Upadhyay, Associate Professor, Department of Mathematics as Hindi Officer of the institute on Aug. 18, 2016. Further, the Institution has appointed Shri Santosh Kumar, Jr. Technical Superintendent, Department of Physics as Hindi Officer on October 17, 2016. After rejoining of Mr. Sanjay Kumar, Deputy Registrar, IIT Patna the responsibilities of Hindi Officer entrusted to him on Dec. 14, 2016. Hindi Officer has responsibility of implementation of the official language. Rajbhasha Vibhag plays an important role in Hindi translation of Annual Reports, Annual Accounts, Audit Reports, etc. Different files, forms, registers, service books, health books etc. are being made bilingual. The Hindi version of institute website is under construction. During Financial Year 2016-17, due to initiation of Rajbhasha Vibhag, Central Library, IIT Patna has procured a huge number of Hindi literature books to strengthen our official language. Every year 14th of September is being observed as Hindi Diwas and different Hindi competitions are organized on this day.

14.4 Incubation Centre

This report summarizes the progress of Incubation Centre IIT Patna over the financial year of 2016 – 17.

The Incubation Centre(IC) at IIT Patna is focused on ESDM with special focus on Medical Electronics. It is a joint collaboration of IIT Patna, Ministry of Electronics and IT (MeitY) and Government of Bihar. The primary objective of IC is to promote innovation and entrepreneurship with the aim to identify, nurture and translate technological ideas and innovation in the broad area of ESDM sector with a focus in Medical Electronics.

The overall project outlay for setting up the IC is Rs 47.10 crore. The project is being implemented through joint funding from MeitY (Rs 22.10 crore) and Government of Bihar (Rs.25 crore) as matching Grant. This IC is being set up in area of 3000 square meters constructed space with state of the art facilities designated for ESDM incubation, in the premises of IIT Patna.

IC is expected to give an impetus to entrepreneurship amongst interested students, faculty and external innovators. The total project duration to set up the Incubation Centre is 5 years; the IC aims to incubate 10 ideas each years. In addition to state of art facilities for ESDM incubation, this IC will also provide the following support services:

Business Mentoring: Guidance by Angels, Experienced & Successful CEOs and Industry Veterans on a broad range of topics, including help in identifying suppliers, the appropriate location for the business, pricing of the product, marketing, developing effective business process etc.

IPR Mentoring: Guidance by mentors on IPR Strategy to be followed by the incubatees, in co-ordination with the larger overall strategy of the venture.

Support by Incubator Team: The Incubator team will provide complete support in terms of tracking the progress of the venture, providing research support as and when required and also provide a complete support system for Incubatees.

Identification and negotiation of strategic alliances: Help in development of strategic relationships with key collaborators in related industries in order to increase market penetration, shorten the sales cycle, or develop other strategic arrangements.

Major Milestones achieved in 2016-17

The incubator has made significant progress during 2016-17. It is now fully operational from the temporary facility provided by IIT Patna in the IIT Patna Campus at Bihta, Patna. The major milestones are listed below.

Governing Council

A governing council was formed to govern the activities at Incubation Centre IIT Patna. The council has eminent people from Industry and academia. The governing council has met and reviewed the plans of the Incubation Centre for the year.

Dr. Pushpak Bhattacharyya	Director, IIT Patna, Chairman, Governing Council
Shri. Rahul Singh	Secretary, Department of IT, Government of Bihar
Shri. Prashant Kumar	Scientist 'D', IPHW, Government of India, MeitY
Dr. Prashant Jha	Associate Professor, AIIMS, New Delhi
Dr. S. C. Bose	Chief Scientist, IC Design Group, CSIR-CEERI, Pilani, Rajasthan
Ms. Padmaja Ruparel	President, Indian Angel Network, New Delhi
Mr. Shailendra Sinha	Chairman, CII Bihar
Dr. Ranjan Kumar Behera	Head, Department of EE, IIT Patna
Dr. Samrat Mondal	Head, Department of CSE, IIT Patna
Dr. Manabendra Pathak	Head, Department of ME, IIT Patna
Dr. Mayank Tiwari	Associate Dean, R&D, IIT Patna, Convener of Governing Council, Joint Secretary of IC IITP Society
Dr. Kailash Chandra Ray	Assistant Professor, EE, IIT Patna, Secretary and Professor In-charge

Setting up of Project Evaluation Team

Incubation Centre has set up a Project evaluation team to evaluate the proposals that are received for incubation. The team consists of experts from AIIMS Delhi, IIT Patna, Indian Angel Networks and successful entrepreneurs with business, domain and technology know how. The team, based on need, invites other external/internal experts for evaluations.

Project Evaluation Team

Dr. Prashant Jha	Associate Professor, AIIMS
Mr. T. Balaji	MD, BHPL, Hyderabad
Mr. Ravi Teja Villa	Founder-CEO, Bigtalk Technologies, Bengaluru
Dr. Kailash Chandra Ray	Professor in Charge, IC IITP
Dr. Mayank Tiwari	Joint Secretary, IC IITP
Mr. Aditya Nataraja	Sr Program Manager, Azim Premji Philanthropic Initiatives
Mr. Joseph Paul Arackalan	Asst. Manager, IC IITP

The team has met three times over 2016-17 and evaluated over 70 proposals.

Incubation Programs Started and Companies Onboarded

Incubation centre has started offering two types of programs in the last year: a two year incubation program and a 3 months pre-incubation program. Project Evaluation Team that comprises of experts from medical, technology, entrepreneurship and investment areas evaluate the proposals and selects companies to be admitted to these programs. Two such evaluations were done in 2016-17 FY and the third evaluation was completed in April, 2017.

Three companies are presently incubated in IC IIT Patna over two batches for the regular 2 year incubation program.

1. **Bionic Hope Pvt Ltd** was incubated in the first batch of Incubation in September 2016. Most of the members of Bionic Hope are alumni of IIT Patna. They are working on a product called active upper limb prosthesis with a sense of touch, which has technology that has been filed for patent.
2. **4Mirror Technologies** is working on patient monitoring systems. They are a young group of entrepreneurs who left their jobs behind to purse their entrepreneurial dreams.
3. **MEDEIT** is a team with high academic credentials and have joined in the second batch of Incubation. They are working on a product in the area of early cataract detection.

The teams are mentored regularly by expert mentors and Incubation Centre administration.

Incubation centre is set to onboard its third batch very soon.

Incubation centre mentors one team under its three months pre-incubation program.

Incubation Centre Team in Place

The incubator has recruited the required staff for operations over the last one year. It is operating with 9 staff members now under the able leadership of Dr Kailash Chandra Ray, Professor in charge. While assistant manager looks after overall operations, three executives takes care of marketing, procurement, HR and administration functions respectively. Three executives and a lab attendant takes care of the laboratories. There is one attendant to takes care of the file movements and housekeeping.

Committees to support various activities of Incubation Centre

Committees, consisting of members of faculty from various departments of IIT Patna, provide subject matter expertise and guidance to Incubation Centre team on various activities of Incubation Centre such as procurement of equipment, recruitment, and marketing. This greatly enhances the accuracy and thoroughness of activities undertaken by Incubation Centre.

From Department of Electrical Engineering

Dr. Yatendra Kumar Singh
Dr. Saurabh Kumar Pandey
Dr. Mohammad Ali
Dr. Pramod Kumar Tiwari
Dr. Mahesh Kolekar
Dr. Rajib Kumar Jha
Dr. Ranjan Kumar Behera
Dr Rajiv Kumar Jha

From Department of Mechanical Engineering

Dr. Akhilendra Singh
Dr. Manabendra Pathak
Dr. Mayank Tiwari
Dr. Rishi Raj
Dr. Karali Patra

From Department of Computer Science and Engineering

Dr. Jimson Mathew
Dr. Samrat Mondal
Dr. Arjit Mondal
Dr. Joydeep Chandra
Dr. Sriparna Saha
Dr. Somnath Tripathy
Dr. Ashok Singh Sairam

From Department of Humanities and Social Science

Dr. Smriti Singh

Dr. Nalin Bharti

From Department of Civil Engineering

Dr. Trishikhi Raychoudhury
Dr. Pradipta Chakrabortty
Dr. Vaibhav Singhal

From Department of Physics

Dr. Ajay D. Thakur
Dr. Manoranjan Kar
Dr. Jaya Kumar Balakrishnan

From Institute administration

Mr. Sanjay Kumar, Deputy Registrar
Mr. Pradip Maity, AR (R&D), Treasurer – IC IITP

Facility Setup Ready and Available

Over the last one year, Incubator has set up offices for incubated companies. Incubator has also set up essential labs for incubated companies to work on their products.

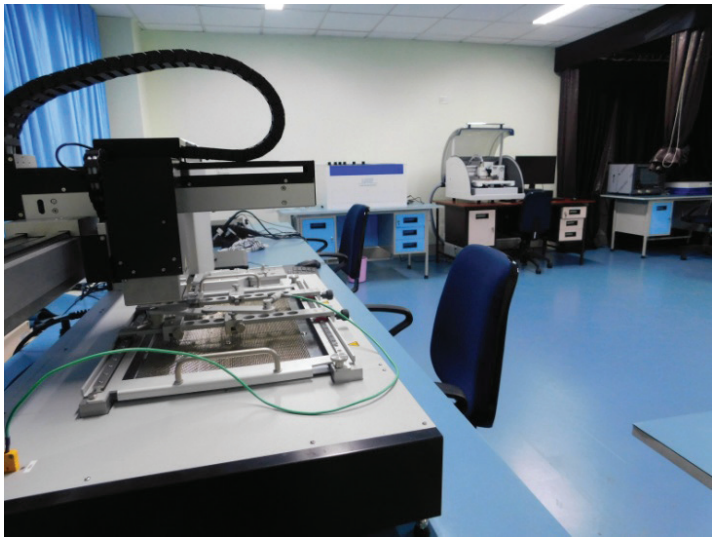
Office: The incubator has set up office space for incubated companies. Each office can accommodate 4 people. The space is built with professional grade furniture that allows individual working space to be turned into a group working space easily as startup companies in electronics space requires group work quite often. The office space is provided with ergonomical chairs, ample storage and whiteboards. In addition to this, electronic workbenches are set up with advanced features to facilitate prototyping and preliminary testing.




Workstation and communication facility: Each member in the incubated team is provided with top of the line professional PCs, printer/scanner/copier, telephone, high speed internet connectivity and e-mail addresses

Laboratories: Following labs were set up over the last one year. The labs are operational and available to incubated companies

1. Electronic System Design and Prototype Lab. This lab provide access to the incubated companies to design and prototype their ideas. Advanced design software and electronic components required for early prototyping are available here.
2. PCB Design and Manufacturing Lab: This lab consists of a set of equipment that enables a PCB design to be prototyped on board. The state-of-art equipment from Germany is capable of creating prototypes of up to 8 layered PCBs and include machines to rework on board if needed.



3. Testing and Calibration Lab: This lab consists of equipment for testing and calibrating the PCB prototypes.
4. Mechanical Packaging and Product Prototype Lab: This lab has 3D printer to do product prototype.

Incubation Centre has selected a Logo and created its website

Logo: Incubation Centre has conducted a national level competition to select its logo. The logo was selected by an expert panel, that included experts from Chanakya Institute of Management and NIFT Patna, from more than 150 entries. The Logo has themes of growth, innovation in electronics, incubation and Bihar, and is suitably represented by Bodhi Tree with electronics roots and an orange circle.

IC IIT PATNA

Online presence: Incubation centre created first version of its website (www.iciitp.com). Incubation Centre also maintains a facebook and twitter accounts (@iciitp). These are regularly being updates with information about events, news and other updates.

Events and Promotion:

Incubation centre has actively participated in Anwesha 17 as innovation partner and have supported the innovation challenge. The Logo of IC was launched as part of Anwesha

Incubation Centre has participated in events in Mumbai, Chennai, Bangalore and Delhi. Incubation centre actively participates in Bihar Government's startup initiatives and taken part in recently concluded Bihar Entrepreneurship Summit 2017 where Dr Jimson Mathew delivered a key note address

Incubation Centre in Media: Incubation centre and its events such as joining of first batch of Incubation and logo launch have been covered by dailies such as Hindustan Times and Prabhat Khabar.

Construction of Permanent Building of Incubation Centre has started

BRPNNL has been selected as the agency to carry out construction of the permanent building of Incubation Centre IIT Patna. An MoU with BRPNNL is signed on 17th November 2017. BRPNNL has submitted concept designs for the building.

Facilities Currently Offered to Admitted Companies

Incubated companies are provided with state of the art office infrastructure including professional co working space, internet access, e-mail ids, phones, printers and storage facilities. First company has been provided with first disbursement of seed funding of Rs 80,000/-. This is from the funds provided by Government of Bihar towards this purpose. Each company can get funds upto 10 lakhs subject to their work plans

14.5 Sponsored Research and Industrial Relations Unit [SRIRU]

Dr. Mayank Tiwari, Associate Professor, Department of Mechanical Engineering is the Associate Dean, Research & Development in IIT Patna. The following projects have been sanctioned by the various agencies in the FY 2016-17:

Sl. No.	Name of PI	Dept	Project Title	Sponsoring Agency	Total Granted Fund
1	Dr. Amit Kumar Verma	Maths	One day symposium on Modeling & Computation	DST	1.31
2	Dr. Manabendra Pathak	Mech	SAE INDIA SUPRA 2016- which involves designing, and fabrication of a formula style, autocross vehicles.	IIT PATNA	4.38
3	Dr. Debrupa Lahiri, Assistant Professor, IIT Roorkee	Material Sc	Surface modified metallic orthopedic implant for sustained drug release.	DST	16.20
4	Dr. Rishi Raj	Mech	Acoustic Detection of Leidenfrost Dynamics on Scalable Micro-/Nano-Structured Surfaces	DST	27.30
5	Prof. Pushpak Bhattacharyya,	Comp Sc	Elsevier Centre for Excellence of Natural Language Processing	REIPL	215.35
6	Dr. Amit Kumar Verma	Maths	Workshop on fluid Mechanics : Modelling, Analysis & Computation	Others	2.50
7	Prof. Pushpak Bhattacharyya,	Comp Sc	Joint Research with Accenture, IIT Patna and IITB, Setting up of ATL IIT AI Lab	ASPL	65.04
8	Dr. Manabendra Pathak	Mech	A self adaptive electronic cooling system by enhanced pool boiling	SERB(DST)	36.26
9	Dr. Pramod Kumar Tiwari	Electrical	Analytical Investigation of Subthreshold Behavior of Silicon Nano-tube(SiNT) Based Field-Effect-Transistor (FETs)	ER & IPR DRDO	19.98
10	Dr. Rajiv Misra	Comp Sc	Workshop on Parallel Processing	Others	0.10
11	Dr. Smriti Singh, Dr. Priyanka Tripathi, Dr. Sweta Sinha	Humanities	Revisiting Shakespeare in the 21st Century	Others	1.40
12	Dr. Vaibhav Singhal and Dr. Koushik Roy	Civil	Structural Design Vetting of Budha Smriti Stupa and Museum at Vaishali, Bihar	BCD	17.25
13	Dr. Vaibhav Singhal, Dr. Syed K.K Hussaini, Dr. Avik Samanta, Dr. Subrata Hait	Civil	Inspection and Remedial Measures for Fire-damaged Structure of Main Admin Block of Dr. Kalam Agriculture College, Kishanganj, Bihar	BSBCCL	5.75
14	Dr. Subrata Hait (IIT Patna), Dr. Brajesh K. Dubey, IIT Kharagpur	Civil	Appraisal of Solid Waste Management (SWM) DPRs under Swachh Bharat Mission for 35 Urban Towns in Bihar	UD&HD, GOB	121.74
15	Dr. Rajiv Misra	Comp Sc	Workshop on Big Data Analytics using Hadoop	Others	1.00
16	Dr. Anirban Bhattacharya	Mech	BAJA Student India 2017	IIT PATNA	4.85
17	Dr. Tammineni Rajagopala Rao	Chemistry	Quantum dynamical studies on bimolecular reactions of practical and fundamental interest.	DST	35.00
18	Dr. Jobin Jose	Physics	Concepts of Physics through Experiments 2016	Others	0.35
19	Dr. Jimson Mathew	Comp Sc	Smart IoT gateway Design	VTPL	0.80

Sl. No.	Name of PI	Dept	Project Title	Sponsoring Agency	Total Granted Fund
20	Dr. Jayakumar Balakrishnan	Physics	Spin transport in 2D material (grapheme/ perovskites (LSMO) heterostructures	DST	31.79
21	Dr. Syed K.K. Hussaini	Civil	Testing of coars aggregate (20 mm and 10 mm) as per the IS codes.	DEWPL	0.62
22	Dr. Vaibhav Singhal, Dr. S.K.K. Hussaini, Dr. Avik Samanta, Dr. Subrata Hait, Dr. Pradipta Chakrobortty, Dr. Amarnath Hegde	Civil	Inspection of Shatabdi Bhavan under the extension of Patna High Court	BCD	11.51
23	Dr. Amarnath Hegde, Dr. Vaibhav Singhal, Dr. S.K.K. Hussaini, Dr. Avik Samanta, Dr. Subrata Hait, Dr. Pradipta Chakrobortty	Civil	Inspection of Extension Project of Vidhan Sabha and Secretariat Buildings	BCD	12.86
24	Dr. Sudhan Majhi	Maths	Blind Symbol Timing Offset (STO) and Carrier Frequently Offset (CFO) Estimation and Implementation over OFDM, and MIMO-SC-FDMA testbed	SERB(DST)	25.80
25	Dr. Subrata Hait	Civil	Development of Ganga Grams under Namami Gange Programme with Support of Technical Institutions	MHRD&MWR	5.00
26	Dr. Raghavan K Easwaran	Physics	Electromagnetically Induced Transparency and Slow Light in a Two dimensional Magneto Optical Trap (2D MOT).	SERB(DST)	21.20
27	Dr. Pradipta Chakrabortty	Civil	Testing of Cement samples for the project ' Construction of Administrative Buildings, Schools, Lecture Hall Complex, Hostels etc. at Central University South Bihar Campus (CUBG), Panchanpur, Gaya	CUB	0.62
28	Dr. R.K Behera, Dr. S.K Parida	Electrical	Teaching Learning Centre (TLC)	MHRD	327.60
29	Dr. Anirban Bhattacharya	Mech	Influence of Secondary Heat in Friction Stir Welding: Mechanical Properties and Metallurgical Observations	SERB(DST)	16.03
30	Dr. Somnath Roy	Mech	Technology Gap Analysis Study for the Agricultural Implements Cluster, Noorsarai, Nalanda, Bihar	TIFAC	10.23
31	Dr. Somnath Sarangi	Mech	Technology gap analysis for combined study proposal for the following clusters : copper & bronze utensils clusters, Mahua, Vaishali, Brass & German Silver utensils cluster – Majhualia, Bettiah, Brass & Bell Metal cluster – Mahisadel, Purba, Medinipur, West Bengal	TIFAC	23.76
32	Dr. Somnath Sarangi	Mech	Technology Gap Analysis Study for Jhula Cluster, Kanhaiyaganj, Nalanda	TIFAC	10.23
33	Dr. Soumya Jyoti Ray	Physics	Superconducting Spintronics using hybrid Superconducting - Ferromagnetic Metamaterials	DST	35.00

Sl. No.	Name of PI	Dept	Project Title	Sponsoring Agency	Total Granted Fund
34	Dr. Promod Kumar Tiwari	Electrical	Short term course on Advance in Microelctronics and Photonics 'AMP-2016'	Others	1.50
35	Dr. Naveen Kr. Nischal	Physics	Study of optical image fusion techniques for securing multispectral data	CSIR	17.23
36	Dr. Rishi Raj	Mech	Design and Development of an Agricultural Waste Based Gasified Heating System for GreenCHILL	MHRD&NDTL	95.07
37	Dr. Atul Thakur	Mech	Consultancy services for preparation of detailed project report (DPR) OF Central Instrumentation-cum-Robotics Centre	BCST	3.25
38	Dr. Subrata Hait, Dr. Om Prakash, Dr. Syed K.K Hussaini, Mr. Pradip Maity	Civil	Third Party Inspection as Independent Review and Monitoring Agency (IRMA) for the Bodhgaya Sewerage Project undesr the JnNURM (UIG)	UD&HD, GOB	13.00
39	Dr.A.K Thakur, Dr. Jayakumar Balakrishnan, Dr. Ajay D. Thakur	Physics	15th Asian Conference on Solid State Ionics (ACSSI-2016)	Others	45.00
40	Dr. Somanath Tripathy	Comp Sc	Workshop on Computer Networking and CCIE Security	Others	0.15
41	Dr. Vaibhav Singhal and Dr. Koushik Roy	Civil	Investigation of Structural Safety of Bihar State Chief Minister's residence at 1-Anne Marg, Patna	BCD	1.05
42	Dr. Subrata Hait	Civil	Varied profiling of bio-macromolecules for energy an by product assessment employing electrochemical tools	SERB	14.40
43	Dr. Jimson Mathew & Dr. Ariit Mondal	Comp Sc	Two-Day Workshop on IoT-applications,technologies and platforms	INTEL/FICE	0.00
44	Dr. Somnath Sarangi	Mech	To determine the fault features of Faulty Bearings of Induction Motor from Current signal and Power Factor Signal for very low sampled Data	PSIPL	1.00
45	Manoranjan Kar	Physics	Revitalizating school physics education through concept oriented teaching in KVS.	IAPT	2.80
46	Dr. Rishi Raj	Mech	CFD Simulation in a Co-Current Pressure Nozzle Spray Dryer	HLCL	0.45
47	Dr.S.K Samanta,Dr. Richa Chaudhary, Dr. Nalin Bharti, Dr. Koushik Roy, Dr. Sandip Khan, Dr. N.D Chaturvedi, Dr. Sushant Kumar	Chemical & Biochemical	DISHA-Training Program for Retail outlet dealers of Indian Oil at Patna	Others	3.20
48	Dr. Dinesh Kumar Kotnees	Material Sc	TEDx IIT PATNA	Others	3.55
49	Dr. Jimson Mathew & Dr. Samrat Mondal	Comp Sc	Sixth International Symposium on Embedded Systems, Networking and Application	Others	8.00
50	Dr. Manabendra Pathak	Mech	SUPRA SAE INDIA 2017- which involves designing, and fabrication of a formula style, autocross vehicles.	IIT PATNA	4.96

Sl. No.	Name of PI	Dept	Project Title	Sponsoring Agency	Total Granted Fund
51	Dr. Subrata Hait, Dr. Vaibhav Singhal	Civil	Testing and Chemical Analysis of Samples of Construction Material Collected from Panchayat Sarkar Bhawan, Bhagalpur, Bihar	PDD-GoB	0.93
52	Dr. Pradipta Chakrabortty	Civil	Liquefaction Assessment of Vaishali STUPA site	SGA, Panchshila Park, New Delhi	3.57
53	Dr. Manoranjan Kar	Physics	Engineering ferromagnet-molecule interfaces for application in spin organic light emitting diodes	CSIR	
54	Dr. Amit Kumar Verma	Maths	Workshop on Sobolev Spaces	Others	0.00
55	Dr. Atul Thakur	Mech	Human Powered Vehicle Challenge (HPVC) Asia Pacific 2017	IIT PATNA	1.78
56	Dr. Trishikhi Raychoudhury	Civil	Arsenic immobilizotion by in-situ synthesis of iron-based adsorbent under reducing environment within porous media	DST	39.36
57	Dr. Nalin Bharti	Humanities	Workshop by NPTEL on online Course	IIT Madras	1.15
58	Dr. Utpal Roy	Physics	CSIR-Scientists' Pool Scheme	CSIR	
59	Dr. R Prabhu	Physics	Innovation in Science Pursuit for Inspired Research (INSPIRE)	DST	7.00
60	Dr. Avik Samanta, Dr. K.K. Hussaini	Civil	Vetting of structural design and drawing of vivil structures for waterways promenade, Elevated Flyover, Community cum cultural centre and Community centre	Bihar Urban Infrastructure Development Corporation Ltd. Patna	7.03
61	Dr. A. K. Thakur	Physics	Development of Indigenous Technology for High Energy Density LiPo Battery for Low Temperature Applications	DRDO	237.38
62	Dr.S.K Samanta,Dr. Richa Chaudhary, Dr. Nalin Bharti, Dr. Koushik Roy, Dr. Sandip Khan, Dr. N.D Chaturvedi, Dr. Sushant Kumar	Chemical & Biochemical	DISHA-Training Program for Retail outlet dealers of Indian Oil at Patna	Others	3.20
63	Prof. Pushpak Bhattacharyya, Director, IIT Patna	Comp Sc	Advising on recruitment, Helping build the Natural Language (NLP) - Machine Learning (ML) team, Forming strategies, Training employees in NLP and ML & Helping in design and development of systems.	BP Software Development Pvt. Ltd.	7.90
64	Dr. Anup Kumar Keshri	Material Sc	Plasma Sprayed Carbon Nanotube and Graphene Reinforced Alumina Hybrid Nanocomposite Coating with Enhanced Properties for Light Metal Alloys.	ISRO	19.40
65	Dr. Sahid Hussain	Chemistry	Graphene/conducting polymer nanocomposite based enzymatic biosensors for the detection of biomolecules.	SERB	19.20
66	Dr. Pushpak Bhattacharyya, Dr. Asif Ekbal & Dr. Sriparna Saha	Comp Sc	Workshop on Cognitive Science (Fund - Registration fees collected during GIAN Course titled "Multiobjective Otimization)	Others	1.00

Sl. No.	Name of PI	Dept	Project Title	Sponsoring Agency	Total Granted Fund
67	Dr. Dinesh Kumar Kotnees	Material Sc	Factors influencing the tack behavior of natural rubber (NR), styrene butadiene rubber (SBR), styrene butadiene rubber (SBR)/polybutadiene rubber (PBD) blend, natural rubber (NR)/ styrene butadiene rubber (SBR) blend, natural rubber (NR)/ polybutadiene rubber (PBD) blend with special reference to improving and retaining tack strenght.	MRF Tyres	23.99
68	Dr. Md. Lokman Hakim Choudhury	Chemistry	Exploration of Multicomponent Reactions (MCRs) Towards Green Synthesis of Novel Functionalized & Sequence Regulated Macromolecules.	SERB	40.96
69	Dr. Manas Kumar Sarangi	Physics	Fluctuations in DNA for molecular recognition	SERB	43.48
70	Dr. Jobin Jose	Physics	Photoionization and Electron Scattering Dynamics of Free and Confined Atomic Systems	SERB	25.58
71	Dr. Debashree Guha Adhya	Maths	Development of agreegation operatus for fusion of uncertain data : special emphasis to interrelated data and information majors of uncertain data	SERB	14.35
72	Dr. Vaibhav Singhal & Dr. Amarnath Hegde	Civil	Review of the Structural and Geotechnical Design for ISBT Patna, Bihar	Shapoorji Pallonji And Company Pvt. Ltd.	6.47

Sl. No.	Name of the Project	PI from IIT Patna	Collaborators
1	Smart Weather: Location based Deep weather event prediction using spatial big data computing.		Centre for Environmental Sciences, Central University of South Bihar
2	A Platform for Crosslingual and Multilingual Event Monitoring in Indian Languages	and	IIT KGP, IIT Bombay, Au-KBC, DAIICT
3	Speech Based Patient Assistance System	and	IIT Bombay, IIT Madras, AIIMS, Delhi
4	A Software Tool for the Planning and Design of Smart Micro Power Grids		Dr. Arnab Sarkar (IITG) Dr. Santosh Biswas (IITG) Dr. Soumyajit Dey (IITKGP) Dr. Alok Kanti Deb (IITKGP)

14.6 Sophisticated Analytical Instrument Facilities

SAIF IIT Patna was established at Indian Institute of Technology Patna with the support from Department of Science & Technology, Government of India, New Delhi. The main objective of this center is to provide sophisticated instrumentation facilities to the researchers of IIT Patna, other academic/research institutes as well as industries for the characterization/identification of chemicals/ materials by paying a nominal charge

Presently, two sophisticated instruments are available in this center and the details of those instruments are given below

1. High Resolution Liquid Chromatography–mass spectrometer (HR-LCMS)

The system has a liquid chromatography system attached with a mass spectrometer. The make and model of the system is given below.

(A) Ultra High Resolution Time of Flight (UHR-TOF) mass spectrometer

Make: Bruker, Model: Impact HD UHR-TOF mass spectrometer

(B) -High-performance liquid chromatography (HPLC) Make: Thermo Scientific, Model: Thermo Scientific Dionex Ultimate 3000 Rapid Separation LC (RSLC) systems

During 01-04-16 to 31-03-17 more than 200 samples have been characterized by this instrument. More than five international papers published by the faculty members of Department of Chemistry IIT Patna have acknowledged the use of SAIF IIT Patna facilities.

2. Single Crystal X-Ray Diffractometer (SC-XRD)

Instrument Details: Make: Bruker Germany

Model: AXS D8 QUEST

During 01-04-16 to 31-03-17 more than 75 samples have been characterized by using this instrument and some of the results have been published in international journals by the SAIF IIT Patna users.

In this time period other required small instruments such as stereo zoom microscope, vacuum concentrator, centrifuge, vortex mixer etc. have been purchased and installed in SAIF laboratories. SAIF Patna is in the process of purchasing the other sanctioned instrument 500 MHz, NMR.

14.7 Technology Business Incubator (TBI), IIT Patna

IIT Patna is starting a Technology Business Incubator (TBI) with financial support from DST, Govt. of India. National Expert Advisory Committee (NEAC), DST has recommended the proposal of IIT Patna to establish a TBI with budget of Rs. 12.4 Crore (Approx.) for 5 years to set up incubation space, design and fabrication facilities with thrust area equipment. The objects of the TBI are to create infrastructure facilities for incubation of innovative ideas and to render technical and/or advisory support to startups in science and technology with focus on agriculture, manufacturing, energy, water management, etc. IIT Patna has already earmarked total build up area of 20000 sq. ft. which includes 9365 sq. ft. in the 5th floor of Block-9 (Tutorial Block) as workspace for incubatees, 7885 sq. ft. in the workshop as space for fabrication and common facility labs, and remaining 2750 sq. ft. space as conference/meeting rooms shared with Incubation Center (IC), IIT Patna.

Based on NEAC recommendation to form an independent not-for-profit legal entity in the form of society/section 8 company to receive the recommended financial support, IIT Patna initiated the process to register TBI as a section 8 company under the company act, 2013. The ministry of corporate affairs (MCA) has approved the name 'Foundation for Innovators in Science and Technology' proposed for the TBI, IIT Patna. The MCA has already granted license for incorporation of Foundation for Innovators in Science and Technology (FIST) as section 8 company. The process of registration/incorporation is expected to be completed in July, 2017.

As per the approved article of Association (AOA) of FIST, administration of affairs the company is vested on the Board of Directors. As per the approved AOA, there can maximum fifteen numbers of Directors in the proposed section 8 company.

The following persons shall be appointed as Ex-officio Directors of the Company:

a) Director, IIT Patna; b) Associate Dean (Research and Development); c) Professor-in-charge, Technology Business Incubator;

The Ex-Officio Directors shall hold offices of the Directors in the Company, so long as they hold these offices in IIT Patna. The Director IIT Patna shall be the chairperson of the board.

The following persons shall be appointed as nominated Directors during the 1st meeting of the Board of Directors immediately after completion of incorporation process. They have already confirmed their consent to be the Directors of the company.

- Prof. Abhay Karandikar, Dean (FA) and former PIC, Research Park, IIT Bombay
- Dr. Avinash Chandra Saxena, Principal Scientist, CIAE Bhopal
- Dr. Dushyant Singh, Senior Scientist, CIAE Bhopal

14.8 Training and Placement Cell

Training and placement cell (TPC) of the institute handles all aspects of placements at IIT Patna for the graduating students of all departments. Right from contacting companies to managing all logistics of arranging for tests, pre-placement talks and conducting final interviews, the TPC officials and volunteers provide their best possible assistance to the recruiters. TPC cell comprising of student representatives and faculty members to facilitate the interaction between students and organization to find their best matches in terms of their expectation, aspirations and requirements.

In the current campus placement, till date 45 companies have given 162 offers to B.Tech, M.Tech and Ph.D students.

The average package for UG program is about 10.65 lakhs and for PG is about 6.9 lakhs. The total package offered till date is 1196.92 lakhs.

Few major recruiters who had visited IIT Patna and offered job are

- Microsoft
- Arista Network
- Amazon
- Directi
- Sigmoid Analytics
- Samsung SRI Delhi
- Samsung SRI Noida
- Samsung SRI Bangalore
- L&T ECC
- Cognum Technology
- ezDI
- United Health Group
- Info Edge
- Works Apps
- Wipro
- Tata Motors
- ISRO
- TCS-CTO
- M&M
- Tricon Infotech
- Finisar
- Cognizant
- CEWiT
- TVS Motors
- Indian Oil
- EdCIL Ltd
- Thapar University
- Sandip University

14.9 Health Facilities

Being an important tool in the development of an institute, health care facilities at IIT Patna has been well planned and executed. IIT Patna Hospital at Bihta campus runs with the help of Ruban Memorial Hospital, Patna. It is functional with primary basic health care facilities for employees and students. Apart from that, we have associated ourselves with local hospitals like Mahavir Vatsalaya Aspatal, Sahayog Hospital, Kurji Holy Family Hospital and Paras HMRI Hospital to cater to the basic needs of our faculty, staff, students and their families on a cashless basis. Hospitalization expense of students are covered under a medical insurance policy. A pharmacist and an assistant are available on a full-time basis to provide emergency first-aid, and for routine medical services. A 24x7Ambulance service is also available to provide emergency services to everyone who is part of IITP system.

14.10 Unnat Bharat Abhiyan Cell

In the year 2016-2017, the following activities were organised under UBA Cell in the benefit of local residents of the village Amhara, Dilawarpur and Raghopur.

Adhyayan Utsav

Unnat Bharat Abhiyan Cell IIT Patna organised "Adhyayan Utsav" in association with Rural Technology Development Club. The one week festival has exiting competitive events and extra curricular activities to polish the young talent in schools of Amhara and Dilawarpur.

The program was organised for four days from 1 March through 4 March and we had observed immense enthusiastic participation from the students in the Government High School, Amhara, Government Middle School, Amhara and Government Middle School, Dilawarpur.

This initiative aimed at promoting the importance of education in lives of local underprivileged students and helped them to explore different fields of creativity. It emphasised on improving their personality and all round development.

School Student Science Exhibition Report

School Science Exhibition was hosted by Rural Technology Development Club in association with Unnat Bharat Abhiyan Cell, IIT Patna during the college techno management festival "Celesta 2016" on 22nd-23rd October. The event saw over 90 young enthusiastic participants from different parts of Bihta putting up 29 participatory exhibits comprising of innovative working models and investigation based projects.

The exhibits by different schools were indeed eye openers on various topics related to Hydroelectricity, Renewable Energy Sources, Environment Protection, Innovation in Heavy Machines by Hydraulics & Infrared Sensing.

Green Energy, Innovation in Transport, Communication, Agriculture, Technology, Bio- diversity, Community Health, Environment & Mathematical Modelling.

The judges, essentially the student coordinators of Rural Technology Development Club, applauded the students for their novel ideas which would help the world to become a much better place to live in. Refreshments were distributed to all the participating students. At the end, the organisers thanked all the participating teams for making this event a success and appreciated their novel projects.

Verification of Ohms Law

DC Generator

Solar Powered Vehicle

Ideal Electric House

Mini projector

Students from Bihta Public School

14.11 Students Gymkhana

- IIT Patna has various sports facilities in our campus like cricket, football, basketball, volleyball, badminton, Table Tennis, lawn tennis, skating and Athletics.
- Our students and employees undergo regular sports training programme under the guidance of expert and experience coaches.
- IIT Patna students' team participated in 51st Inter IIT Sports Meet-2016, scheduled to be held at IIT Kanpur from December 12 to 19, 2016.
- 90 students including 80 boys and 10 girls participated in various games and sports and performed well in events like Badminton, Tennis, Table Tennis, Basketball, Volleyball, Football, Cricket and Athletics. Ashish Kumar qualify the 400 meter and participated semifinal in same event, Hitarth Shah also qualify the 200 meter and participated in semifinal same event.
- IIT Patna team got 3rd position in March past competition.
- IIT Patna staff team participated in 23rd Inter IIT Staff Sports Meet-2016, scheduled to be held at IIT Kanpur from December 21 to 25, 2016. 21 staff participated in various games like volleyball, Badminton and Cricket and athletics and performed really well.
- IIT Patna football team participated in AIIMS annual sports meet-2017 and secures 1st position in football tournament.
- First time IIT Patna sports council organized inter college sports meet INFINITO-2017 from 24th to 26th March 2017 in which over 500 students from different institution participated in basketball, cricket, table tennis and volleyball tournament. IIT Patna got 1st place in basketball and table tennis tournament and volleyball team stand second.
- Marathon race was conducted on 25th April 2017 on the eve of 'earth hour' in which more than 150 participants took part and made that day special.
- IIT Patna also celebrated on 6th April 2017 the International Day of Sports and Physical Activity by organizing cycle race and huge number of students participated and enjoyed the spirit of sportsmanship and finally received medals and trophies.

Various Activities at IIT Patna

15.1 Fourth Convocation

Indian Institute of Technology Patna held its fourth Convocation on 06th August, 2016 in its permanent campus at Bihta. The Chief Guest for the grand occasion was the former Director, IISc Bangalore, Padma Bhushan Prof. P. Balaram. The students of B.Tech., M.Tech., & PhD programme were enthusiastic enough to come to receive their degree. 117 students of B.Tech programmes were eligible to receive degree certificate. 80 students of M.Tech programmes were eligible to receive degree certificate. 25 research scholars were eligible to receive degree certificate in this convocation.

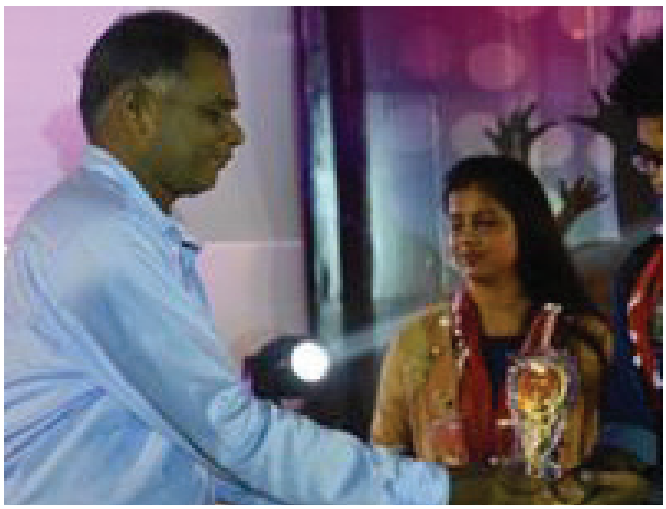



In B.Tech 2012 batch, the president of India Gold medal was given to Shubham Kumar from the Department of Computer Science and Engineering while the Director's Gold medal went to Ashutosh Agarwal from the Department of Computer Science and Engineering. Shubham Kumar of Computer Science and Engineering Department, Mayank Aggarwal of Electrical Engineering Department, Avinash Kumar of Mechanical Engineering Department are the class toppers and received the Institute Silver Medal. Ashutosh Agarwal of Computer Science and Engineering Department, Raghav Rastogi of Electrical Engineering Department, Kulkarni Pranav Mangesh of Mechanical Engineering Department are the winners of B.Tech Project Proficiency prizes.


In M.Tech 2014 batch, the Charman's Gold Medal was given to Amit Kumar from the specialization of Mathematics & Computing. Amit Kumar from the specialization of Mathematics & Computing, Patel Akashkumar Ambalal from the specialization of Mechatronics, Anil Babarao Ringne from the specialization of Nano Science & Technology, Nithin Babu from the specialization Communication System & Engineering, Vartika Tewari from the specialization Computer Science & Engineering, Rishu Kumar from the specialization Materials Science & Engineering, Uttam Kumar from the specialization Civil & Infrastructure Engineering, Deep Singh Thakur from the specialization Mechanical Engineering are the class toppers and received the Institute Silver Medal.

15.2 Foundation Day & Nebula '16

Nebula welcomes the freshmen into the college. It provides them with a platform where they can showcase the talents and their skills. Nebula puts forth an unparalleled multitude of events, meticulously fashioned to suit the interests of band geeks, music and dance maniacs. It is marked by the cultural delight of the fest, pro-nites, share the glamour of the Mr & Miss Nebula competition, serenity of classical art forms and amusement of comedy shows.



15.3 Independence Day '16

The day is marked not only by the hoisting of the flag and singing of national anthem but also by nukkad natak and recitations to show our respect towards our freedom fighters. Commemorating the legacy of Mahatma Gandhi, Jawaharlal Nehru and Sardar Vallabh Bhai Patel, IITPatna celebrated 69th Independence Day with zeal and enthusiasm.

15.4 Republic Day'16

We celebrated the day with recitations, speech and nukkad natak focusing on the need to bring about positive change in society.

15.5 International Yoga Day celebration in IIT Patna

IIT Patna celebrated International Yoga Day on June 21, 2016 with the enthusiastic participation of its campus community. It began with a discussion on benefits of Yoga in human life followed by practice of Yogasanas. A talk on Ashtanga-yoga was delivered by the invited speaker Prof. D. P. Singh, former professor, BIT Patna and an ardent Yoga practitioner. Students also participated in a debate on the topic of "inclusion of Yoga in University curriculum". , Director, IIT Patna and Shri. Subash Pandey, Registrar, IIT Patna were present to encourage the participants.

15.6 Conferences, Seminars and Workshops

Institute Colloquium Series on Nobel Prize 2016:

27. 10. 2016, 5:30 pm, Niladri Das: "On the Nobel prize in Chemistry 2016 to Jean Pierre Sauvage, Sir J. Fraser Stoddart and Bernard L. Feringa for the design and synthesis of molecular machines".

27. 10. 2016, 6:00 pm, Praloy Das: "On the Nobel prize in medicine 2016 to Yoshinori Ohsumi for his discoveries of mechanisms for autophagy".

27.10.2016, 6:30 pm, Smriti Singh: "On the Nobel prize in literature 2016 to Bob Dylan for having created new poetic expressions within the great American song tradition".

03.11.2016 5:30 pm, Nalin Bharti: "On the Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel 2016 to Oliver Hart and Bengt Holmstrom for their contribution to contract theory".

03.11.2016 6:00 pm, Aditya Raj: "On the Nobel peace prize 2016 to Juan Manuel Santos for his resolute efforts to bring the country's more than 50 year long civil war to an end".

03.11.2016 6:30 pm, Ajay D. Thakur: "On the Nobel prize in Physics 2016 to David J. Thouless, F. Duncan, M. Haldane and J. Michael Kosterlitz for theoretical discoveries of topological phase transitions and topological phases of matter".

Asian Conference on Solid State Ionics (ACSSI-2K16)

Asian society for solid state ionics (ASSSI) started holding Asian Conference on Solid State Ionics (ACSSI) as biennial event since 1988 beginning at Singapore. Since then, this chain of conference has been held in different Asian countries. Though it is an Asian conference, scientist and intellectuals from all over the world take active participation in this event making it truly international in technical content and quality of interaction. Present ACSSI is the 15th in the chain of ACSSI conferences.

This is the fourth time, this conference is scheduled to be held in India and for the first time in the eastern part of India at Patna under the banner of Indian Institute of Technology (IIT) Patna.

Prior to the present event (ACSSI-2016 at Patna), India has already hosted three Asian Conference on Solid State Ionics (ACSSI) in 1992 (Varanasi), 1998 (Surajkund, near New Delhi) and 2008 (Coimbatore).

One day Symposium on Modeling and Computation

The Department of Mathematics organized one day Symposium on Symposium on Modeling and Computation On April 9th 2016. It was supported by National Mathematics Initiative, IISc Bangalore. Prof. G. Rangarajan from IISc Bangalore, Prof. S Sundar from IIT Madras and Prof. A S Vasudev Murthy from TIFR Bangalore delivered talks on various aspects of Modeling and Computation. One paper presentation session was also organized in which 7 papers were presented from internal and external researchers. Total 40 participants attended the workshop. Dr AK Verma and Dr PK Srivastava were the conveners of the symposium.

From left to right: Prof. G Rangarajan (IISc), Prof. P. Bhattacharya (Director, IIT Patna), Dr. Yogesh Mani Tripathi (HoD Mathematics)

Prof. G Rangarajan (IISc),
Prof. A S Vasudev Murthy (TIFR Bangalore),
Prof. S. Sundar (IIT Madras)

A Four day workshop on Fluid Mechanics: Modeling, Analysis and Computation

Workshop on Fluid Mechanics: Modeling, Analysis & Computation is organized jointly by three departments, Department of Mathematics, Department of Mechanical Engineering, Department of Chemical and Biochemical Engineering at Indian Institute of Technology Patna. The workshop was partially sponsored by DST SERB, New Delhi. Conveners of the workshop are Conveners, Dr. Amit. K. Verma (Mathematics, IIT Patna), Dr. P. K. Srivastava (Mathematics, IIT Patna), Dr. Manabendra Pathak (HoD, ME, IIT Patna), Dr. Sujoy K. Samanta (HoD, CBE, IIT Patna). The lectures are delivered by Prof. Analtoly N. Filippov (Russia), Dr. Satya Deo, (University of Allahabad), Dr. Ashish Tiwari, (BITS Pilani), Prof. Suman Chakraborty, (IIT Kharagpur), Prof. B. V. Rathish Kumar (IIT Kanpur), Prof. Manabendra Pathak (IIT Patna), Prof. Tanmay Basak, (IIT Madras), Prof. Trilochan Sahoo, (IIT Kharagpur), Dr. Sudheer Siddapureddy (IIT Patna),Dr. Somnath Roy (IIT Patna), Prof. Kaleem Khan (IIT Patna).

6th IEEE International Symposium on Embedded Computing & System Design (ISED 2016)

Department of Computer Science & Engineering, IIT Patna organized 6thInternational Symposium on Embedded Computing & System Design (ISED) with the help of Electrical Engineering Department from 15thto 17thDecember2016. The objective of the Sixth International Symposium on Embedded computing and system Design (ISED) and co-located event Int'l Conf. on Cyber-physical Systems, Networking and Applications, was to provide a congenial yet serious platform for experts from academia and industry to interact with young researchers in Computer Electrical and Electronics Engineering. Developments in these domains have a large role to play in future electronic system design and technologies focusing on being user-friendly, eco-sensitive and energy efficient.

IIT Patna organised the Sixth IEEE International Symposium on Embedded computing and system Design with an objective to provide a congenial yet serious platform for experts from academia and industry to interact with young researchers in Computer, Electrical and Electronics Engineering. Developments in these domains will have a large role to play in future electronic system design and technologies focusing on being user-friendly, eco-sensitive and energy efficient. Invited Speakers in this Symposium were Prof. Rolf Drechsler (University of Bremen, Germany), Dr. Sandeep K. Shukla (Poonam and Prabhu Goel Chair Professor, Department of Computer Science and Engineering Indian Institute of Technology, Kanpur, India), Ajay Goyal (System Level Manager @ Design Enabling Services Infineon Technologies Pvt Ltd), Dr. Swarup Bhunia (Professor, Electrical and Computer Engineering University of Florida, Gainesville, UF, Florida), Prof. Robert Wille (Johannes Kepler University Linz, Austria).

Harmony Workshop at IIT Patna

A Harmony Workshop (Jeevan Vidya Workshop) was organized by the Wellness Centre, IIT Patna during June 20-22, 2016. Prof. Rajeev Sangal, Director, IIT BHU, with his team conducted this program for the faculty of IIT Patna. This program majorly focused on human values in academic institutions. The workshop was a platform for discussing a wide range of practical issues like education, happiness, success, aspirations and gaining an understanding on our relationships, environment, social issues, and self-confidence. The workshop also covered some grass root level issues like; to achieve academic and research excellence, to kindle and maintain student interest in their area of study, to work hard with persistence, to understand need to work for institution building, need for human values course for students etc. The program was inaugurated with lighting of the lamp by Prof. Rajeev Sangal (Director, IIT BHU), (Director, IIT Patna), Dr. Karali Patra (PIC, Wellness center) and the faculty members present during the inauguration ceremony. The faculty community enjoyed attending the three-day long workshop, commencing from 9:30 am to continue till 5.30 pm everyday. The workshop ended with a vote of thanks by Dr. Patra. IIT Patna would be happy to organize such kind of workshop in future.

Workshop on Gender Sensitization & Awareness Program organized by Women Grievance Redressal Committee (WGRC)

Dr. Priyanka Tripathi, WGRC-ICC-Chairman and Assistant Professor, Department of Humanities and Social Sciences conducted a day long workshop on 16th January, 2016 under the aegis of honourable Director of IIT Patna, Prof. Pushpak Bhattacharya. It was especially designed to explain, appraise and familiarize with the provisions of the new law, THE SEXUAL HARASSMENT OF WOMEN AT WORKPLACE Prevention, Prohibition and Redressal) ACT, 2013; and to disseminate simplified information in order to impart due training in creating a clean, congenial and safe working atmosphere in the organization. The Chief Guest for this occasion was Ms. Swati Maliwal, Chairman-Delhi Commission for Women and guest of honour was Ms Alankrita Singh (IPS, 2008 batch).

International Day against Drug Abuse

"International Day against Drug Abuse" was observed in IIT Patna on 25th June, 2016. The primary objective of the event was to create awareness against evil menace of drug abuse. A competent team of Police Personnel visited IIT Patna on Saturday i.e. 25.06.2016 at 2:30 PM to conduct this event and spread awareness especially amongst students against drug abuse.

Mr. J. S. Gangwar, [IG, EOU, Patna], Mr. Shankar Jha, [SP, EOU, Patna] and their team addressed the gathering (students, staff and faculty members) in the Senate Hall of IIT Patna.

Mr. Sanjay Kumar (Brahma Kumaris) who graced the occasion representing his NGO, shared his views on how to counter the effect of drug addiction especially using Yoga.

Prof. M. Tiwari, Assoc. Dean, R&D delivered the Introductory Address in this function. Prof. S. Hussain, Assoc. Dean, Students also spoke on the occasion. The event was coordinated by Dr. Sujoy Kumar Samanta (Asst. Professor and HoD, Chemical and Biochemical Engineering) on behalf of Wellness Centre in IIT Patna.

One Day Conclave on "Social Entrepreneurship, Youth Leadership & Careers in the 21st Century"

In the wake of Nation Builder - Gandhiji's birth anniversary, Indian Institute of Technology, Patna and Gandhi Fellowship – Piramal Foundation for Education Leadership, jointly re-stated their commitment to nation building through social entrepreneurship and youth leadership. This is the next step towards development through innovations and creative ideas of the youth to solve the country's problems.

The focus of the conclave is "21st Century Careers & Social Entrepreneurship", and our distinguished speakers who belong to the Social Entrepreneurship space was to reach out to the budding professionals who are keen to learn more about new and challenging opportunities which will give them a meaning to differentiate. Change Leadership is today a key requisite especially in the youth of India, who are the potential partners in nation-building.

Through this conclave, our endeavour is to offer a key perspective to the mission of Gandhi Fellowship, which is creating the finest Social Entrepreneurs in the country. IIT Patna and Gandhi Fellowship are bonded essentially by a single cause, of bringing to the budding professionals a message of the need of the hour!

Prof Pushpak Bhattacharyya, Director – IIT Patna graced the occasion with and Dr Mayank Tiwari– Dean(RnD), who spoke about the Incubation Cell and the pioneering initiatives taken up for electronic and medical innovations to bring in cost-effective solutions to Bihar and the country.







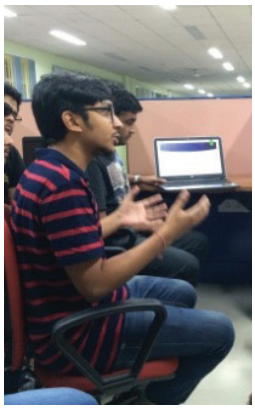
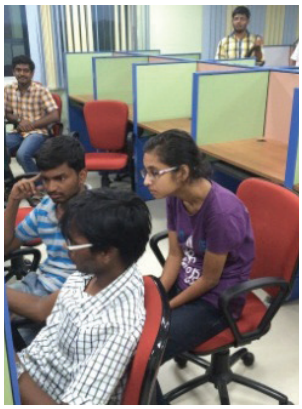

Hackathon – A competition for developing apps to solve mass problems in the areas of HealthTech, FinTech, AgriTech

IEEE student branch IITP, in association with Mobile10x-IAMAI, organized a 24 hours Hackathon (#HackForIndia v 2.0) at IIT Patna from 06:00 PM, 30th September to 06:00 PM 1st October, 2016. It was a part of countrywide Hackathon to support next Big App from India, whose initial phase was conducted in 15 different colleges across the country, IIT Patna being one of them. Students from all the colleges in and around Patna, including BIT, NIT etc., participated with full enthusiasm. The participants were allowed to form a team of maximum four students and they presented their partially developed prototype 24 hours of continuous coding. The same was evaluated by experts from IAMAI and Dr. Ashok Singh Sairam, Branch Councellor, IEEE student branch IITP.

After the initial evaluation, shortlisted teams were asked to submit the code for the finale that was held in December 2016 in New Delhi. Three teams from Patna were shortlisted for the finale, one from Birla Institute of Technology Patna and the other two teams were from IIT Patna. During the grand finale, 15 shortlisted teams presented their developed apps and top 3 winning teams were selected.

Team 'KisaanConnect' from IIT Patna was awarded the 2nd best app in the grand finale. The team members were Alan Aipe, Mayank Goyal, Naman Agarwal and Newton Kumar.




Research Training Workshop on Concepts and Practice of Material Characterization

Department of Physics, IIT Patna organized a three-day workshop on "Research Training Workshop on Concepts and Practice of Material Characterization" from 24th November to 26th November, 2016. The workshop includes talks on X-ray Diffraction, Impedance Spectroscopy, Thermodynamic Characterization and Raman Spectroscopy Techniques. This workshop was aimed at training the participants in a host of characterization techniques prior to the upcoming Asian Conference on Solid State Ionics (also organized by IIT Patna from November 27-30, 2016). Prof. Pushpak Bhattacharyya, Director, IIT Patna was the Chief Guest for the event. Prof. Evvy Kartini, National Neutron Research Facility, Indonesia was the Guest of Honor and Prof. Tarasankar Pal, IIT Kharagpur was the Distinguished Guest for the event.

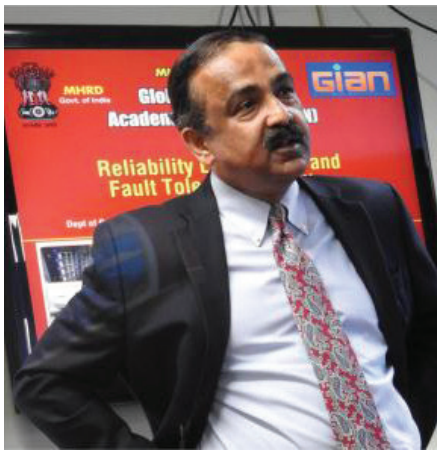
Workshop on Sobolev Spaces, 16-23 February, 2017

The Department of Mathematics, IIT Patna organized 8 day on Workshop on Sobolev Space from 16th Feb 2017 to 23rd Feb 2017. It was partially supported by CSIR, New Delhi India and IIT Patna. Prof. Swagato K. Ray from ISI Kolkata and Prof. V. Raghvendra from IIT Tirupati (Retired Professor IITK) delivered lectures. Total 25 participants attended the workshop. The session was inaugurated by Prof. Pushpak Bhattacharya, Honorable Director IIT Patna. The conveners of the workshop were Dr. Amit K. Verma, Dr. Prashant K. Srivastava and Dr. N K Tomar.

GIAN Courses

Course Name	**Reliability Engineering and Fault Tolerant Computing**
Foreign Faculty :	Prof. Adit D. Singh
Host Faculty :	Dr. Jimson Mathew
Duration :	09.01.2017 to 13.01.2017
Course Name	**Multiobjective Optimization**
Foreign Faculty :	Prof. Carlos A. Coello Coello, Mexico
Host Faculty :	Prof. Pushpak Bhattacharyya
Duration :	15-12-2016 to 22-12-2016
Course Name	**Internet of Things (IoT) Security: Issues, Innovations, and Interplays**
Foreign Faculty :	Prof Swarup Bhunia
Host Faculty :	Dr. Jimson Mathew
Duration :	12-12-2016 to 16-12-2016

Course Name	**Number Systems for Digital Signal Processing**
Foreign Faculty :	Prof. Benjamin Premkumar
Host Faculty :	Dr. Sudhan Majhi
Duration :	17.10.2016 to 23.10.2016
Course Name	**Hierarchical Computational Methods for Cross-disciplinary Multiscale Dynamics**
Foreign Faculty :	Ganesh Balasubramanian, United States of America
Host Faculty :	Dr. Somnath Roy
Duration :	14-10-2016 to 22-10-2016
Course Name	**Modeling approaches of Nanoscale filtration processes of solutions and Suspensions**
Foreign Faculty :	Professor Anatoly Nikolaevich Filippov, Russia
Host Faculty :	Dr. Amit Kumar Verma
Duration :	13-07-2016 to 20-07-2016
Course Name	
Foreign Faculty :	Prof. Sadao Kurohashi, Kyoto University, Japan
Host Faculty :	Prof. Pushpak Bhattacharyya
Duration :	02-05-2016 to 08-05-2016
Course Name	
Foreign Faculty :	Prof. Savo Glisic, Finland
Host Faculty :	Dr. Sudhan Majhi
Duration :	02-04-2016 to 10-04-2016



Two day workshop on Computer Networking and CCIE Security

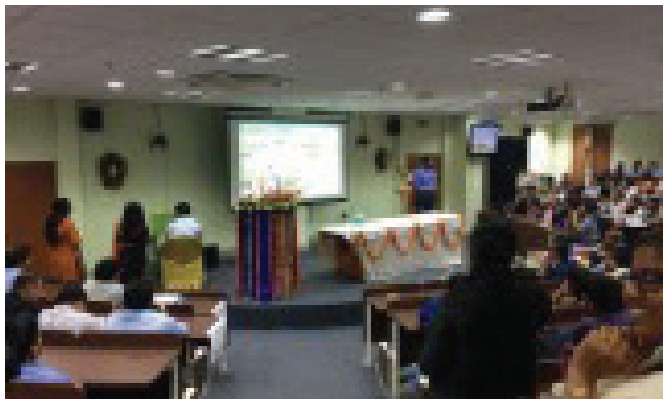
The Department of Computer Science & Engineering organized two day workshop on Computer Networking and CCIE Security from 22nd to 23rd October 2016. This workshop focused on security of computing systems and CCIE Security. This was organized jointly with Department of Computer Science & Engineering, IIT Patna, team NSSIT, UAE and Inspire Cyber Solutions.

Two Day Workshop on IoT-applications, Technologies and Platforms

The Department of Computer Science & Engineering organized two day workshop on IoT-applications, Technologies and Platforms from 12th to 13th November 2016. This two day workshop with lectures and hand on sessions, interactive discussion sessions, covered general IoT design, applications as well as specific case studies related to IoT and solutions during the design and deployment of example IoT devices. The course touched upon several fundamental questions in this field, as below, and stimulate interest in Faculty students and researchers to explore further. This was organized jointly with Intel/FICE Team, Bangalore & Department of Computer Science and Engineering, IITP.

15.7 6th Research Scholars' Day

6th Research Scholars' Day was celebrated in Indian Institute of Technology Patna (IIT Patna) on 5th March 2017. The event started with lighting of the lamp by the Hon'ble Director, IIT Patna, Prof. Pushpak Bhattacharyya and Professor Pradipta Banerji (IIT Bombay), Professor Prasanta K. Panigrahi (IISER Kolkata) and Professor Maya Shanker Pandey (BHU).In his welcome speech Director Bhattacharyya said that like kashi is auspicious for devotees so is the research for the researchers. On this occasion, Research Scholars have participated in various events including "My Research in Three Minutes" and "Poster Presentation" with great enthusiasm. The guests delivered lectures on various research fields. Prof. Banerji discussed safety of railway bridges and how to do relevant research in the real world problems. Prof. Panigrahi delivered lecture on Quantum computing which is going to be highly relevant research topic in future. Prof. Pandey discussed about the various aspects of the English language, pronunciations and making effective presentation. .At the end of the ceremony, the awards were presented to winners of various competitions. The winners of "Poster Presentation" were Akash Arya and Jayant Bera (Physics), Sayeed Ashique Ahmed (Chemistry), Ankita Swati(Civil & Environmental Engg.), Subradeep Pal (Electrical Engg.), Tanmay Sen (Mathematics), Sribalaji M (Material Science & Engg.), Satish G.P. (Mechanical Engg.), Roshni Chakraborty (Computer Sc. Engg.), Sanchari (Chemical & Biochemical engg.). The winners of "My Research in Three Minutes" were Madhu Ranjan Gunjan (1st prize), Satish G.P. (2nd Prize) and Ankita Swati (3rd prize).




15.8 National Science Day

National Science Day is celebrated in India on 28 February each year in order to commemorate the invention of the Raman Effect by Indian physicist Sir Chandrasekhara Venkata Raman on the same day in 1928. This year the National Science Day was celebrated in the department of Physics in the Senate hall, Administrative building. The program started with an opening lecture by Dr. N. K. Nishchal on "Scientific presentation; An overview of what I think is important". He emphasized various aspects of scientific presentation and inspired the audience to develop a better skill for the presentation. A lecture competition was held where all the research scholars of the department (2nd year onwards) presented their research work in 5 minutes. The department is delighted to have honorable Director of the institute, Prof. Pushpak Bhattacharyya, as the chief guest in the prize distribution ceremony. In the afternoon session, there was an open house discussion among the students of the department and the faculty members. The interactive session included discussion on teaching methodology, course contents, facilities in the department and most importantly the future directions for the students. The whole program was designed and arranged by the students of the department under the guidance of Head of the department Dr. Utpal Roy.

15.9 MoUs Signed in 2016-17

MoU with Wright State University

On 17th May, 2016, IIT Patna signed an MoU with Wright State University, Ohio.

MoU with

IIT Patna has signed up a Memorandum of Understanding (MoU) with, focused on facilitating industry and research cooperation in the field of emerging technologies. The MoU is focused on sharing technology trends to IIT Patna faculty, which can take a form of a periodic activity based on need, subject and expertise availability. This MoU was signed by Director, IIT Patna and Mr. Naresh Kumar (Chief Technical Officer – India and ASEAN, Tektronix) on 20-10-2016.

Tektronix is leader in Electronics Test and Measuring Equipments. Tektronix designs and manufactures test, measurement and monitoring solutions for Essential Technologies and helps accelerate global innovation.

The MOU also includes hands-on-training on Tektronix products to IIT Patna students and faculties to enhance their skills beyond basic use, for example, on power electronics, embedded systems, RF measurements, semiconductor characterisation etc.;

IIT Patna and Tektronix are interested in exploring research collaboration opportunities between the Parties with the view of setting the ground for longer-term university-industry partnerships and strengthening the innovative capabilities of students for industry-driven research and innovation.

IIT Patna and Tektronix further agreed on collaboration in various technology domains like Material Research and Signal Analysis.

MoU with IST Lisbon

On 03rd May, 2016, IIT Patna signed an MoU with

Instituto Superior Técnico Universidade de Lisboa (Portugal)

MoU with National Informatics Center on 2nd March, 2017

"National Informatics Center (NIC), Ministry of IT, India has set up the Digital Government Research Center (DGRC) at Patna Software Technology Park. DGRC is the first of its kind anywhere in the country.

DGRC was formally launched IIT Patna by the Hon'ble Minister of IT Shri Ravi Shankar Prasad on 2nd March 2017. On this occasion, IIT Patna entered into an MoU with the National Informatics Center, which will create a framework for joint publication, patenting, internships, advisory and consultancy, under the umbrella of DGRC.

IIT Patna Director Prof. Pushpak Bhattacharyya observed that one of the most attractive outcomes of this collaboration is analytics on huge amount of data at NIC which will be mined to discover useful patterns and rules and trends. One of the projects starting under this collaboration is a Deity funded project on disaster prediction - Dr. Ashok Singh Sairam and Dr. Joydeep Chandra of IIT Patna will be the Project Investigators.

In his address, Hon'ble Minister Shri Ravi Shankar Prasad outlined how India was getting transformed by the Digital India program launched in 2015 by the Hon'ble Prime Minister of India. He urged IIT Patna and NIC to make the DGRC a crowning success.

Hon'ble Minister Shri Ravi Shankar Prasad tweeted "Digital Government Research Center will work closely with IIT Patna, NIT Patna and other Academic institutions."

15.10 Inauguration of Physics Society

The Physics Society is a group formed under the aegis of the department of Physics, IIT Patna. Membership to the society is open to anyone who has an interest in Physics and presently, it includes all the students and faculty members of the Department of Physics. The objective of the Society is multifaceted. It looks forward to generating an atmosphere that fosters a scientific temper. It provides a platform for those interested in Physics to share and discuss the ongoing activities and scholarly work in the field. The Society also aims to organize outreach programs to generate awareness among the local community. The activities will ensure that the members develop leadership experience and use their knowledge in the area to contribute to the community. With above objectives, the Physics Society was established on 30th of January, 2016. The inauguration was celebrated by the students, staffs and faculty members of the department with great zeal of enthusiasm. We were highly privileged to have Prof. Pushpak Bhattacharyya, the director of IIT Patna and Prof. Ratnamala Chatterjee, eminent faculty at the department of Physics from IIT Delhi as our chief guests. They illuminated our spirit by their mesmerizing lecture. Head of the department Dr. Utpal Roy delivered a motivational speech and introduced the department to all of us. It was followed by a talk from the president of Physics Society Mr. Rajnish Kumar who introduced the office bearers of the society to us.

15.11 TEDx IITPatna

TEDxIITPatna is an independently organized TED event operated under license from TED. The TEDxIITPatna community is a diverse one, both ethnically and socially. Our organizers, fellows, team members and speakers all coalesce into one large, wondrous amalgamation of brilliant ideas and thoughts. We work with, and around our speakers, and aim to cultivate their work through support and collaboration

SPEAKERS for TEDx 2016

At the day long conference following eminent speakers from different walks of life shared unique ideas from India and all around the globe.

Ashok Krish

Head of Social Media & Workplace Reimagination Practice TCS Digital Enterprise at Tata Consultancy Services

Dr. George Puthuran

Doctor, Ophthalmologist

Dr. Mohan Kameswaran

Doctor, Otorhinolaryngologist

Dr. Prof. Pushpak Bhattacharyya

Director IIT Patna

Professor, Computer Science and Engineering IIT Bombay

Dr. Satyajit Singh

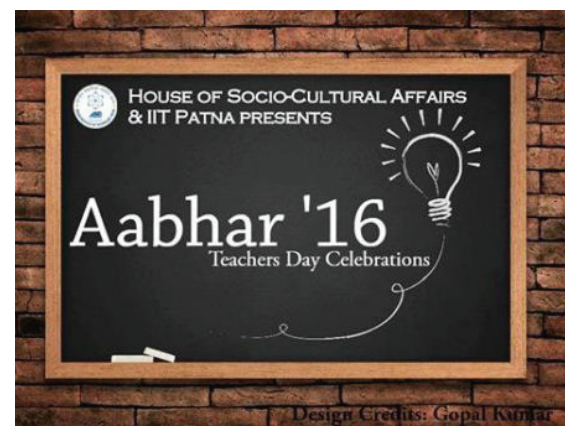
Doctor, Urologist

15.12 Cultural Activities

Teachers' Day

5 Sept. 2016

The students put up a short programme and three best teachers from each department talked about teaching and their practices in class.



Kavya Rangam – Kavi Sammelan

IIT Patna celebrated Kavya Rangam (the Kavi Sammelan) on 30 Sept. 2016

Sadhna (Gandhi Jayanti Celebration)

The day is marked by a cleanliness drive under the banner of NSS and singing of bhajans in the memory of the Father of the Nation, Mahatma Gandhi.

Reverberance

29 Oct. -30 Oct. 2016

This is IITP's mid-year fest marked by cultural and literary events.

Rashtriya Ekta Saptah

3 Nov. 2017

Anwesha

Anwesha is the techno-cultural fest of IIT Patna and is one of the biggest fests in the region. This year's theme was 'think, dream and live'. The fest was marked by technical events such as Njack, Sparkonics, Threshold, ACE etc., Management events like Vendre, Six Thinking Hats, photography, literary and green events. Last but not the least were the cultural events like dramatics, Nukkad natak, singing and dance competitions and fashion show.

Virasat

Virasat is one of the main cultural festivals of SPIC MACAY, comprising an eclectic mixture of all aspects of Indian Cultural Heritage. IIT Patna hosted its first Virasat Programme. Pt. Shubhendra Rao (Sitar, Pt. Rajan - Sajan Mishra, Padmabhushan (Hindustani Vocal), Vidushi Geeta Chandran, Padmashri (Bharatnatyam),Pt. Partho Sarothy (Sarod),Vidushi Sudha Raghuraman (Carnatic vocal), Vidwan Mysore A Chandan Kumar (Carnatic Flute) and Vidushi Shruti Sadolikar Katkar (Hindustani Vocal) are some of the artists who graced the programme.

Statistical Information

Admission to Undergraduate Students

Admission to B.Tech. at IIT Patna were made through Joint Entrance Examination held in May, 2016. A department wise and category wise breakup of the students admitted to IIT Patna for the academic session 2016-17 is given below:

Students admitted through JEE 2016 in IIT Patna:

Course	Gen	OBC	PD	SC	ST	Total
Computer Science & Engineering	24	13	0	8	4	49
Electrical Engineering	25	14	1	8	3	50
Mechanical Engineering	24	12	0	8	4	48
Chemical Science and Technology	11	7	0	3	1	22
Civil and Infrastructure Engineering	13	7	0	3	2	25
					Grand Total	194

Branch-wise list of students who enrolled for B.Tech at IIT Patna for the academic session 2016-17 is given below:

(I) Computer Science & Engineering:

Roll No	Name	Gender	Category
1601CS01	ABHINAV SIDDHARTH	Male	OBC
1601CS02	ABHISHEK NAUTIYAL	Male	General
1601CS03	ADITYA PRAKASH PATRA	Male	General
1601CS04	AMIT RANJAN	Male	OBC
1601CS05	ANURAG	Male	SC
1601CS06	ASHUTOSH MISHRA	Male	General
1601CS07	BALIJA BALA SHASHANK	Male	OBC
1601CS08	BISWAS TAMEESH	Male	SC
1601CS09	CHOPRA SARAANSH	Male	General
1601CS10	DEEPAK KUMAR	Male	OBC
1601CS11	DEVANSH GUPTA	Male	General
1601CS12	DINESH GAUR	Male	ST
1601CS13	FAZLE RAHMAN EJAZI	Male	General
1601CS14	HARSHIKA	Female	OBC
1601CS15	JADHAV SAI KRISHNA	Male	ST
1601CS16	JAMMIGUMPULA VENKATA NARAYANA	Male	General
1601CS17	KADUM PERME	Male	ST
1601CS18	KARMANKAR VIJAY RATAN	Male	SC
1601CS19	KAUSTUBH SHARMA	Male	General
1601CS20	KULKARNI PARTH PARAG	Male	General
1601CS21	MANISH KUMAR	Male	OBC
1601CS22	MAYANK BIPINCHANDRA VAIDYA	Male	General
1601CS23	MD ASHRAF MOID	Male	General
1601CS24	MD AURANGZEB	Male	OBC
1601CS25	MILAN JITENDRA JOLLY	Male	General
1601CS26	MUKTHAPURAM SAHRUDAY REDDY	Male	General
1601CS27	MUKUNTHA N S	Male	General
1601CS28	NAVEEN	Male	SC
1601CS29	PATIL SANKET PURUSHOTTAM	Male	SC
1601CS30	PIYUSH SINGH	Male	General
1601CS31	POTNURU VEDAVIKAS	Male	General

Roll No	Name	Gender	Category
1601CS32	PRAJJWAL ARYA	Male	SC
1601CS33	PRAKASH KUMAR	Male	General
1601CS34	PUNEET CHHABRA	Male	General
1601CS35	R J SRIVATSA	Male	General
1601CS36	RAJ MANI	Male	OBC
1601CS37	RAJ SHEKHAR	Male	OBC
1601CS38	RAJEEV KUMAR	Male	OBC
1601CS39	SAMBANA PRANAY SHASHANK	Male	OBC
1601CS40	SATHVIKESH DAMALA	Male	SC
1601CS41	SAURAV	Male	General
1601CS42	SHASHANK SAXENA	Male	General
1601CS43	SHAURYA GUPTA	Male	General
1601CS44	SHIKHAR JAISWAL	Male	General
1601CS46	SIDDHARTH THAKUR	Male	General
1601CS47	TADAR KAMA	Male	ST
1601CS48	VISWAK HANUMANTH G K	Male	OBC
1601CS49	VIVEK RAJ	Male	SC
1601CS50	YASH PALRIWAL	Male	OBC

(II) Electrical Engineering:

Roll No	Name	Gender	Category
1601EE01	ABHINAV	Male	General
1601EE02	ABHIRAV SATI	Male	General
1601EE03	ABHISHEK KUMAR	Male	OBC
1601EE04	AGGI SATHVIK	Male	OBC
1601EE05	AMAN JHA	Male	General
1601EE06	AMBUJ KUMAR SINGH	Male	General
1601EE07	ANUNAY KANT	Male	General
1601EE08	ARUNDHATI GUPTA	Female	General
1601EE09	ARUNIKA YADAV	Female	General
1601EE10	AYUSH KUMAR SINGH	Male	General
1601EE11	BHARAT SHAH	Male	General
1601EE12	CHAITANYA KHARE	Male	General
1601EE13	DEEPAK KUMAR MEENA	Male	ST
1601EE14	DHANUSH S R	Male	OBC
1601EE15	DONKADA SAI MANOGNA	Female	General
1601EE16	GANTLA AVINASH SRAVAN GANDHI	Male	OBC
1601EE17	GAURAV KATARIA	Male	General
1601EE18	HARPREET KUMAR	Male	SC
1601EE19	HARSH RAJ	Male	OBC
1601EE20	KRISHAN KANT	Male	General
1601EE21	KUMAR VIVEK	Male	General
1601EE22	KUMARI NEHA	Female	SC
1601EE23	KUNDAN KUMAR	Male	General
1601EE24	MAYANK WADHWANI	Male	General
1601EE25	MOHD HILAL CHOUDHARY	Male	ST
1601EE26	MOHIT SINGH TOMAR	Male	General
1601EE27	NILENDU SHUBHAM	Male	General
1601EE28	PEEYUSH SHIVAM RAJ	Male	SC
1601EE29	PRABHAT RANJAN	Male	SC
1601EE30	PRANEET KUMAR	Male	General

Roll No	Name	Gender	Category
1601EE31	PRATIYUSH PUSHKAR	Male	OBC
1601EE32	PULIPATI HARI KRISHNA	Male	OBC
1601EE33	RAHUL ISHAAN	Male	SC
1601EE34	RAHUL KUMAR	Male	SC
1601EE35	RAHUL KUMAR AKASH	Male	OBC
1601EE36	RAUSHAN RAJ	Male	SC
1601EE37	RISHAB KATIYAR	Male	OBC
1601EE38	SAHIL SHARMA	Male	General
1601EE39	SAHIL SINGH	Male	General
1601EE40	SANJAY KUMAR MEENA	Male	ST
1601EE41	SAURABH	Male	SC
1601EE42	SAURABH JAISWAL	Male	OBC
1601EE43	SHAGUFTA NAAZ	Female	General
1601EE44	SHAILESH SHRIVASTAVA	Male	General
1601EE45	SHASHANK SINGH	Male	OBC
1601EE46	SHIVESH YADAV	Male	OBC
1601EE47	SOURABH PRASAD	Male	OBC
1601EE48	VINAIK ADIDEV VIVEK	Male	General
1601EE49	VISNU P KUMARR	Male	OBC
1601EE50	YASH	Male	General

(III) Mechanical Engineering:

Roll No	Name	Gender	Category
1601ME01	ADITYA SUMAN	Male	OBC
1601ME02	AKSHAT RAHUL	Male	General
1601ME03	AKSHAY KUMAR	Male	General
1601ME04	AMIT KUMAR	Male	SC
1601ME05	ANKIT KUMAR MEENA	Male	ST
1601ME06	ARYAN KUMAR	Male	SC
1601ME07	ASHISH KUMAR UPADHYAY	Male	General
1601ME08	ASHISH PRIYA	Male	OBC
1601ME09	ASHUTOSH MISHRA	Male	General
1601ME10	DHARMARAJU ROSHAN VINAYKAR	Male	General
1601ME11	DINESH KUMAR MEENA	Male	ST
1601ME12	GAURAV KUMAR MEENA	Male	ST
1601ME13	GUJARKAR LAHU	Male	SC
1601ME14	JANJARLA SAGAR	Male	SC
1601ME15	JASKARAN SINGH CHHABRA	Male	General
1601ME16	KANER SWAPNIL SHARAD	Male	OBC
1601ME17	KANKOTIYA SAHAJKUMAR VANMALIBHAI	Male	General
1601ME18	KOPPISETTI VENKATA KALYAN SAI	Male	General
1601ME19	LINGALA VISHVA CHAITANYA	Male	OBC
1601ME20	MAYANK TRIPATHI	Male	General
1601ME21	NARAIN ROHANG	Male	General
1601ME22	NAVIN KUMAR	Male	OBC
1601ME23	NITIN KASHYAP	Male	General
1601ME24	PILLI NOOKESH	Male	OBC
1601ME25	PRAKHAR SRIVASTAVA	Male	General
1601ME26	RAHUL KUMAR	Male	OBC
1601ME27	RAJKE PRATIK MAYUR	Male	General
1601ME28	RAKESH BAIRWA	Male	SC

Roll No	Name	Gender	Category
1601ME29	RAVI MEENA	Male	ST
1601ME30	REDDI SAI VAMSI	Male	OBC
1601ME31	RENATI ROHITH KUMAR REDDY	Male	General
1601ME32	ROHAN KUMAR SINGH	Male	OBC
1601ME33	ROUSHAN KUMAR GUPTA	Male	OBC
1601ME34	SAKSHAM KUMAR	Male	General
1601ME35	SAMPURN KASHYAP	Male	General
1601ME36	SANDEEP TRIPATHY	Male	General
1601ME37	SAURABH SAMIR	Male	OBC
1601ME38	SOHID H TURE	Male	SC
1601ME39	SRIJAN SUMANT	Male	General
1601ME40	SUPRABHASH SAHU	Male	General
1601ME41	SURAJ KUMAR JHA	Male	General
1601ME42	SWAPNIL AGRAHARI	Male	General
1601ME43	SWASTIK MISHRA	Male	General
1601ME44	UPENDRA PRATAP SINGH	Male	SC
1601ME45	UTSAV N DATTANI	Male	General
1601ME46	VIJAY SHARMA	Male	General
1601ME47	VIVEK RAJ	Male	SC
1601ME48	YADAV SUJIT VIJAYEE	Male	OBC

(IV) Civil Engineering:

Roll No	Name	Gender	Category
1601CE01	ABHINAV GYAN	Male	OBC
1601CE02	ABHINAV SHARMA	Male	General
1601CE03	ABHISHEK BHARTI	Male	General
1601CE04	ABHISHEK SINGH	Male	SC
1601CE05	AKASH CHAUDHARY	Male	General
1601CE06	AMAR SAMIRA	Male	OBC
1601CE07	AMIT SINGH	Male	General
1601CE08	ANKIT RAI	Male	General
1601CE09	ASHUTOSH KUMAR SINGH	Male	General
1601CE10	BANKEY BIHARI JHA	Male	General
1601CE11	G SAHI DARSINI	Female	General
1601CE12	GAURAV KUMAR MEENA	Male	ST
1601CE13	MAYANK KUMAR SINGHAL	Male	General
1601CE14	OSHO ANAND	Male	General
1601CE15	POOJA CHOUDHARY	Female	OBC
1601CE16	PRAVESH KUMAR MEENA	Male	ST
1601CE17	RAJ	Male	OBC
1601CE18	RISHABH	Male	General
1601CE19	RITESH SINGH RATHOUR	Male	General
1601CE20	ROHIT KUMAR	Male	OBC
1601CE21	SANKET RAJ	Male	SC
1601CE22	SATYAKI BARMAN	Male	SC
1601CE23	SATYAM SINGH	Male	OBC
1601CE24	SURAJ KUMAR SINGH	Male	General
1601CE25	VISHWAJEET NISHAD	Male	OBC

(V) Chemical Science and Technology:

Roll No	Name	Gender	Category
1601CB01	ADITYA KUMAR KESHARI	Male	General
1601CB02	ANUSHREE JAIN	Female	General
1601CB03	ASHISH KUMAR SINGH	Male	General
1601CB04	ASWIN KRISHNA	Male	General
1601CB05	AYUSH INANI	Male	General
1601CB06	BHAGIRATH SARDAR	Male	ST
1601CB08	DEVANSH JAISWAL	Male	OBC
1601CB09	DHEERAJ KALANI	Male	General
1601CB10	NAVEEN T	Male	OBC
1601CB11	NEERAJ KUMAR MEHRA	Male	SC
1601CB12	NISHANT KULSHRESTHA	Male	General
1601CB13	PANKAJ KUMAR SINGH	Male	OBC
1601CB14	PATEL PARTH	Male	General
1601CB16	RAGHAV HEDA	Male	General
1601CB17	RAJAT GUPTA	Male	OBC
1601CB18	SACHIN	Male	SC
1601CB19	SANGEETH MUKUNDAN	Male	General
1601CB20	SASI KUMAR S	Male	OBC
1601CB21	SATYENDRA KUMAR	Male	SC
1601CB22	SUNIL KUMAR YADAV	Male	OBC
1601CB23	VIKAS SINGH	Male	OBC
1601CB24	YASH CHOUDHARY	Male	General

Admission to Postgraduate Students (M.Tech)

Admission to M.Tech Courses at IIT Patna were made through GATE score (70% weightage) and Personal Interview (30% weightage) in May, 2016. A department wise and category wise breakup of the students admitted to IIT Patna for the academic session 2016-17 is given below:

Students admitted in M.Tech in 2016-17 in IIT Patna:

Course / Specialization	Category					Grand Total
	GEN	OBC	PD	SC	ST	
CIVIL & INFRASTURUCTURE ENGINEERING	6	4	0	1	0	11
COMMUNICATION SYSTEM & ENGINEERING	5	3	1	2	1	11
COMPUTER SCIENCE & ENGINEERING	6	4	1	2	0	12
MATERIAL SCIENCE & ENGINEERING	4	3	0	2	0	9
MATHEMATICS & COMPUTING	4	3	0	2	0	9
MECHANICAL ENGINEERING	6	2	0	2	0	10
MECHATRONICS	8	4	0	1	1	14
NANOSCIENCE AND TECHNOLOGY	5	3	0	2	0	10
Grand Total	**44**	**26**	**2**	**14**	**2**	**86**

Branch-wise list of students who enrolled for M.Tech at IIT Patna for the academic session 2016-17 is given below:

(I) Civil & Infrastructure Engineering:

Roll No	Name of Candidate	Gender	Category
1611CE02	AKHILESH PASWAN	MALE	SC
1611CE03	AUCHITYA VERMA	MALE	OBC (NCL)
1611CE04	KUMAR NISHANT UJJAWAL	MALE	General
1611CE05	MAHIPAL	MALE	General
1611CE06	NISHANT NILAY	MALE	General
1611CE07	PALAGALA VENKATESH YADAV	MALE	OBC (NCL)
1611CE08	PINTU KUMAR	MALE	OBC (NCL)
1611CE09	PRATYUSH KUMAR	MALE	General
1611CE10	PRIYAJIT BANERJEE	MALE	General
1611CE11	PURUSHOTTAM KUMAR CHAUDHARY	MALE	OBC (NCL)
1611CE12	RAJI B	FEMALE	General

(II) Communication System & Engineering:

Roll No	Name of Candidate	Gender	Category
1611EE01	ADITYA SINGH	MALE	General
1611EE02	AJAY KUMAR	MALE	SC
1611EE03	ANKUR PANDEY	MALE	General
1611EE05	BHASKAR PANNA	MALE	ST
1611EE08	GYAN DEEP VERMA	MALE	OBC (NCL)-PD
1611EE09	H S TRINATH TAMMISETTI	MALE	General
1611EE10	LUCKY KUMAR	MALE	General
1611EE11	MAYANK GUPTA	MALE	General
1611EE12	PAWAN KUMAR	MALE	OBC (NCL)
1611EE14	SAURABH KUMAR	MALE	OBC (NCL)
1611EE18	VISHAKHA SINGH	FEMALE	SC

(III) Computer Science & Engineering:

Roll No	Name of Candidate	Gender	Category
1611CS01	CHANCHAL SUMAN	FEMALE	OBC (NCL)
1611CS02	CHEKE NIKHIL DATTATRAYA	MALE	OBC (NCL)
1611CS03	HARSIMRAN BEDI	FEMALE	General
1611CS04	HIMANI SRIVASTAVA	FEMALE	General
1611CS05	JYOTI NARWARIYA	FEMALE	OBC (NCL)
1611CS06	KINGSHUK BASAK	MALE	General
1611CS09	NIKHIL JAISWAL	MALE	OBC (NCL)
1611CS10	NINGTHOUJAM DHANACHANDRA SINGH	MALE	SC
1611CS13	SEQUEIRA RYAN THOMAS	MALE	General
1611CS14	SHIVAM PORWAL	MALE	General - PD
1611CS17	DEBANJAN SARKAR	MALE	General
1611CS18	RAHUL KUMAR	MALE	SC

(IV) Materials Science & Engineering:

Roll No	Name of Candidate	Gender	Category
1611MS02	ABHILASH JOSE	MALE	General
1611MS04	AMARJEET KUMAR	MALE	OBC (NCL)
1611MS06	HAMZA ALI	MALE	OBC (NCL)
1611MS07	MAYANK KUMAR PANDEY	MALE	General
1611MS08	OM PRAKASH KUMAR	MALE	SC
1611MS09	RISHOW KUMAR	MALE	General
1611MS10	SAURABH SRIVASTAVA	MALE	General
1611MS11	SONY PRIYADERSHINI	FEMALE	OBC (NCL)
1611MS14	VALAY JAGDISH KHOBRAGADE	MALE	SC

(V) Mathematics & Computing:

Roll No	Name of Candidate	Gender	Category
1611MC02	ARVIND KUMAR CHAUDHARY	MALE	SC
1611MC03	KUMARI DEEPSHIKHA	FEMALE	General
1611MC04	MANSI MAHESHWARI	FEMALE	General
1611MC06	NEETU SIGGER	FEMALE	OBC (NCL)
1611MC07	POONAM	FEMALE	SC
1611MC09	RAHUL YADAV	MALE	OBC (NCL)
1611MC10	ROHIT KISHOR	MALE	OBC (NCL)
1611MC12	SURABHI KUMARI	FEMALE	General
1611MC13	VISHAL KAUSHIK	MALE	General

(VI) Mechanical Engineering:

Roll No	Name of Candidate	Gender	Category
1611ME02	ANKIT JAISWAL	MALE	OBC (NCL)
1611ME03	ANURAG SHUKLA	MALE	General
1611ME06	GAWADE YOGESH YALLAPA	MALE	General
1611ME08	NAVEEN KUMAR	MALE	OBC (NCL)
1611ME09	PARAG RATHEE	MALE	General
1611ME10	PRIYAM SRIVASTAVA	MALE	General
1611ME11	RAHUL RANA	MALE	General
1611ME12	TANUJA KUMARI	FEMALE	SC
1611ME13	VIKASH KUMAR	MALE	SC
1611ME14	BADRISH PANDEY	MALE	General

(VII) Mechatronics:

Roll No	Name of Candidate	Gender	Category
1611MT01	AADITYA ASATI	MALE	General
1611MT02	ADNAN JAWED	MALE	General
1611MT03	AMIT KUMAR	MALE	General
1611MT04	ASHISH AGRAWALA	MALE	General
1611MT05	BINAYAK KRISHNA SWAMI	MALE	General
1611MT06	KANIKA CHOUDHARY	FEMALE	OBC (NCL)
1611MT07	KRISHNA AGRAWAL	MALE	General
1611MT08	MITHILESH KUMAR KOIRI	MALE	OBC (NCL)
1611MT09	MOHAMMAD IQBAL ASHRAF	MALE	General
1611MT10	NEHA KUMARI	FEMALE	OBC (NCL)
1611MT11	NITISH KUMAR PRAJAPATI	MALE	SC
1611MT12	RAJAN SIPPY	MALE	OBC (NCL)
1611MT13	SHUBHAM PRAFUL GOTHALE	MALE	ST
1611MT14	SUMEET SHEKHAR	MALE	General

(VIII) Nanoscience & Technology:

Roll No	Name of Candidate	Gender	Category
1611NT01	AMRITA KUMARI	FEMALE	OBC (NCL)
1611NT02	DEWANAND PANDIT	MALE	OBC (NCL)
1611NT03	HARSH RANJAN	MALE	General
1611NT05	KM KAVITA VISHWAKARMA	FEMALE	General
1611NT06	MAYANK KUMAR	MALE	General
1611NT07	PRAKHAR VERMA	MALE	General
1611NT09	PULI SUNNY BABU	MALE	SC
1611NT10	RAJASHIK PAUL	MALE	General
1611NT11	RISHABH KISHORE	MALE	OBC (NCL)
1611NT13	SHUBHROJIT MISRA	MALE	SC

Admission to Postgraduate Students (M.Sc)

Admission to M.Sc. Courses at IIT Patna were made through JAM score in June/July, 2016. A department wise and category wise breakup of the students admitted to IIT Patna for the academic session 2016-17 is given below:

Students admitted in M.Sc. in 2016-17 in IIT Patna:

Course / Specialization	Category					Grand Total
	GEN	OBC	PD	SC	ST	
MATHEMATICS	5	2	1	2	0	9
PHYSICS	4	3	0	2	0	9
CHEMISTRY	1	2	0	1	1	5
Grand Total	**10**	**7**	**1**	**5**	**1**	**23**

Branch-wise list of students who enrolled for M.Sc. at IIT Patna for the academic session 2016-17 is given below:

(I) MATHEMATICS:

Roll No	Name of Candidate	Gender	Category
1612MA01	AKSHAY GARG	Male	GEN.
1612MA02	PAGAR PAVAN RAVINDRA	Male	GEN.
1612MA04	RANI KUMARI	Female	OBC
1612MA05	RISHABH SHARMA	Male	GEN.
1612MA06	SHIVAM MIDDHA	Male	GEN.
1612MA07	SNEHAMOY KABIRAJ	Male	SC
1612MA08	SUMAN KUMARI	Female	OBC
1612MA09	SYAMANTAK DAS	Male	GEN.
1612MA10	VAISHALY VERMA	Female	SC

(II) PHYSICS:

Roll No	Name of Candidate	Gender	Category
1612PH01	ABHINANDAN KUMAR	Male	GEN.
1612PH03	BAPPA BARMAN	Male	SC
1612PH04	CHAYAN PAL	Male	OBC
1612PH05	DIPANSHU SHARMA	Male	GEN.
1612PH06	MOHAK SHUKLA	Male	GEN.
1612PH07	NEESHA YADAV	Female	OBC
1612PH08	RAMAKANTA SETHY	Male	SC
1612PH09	ROHIT KUMAR	Male	GEN.
1612PH10	SUBHADEEP DATTA	Male	OBC

(III) CHEMISTRY:

Roll No	Name of Candidate	Gender	Category
1612CH01	ARGHA SAHA	Male	SC
1612CH06	NITESH KUMAR	Male	OBC
1612CH07	RAHUL KUMAR KERAI	Male	ST
1612CH08	RAJKUMAR SAHOO	Male	OBC
1612CH10	YASHITA KHUNGER	Female	GEN.

Students awarded Merit-Cum-Means (MCM) Scholarship

Under the Merit-Cum-Means (MCM) scheme, the following benefits are provided to the students:

(a) For General & OBC category students: Rs. 1,000/- per month for two semesters (8 months in a year) and Free Tuition Fee.

(b) For SC & ST category students: Free Messing (Dues of only basic menu), Exemption from Hostel Room Rent, Pocket allowance of Rs. 250/- per month.

Provided below are the details of the MCM scholarships awarded during FY 2016-17:

Batch	GEN+OBC	SC+ST	Total
2013 (B.Tech.)	34	6	40
2014 (B.Tech.)	36	10	46
2015 (B.Tech.)	36	6	42
2016 (B.Tech.)	9	3	12
2016 (M.Sc.)	4	4	8
Total	119	29	148

The following 140 undergraduate students (B.Tech. Programme) and 08 Postgraduate students (M.Sc. Programme) were selected for the award of the Merit-Cum-Means (MCM) scholarship in the academic year 2016-17 by the Institute:

Roll No	Name		Roll No	Name
1301CS28	MAYANK ARYA		1401ME21	KILLI SANTHOSH NAIDU
1301CS10	ANKIT KUMAR		1401CH05	BHAGYA SHRI VERMA
1301ME30	NITESH KUMAR		1401EE04	AKASH GOYAL
1301CE11	J. AJAY REDDY		1401EE19	LOKESH KUMAR RAIGER
1301CS37	RAVI SONAM		1401EE14	DESHRAJ MEENA
1301CS27	MANU KUMAR SHARMA		1401CS32	P. VENKATESH
1301CS53	ANKIT CHOUDHARY		1401CH22	SHIVAM KUMAR SUTRAKAR
1301CE12	KUMAR GAURAV		1401ME05	ANURAG MEENA
1301CE13	KUMARI SONAM		1401EE03	ABHISHEK MEENA
1301CS22	K. TEJRAM		1401CE14	KANHAIYA KUMAR MANDAL
1301EE19	MULAY GANESH ANIL		1401ME06	ASHISH KUMAR
1301EE31	RUSTAM KUMAR		1401CS09	BORA UDAY
1301CS45	VINAY KUMAR YADAV		1501CS11	ASHISH RAJ
1301CS43	SUNNY NARAYAN		1501EE43	SHIVAM TIWARI
1301CS55	AYUSH GARG		1501ME51	SAURABH DUBEY
1301ME23	KSHITIJ KUMAR CHOUDHARY		1501EE50	DEO BHUSHAN DHANANJAY
1301ME31	OM PRAKSH SAHU		1501ME31	KULKARNI ANIKET LAXMIKANT
1301CS20	HIMANSHU GARG		1501ME52	VISHAL RAWAT
1301CS35	RAJKISHOR RANJAN KUMAR		1501CE20	SUMIT KUMAR NANDAN
1301EE02	AMAN PRAKASH SINGH		1501CS29	MOOLCHANDRA MRIDUL
1301CS39	SAGAR KUMAR VERMA		1501CE09	MOHIT SINGH
1301CS42	SUMIT ASTHANA		1501EE49	UMESH KUMAR
1301EE07	BATHINA V M S R KRISHNA BABU		1501CS41	SAIKAT SARKAR
1301CH09	DIVYA GARG		1501ME06	ALOK BARANWAL
1301EE13	LOKESH AGARWAL		1501CE10	NIPOON GUPTA
1301EE42	TULASI CHANDAN BEHERA		1501CS13	ASHUTOSH DUBEY
1301EE18	MOHAMMED SHIYAS P C		1501CE17	SHIVPREET SHARMA
1301ME02	ABHINAV KUMAR DAS		1501CS52	SHASHWAT TIWARI
1301ME47	VAIBHAV KABDAL		1501CS35	PRAVEEN SINGH DHAKED
1301CS07	ALOK PATWAL		1501CE04	G. VENKATA SAI SWAROOP
1301CH04	AJAY SHARMA		1501ME11	ASHISH KUMAR
1301EE09	DEEPAK KUMAR		1501CS03	ABHISHEK KUMAR
1301CE21	SHIVAM YADAV		1501CH06	ARPIT KUMAR
1301CS36	RAMAYAN KUMAR		1501CH03	AKHIL JAIN
1301EE03	ANKITA SINGH		1501ME12	AUGUST DUBEY
1301EE14	MADANMOHAN BAIRWA		1501CE02	AMAN KUMAR
1301ME34	PURSOUTTAM PRASAD RAM		1501ME02	ABHISHEK MAURYA
1301CE03	ASHUTOSH SINGH		1501ME05	ALAPAN KAR
1301CH10	GUGULOTH MAHENDER		1501CS46	THATIPARTHI CHAITHANYA REDDY
1301CS29	NAVEEN KUMAR M G		1501CH04	AMAN KUMAR
1401CS50	ALAN AIPE		1501ME19	CHINTHA TEJESWAR REDDY

Roll No	Name		Roll No	Name
1401CS54	THIRUMALA REDDY MANOJ REDDY		1501CH23	VIJAY YADAV
1401ME37	SARTHAK RASTOGI		1501ME07	AMRIT RAJ
1401CH20	SAURABH KUMAR		1501CS15	AVINASH KUMAR
1401EE39	SHAILESH KUMAR KASHYAP		1501CS39	SAHIL MANSOORI
1401CS02	ABHISHEK JAISWAL		1501ME13	AVINASH KUMAR
1401CS55	SATISH GUPTA		1501ME10	ASHISH KUMAR
1401CS38	RAJDEEP GUPTA		1501CH12	DIVYANSHU KHANDELWAL
1401ME19	JATIN KALRA		1501ME04	ABHISHEK SINGH
1401CE17	SHUBHASH I PATEL		1501CH11	BOTCHA VIDYA SAGAR
1401CH16	PRANJALI SHARMA		1501EE44	SOUMIK SIKDER
1401CE05	AKSHAY PATNI		1501CS25	KORRA RAVINDER
1401CE02	ABHINAV KUMAR		1501EE27	PAWAN KUMAR MEENA
1401CS48	VIPIN MAVI		1501CS04	ABHISHEK KUMAR
1401EE06	AMAN OMKAR		1601CS24	MD. AURANGZEB
1401EE30	RAKESH KUMAR BIJARNIYA		1601CS33	PRAKASH KUMAR
1401EE26	PARAS MANI		1601CE01	ABHINAV GYAN
1401CH03	ANKIT CHAHAL		1601CE10	BANKEY BIHARI JHA
1401EE23	MOHD. ASAD		1601EE43	SHAGUFTA NAAZ
1401ME28	MOHIT SHARMA		1601CS36	RAJ MANI
1401ME16	HARSHIT AGRAWAL		1601ME41	SURAJ KUMAR JHA
1401CS13	CHIRAG SONI		1601CE08	ANKIT RAI
1401ME45	SOURABH JAIN		1601CS37	RAJ SHEKHAR
1401ME07	BRIJESH REDDY		1601CE21	SANKET RAJ
1401CE23	SUNIL KUMAR		1601CS28	NAVEEN
1401CH10	LAKHAN AGRAWAL		1601ME47	VIVEK RAJ
1401CH12	MAYANK TIWARI		1612MA08	SUMAN KUMARI
1401ME41	SHIV JEE		1612CH06	NITESH KUMAR
1401CS22	LAXMAN KUMAR PRABHAKAR		1612CH08	RAJ KUMAR SAHOO
1401CE15	NANNAPANENI SRIMAAN		1612MA05	RISHABH SHARMA
1401CH02	AMIT KUMAR		1612CH01	ARGHA SAHA
1401ME35	S VIJAY ANAND		1612PH03	BAPPA BARMAN
1401ME36	SAI MANISH B		1612MA10	VAISHALY VERMA
1401CH04	APOORVA SHRIVASTAVA		1612MA07	SNEHAMOY KABIRAJ

Students Enrolled in Undergraduate Courses

The Table below gives the total number of students in B.Tech. course (Upto April 2017):

Batch	Gen	ST	SC	OBC	PD	Total
2011	0	1	0	0	0	1
2012	0	0	2	0	0	2
2013	84	16	27	49	3 (2 Gen. & 1OBC)	179
2014	88	15	26	50	3 (2Gen. & 1 OBC)	182
2015	92	13	30	50	3 (1Gen., 1 OBC, 1 SC)	188
2016	97	14	30	53	1 (Gen)	194

Statement of Results (Undergraduate)

Following table shows the summary of the results of the undergraduate students at IIT Patna in the year April 2016 to March 2017 (upto end semester examination Dec, 2016):

		CSE	EE	ME	CE	CH	All Dept.
4th Year	Total	55	42	45	20	17	179
	Pass	54	38	45	20	17	174
	Fail	1	4	0	0	0	5
3rd Year	Total	55	44	45	18	20	182
	Pass	52	40	43	17	20	172
	Fail	3	4	2	1	0	10
2nd Year	Total	55	43	49	21	20	188
	Pass	55	40	38	20	20	173
	Fail	0	3	11	1	0	15
1st Year	Total	49	50	48	25	22	194
	Pass	49	48	45	24	20	186
	Fail	0	2	3	1	2	8
All Years (Registered)	Total	214	179	187	84	79	743
	Pass	210	166	171	81	77	705
	Fail	4	13	16	3	2	38
On Leave / Not Registered		0	0	0	0	0	0

Fail means one or more subject failure or CPI less than 05

Statement of Results (Postgraduate)

(A) Following table shows the summary of the results of the Postgraduate students (M.Tech) at IIT Patna in theFY2016-17:

Years		Civil & Infra	Computer Sc	Communication Sys Engg	Maths & Computing	Mechanical Engg	Material Sc & Engg	Mechatronics	NanoScience & Tech	All Dept.
First Year	Total	11	12	11	9	10	9	14	10	86
	Pass	11	11	11	8	7 1 not appeared	9	14	8 1 debarred from exam	79
	Fail / Incomplete	0	1	0	1	3	0	0	2	7
Second Year	Total	10	11	12	13	7	5	7	8	73
	Pass	8 1 not registered for the sem. + 1 not appeared in the exam	11	12	13	6	5	6	8	69
	Fail / Incomplete	2	0	0	0	1	0	1	0	4
All Years	Total	21	23	23	22	17	14	21	18	159
	Pass	19	22	23	21	13	14	20	16	148
	Fail / Incomplete	2	1	0	1	4	0	1	2	11
On Leave / Not Registered		1	0	0	0	0	0	0	0	0

Fail means one or more subject failure or CPI less than 06

(B) Following table shows the summary of the results of the Postgraduate students (M.Sc) at IIT Patna in the FY2016-17:

Years		Mathematics	Physics	Chemistry	All Dept.
First Year	Total	9	9	5	23
	Pass	9	9	5	23
	Fail / Incomplete	0	0	0	0
On Leave / Not Registered		0	0	0	0
Grand Total		**9**	**9**	**5**	**23**

List of Research Scholars Enrolled for the PhD Degree

The table below represents the number of research scholars in various departments as of FY 2016-17:

Admn Year	SCHOOLS										GRAND TOTAL
	ENGINEERING						BASIC SCIENCES			HUMANITIES	
	CBE	CEE	CSE	EE	ME	MSE	CHE	MA	PHY	HSS	
2009-10	0	0	0	3	2	0	0	0	2	1	8
2010-11	0	0	3	2	0	0	0	4	0	1	10
2011-12	0	0	6	2	4	1	5	2	3	0	23
2012-13	0	0	1	4	2	0	0	6	3	3	19
2013-14	0	4	11	11	8	3	7	3	6	3	56
2014-15	1	1	6	18	11	1	4	6	5	1	54
2015-16	3	3	19	13	15	4	9	11	5	8	90
2016-17	3	6	16	22	25	1	9	8	18	13	121
TOTAL	**7**	**14**	**62**	**75**	**67**	**10**	**34**	**40**	**42**	**30**	**381**

RESEARCH SCHOLARS ENROLLED IN ACADEMIC YEAR 2016-17

Civil and Env Engg

Roll No.	Name of Student	Batch
1721CE01	SALONI MOURYA	17-Jan
1621CE02	HASTHI VENKATESWARLU	16-Jul
1621CE03	MD HUSSAIN	16-Jul
1621CE04	MD ARIF FARIDI	16-Jul
1621CE05	AMBER TRIVEDI	16-Jul
1621CE06	DIBYANSHU	16-Jul

Chemistry

Roll No.	Name of Student	Batch
1721CH01	BISWADEEP BOMZON	17-Jan
1721CH02	ABHISHEK KUMAR	17-Jan
1621CH06	MUGADA SUGUNAKARA RAO	16-Jul
1621CH07	ARIF CHOWDHURY	16-Jul
1621CH08	RABINDRANATH JANA	16-Jul
1621CH09	ALOKE BAPLI	16-Jul
1621CH10	SHWETA AGRAWAL	16-Jul
1621CH11	MOSIM ANSARI	16-Jul
1621CH12	SUNITA KUMARI	16-Jul

Computer Science & Engg

Roll No.	Name of Student	Batch
1721CS01	ALOK KUMAR	17-Jan
1721CS02	PRASHANT KAPIL	17-Jan
1721CS03	SUPRIYO MANDAL	17-Jan
1721CS04	SOVAN KUMAR SAHOO	17-Jan
1721CS05	YASHWANT SINGH PATEL	17-Jan
1621CS14	TULIKA SAHA	16-Jul
1621CS15	MANISH BHANU	16-Jul
1621CS17	RIMJHIM	16-Jul
1621CS18	HAZIQUE AETESAM	16-Jul

Roll No.	Name of Student	Batch
1621CS19	MAUAJAMA FIRDAUS	16-Jul
1621CS20	SURJEET SINGH YADAV	16-Jul
1621CS22	ALWYN MATHEW	16-Jul
1621CS23	SHALINI PRIYA	16-Jul
1621CS24	PRANAY KUMAR SAHA	16-Jul
1621CS25	BHAWESH KUMAR	16-Jul

Electrical Engineering

Roll No.	Name of Student	Batch
1721EE02	DEEPAK PUNETHA	17-Jan
1721EE03	RASHMI RANJAN KUMAR	17-Jan
1721EE04	GARIMA SAHU	17-Jan
1721EE05	SHIV BHUSHAN	17-Jan
1721EE06	UTKAL RANJAN MUDULI	17-Jan
1721EE07	IKKURTI SAI CHAITANYA	17-Jan
1721EE09	SATYAM SHUKLA	17-Jan
1721EE10	BHEEMAIAH CHIKONDRA	17-Jan
1721EE11	ATUL SINGH	17-Jan
1621EE07	KUNDAN KUMAR	16-Jul
1621EE09	SAIF AHMAD	16-Jul
1621EE10	MRITYUNJAY KUMAR MISHRA	16-Jul
1621EE11	BHAMIDI LOKESHGUPTA	16-Jul
1621EE12	SONU	16-Jul
1621EE13	SANDIP KUMAR	16-Jul
1621EE14	DEEPTI GOLA	16-Jul
1621EE15	ABDUS SAMAD	16-Jul
1621EE16	ARINDAM SADHUKHAN	16-Jul
1621EE17	ABHISHEK RANJAN	16-Jul
1621EE18	RANJEET KUMAR TIWARI	16-Jul
1621EE19	JITENDRA KUMAR SINGH	16-Jul
1621EE20	VIVEK SINGH	16-Jul

Humanities and Social Science

Roll No.	Name of Student	Batch
1721HS02	YUSUF HASSAN	17-Jan
1721HS03	VINAYAK YASHRAJ	17-Jan
1721HS04	RATUL MAHELA	17-Jan
1621HS03	SMITA SINGH	16-Jul
1621HS04	PARTHA BHATTACHARJEE	16-Jul
1621HS05	ANUJA AKHOURI	16-Jul
1621HS06	KISLAY KASHYAP	16-Jul
1621HS07	SANJIB KR BISWAS	16-Jul
1621HS08	SHAMSHER ALAM	16-Jul
1621HS10	SAMRAT BISAI	16-Jul
1621HS11	CHINMAY PANDA	16-Jul
1621HS12	TONI SHARMA	16-Jul
1621HS13	NUSRAT BEGUM	16-Jul

Mathematics

Roll No.	Name of Student	Batch
1721MA01	BISWAJIT PANDIT	17-Jan
1721MA02	HABIBUL ISLAM	17-Jan
1621MA04	SK RABIUL ISLAM	16-Jul
1621MA05	DIKSHA TIWARI	16-Jul
1621MA06	BHANU PRATAP YADAV	16-Jul
1621MA07	TUSHAR BAG	16-Jul
1621MA08	CHANDRAKANT	16-Jul
1621MA09	SHEERIN KAYENAT	16-Jul

Mechanical Engineering

Roll No.	Name of Student	Batch
1721ME01	MANISH KUMAR THAKUR	17-Jan
1721ME02	DHARMVEER AGARWAL	17-Jan
1721ME04	EST DEV PATEL	17-Jan
1621ME05	RAVI KUMAR	16-Jul
1621ME06	VIJAY KUMAR	16-Jul
1621ME07	PIYUSH KUMAR	16-Jul
1621ME08	PRIYABRATA SAHOO	16-Jul
1621ME09	ABHISHEK	16-Jul
1621ME10	AKASH MUKHOPADHYAY	16-Jul
1621ME11	RISHI KUMAR GUPTA	16-Jul
1621ME12	ASHISH KUMAR	16-Jul
1621ME13	KRISHNAMURTI SINGH	16-Jul
1621ME14	BIMAL DAS	16-Jul
1621ME15	UDAYAN PANDEY	16-Jul
1621ME16	DESIREDDY SHASHIDHAR REDDY	16-Jul
1621ME17	KULDEEP AWASTHI	16-Jul
1621ME18	NIRBHAY KUMAR	16-Jul
1621ME19	KUMAR NISHANT RANJAN SINHA	16-Jul
1621ME20	KRISHAN SHARMA	16-Jul
1621ME21	ISRAR AHMAD	16-Jul
1621ME22	RISHIKESH KUMAR	16-Jul
1621ME23	SHAMBHU KUMAR	16-Jul
1621ME24	APURVA RAJ	16-Jul
1621ME25	AMIT SINGH	16-Jul
1621ME26	ANUP SANKAR SADANGI	16-Jul

Physics

Roll No.	Name of Student	Batch
1721PH02	MANJULA N	17-Jan
1721PH03	KM AKANKSHA DUBEY	17-Jan
1721PH04	PRAGYA TIWARI	17-Jan
1621PH01	SAMAPIKA MALLIK	16-Jul
1621PH02	VIKAS SINGH CHAUHAN	16-Jul
1621PH03	SUGANDH PRIYA	16-Jul
1621PH04	SUBHASISH SAHA	16-Jul
1621PH05	GURUDEO NIRALA	16-Jul
1621PH06	ALOK KUMAR GUPTA	16-Jul
1621PH07	RANJAN KUMAR BEHERA	16-Jul
1621PH09	MD TASIRUL ISLAM	16-Jul
1621PH10	SUMAN KUMARI	16-Jul
1621PH11	APURVA	16-Jul
1621PH12	SHAMPA GUHA	16-Jul
1621PH13	ABDUL QADIRUL BATIN	16-Jul
1621PH14	SHABANA TABASSUM	16-Jul
1621PH15	KARUNA KUMARI	16-Jul
1621PH16	TUMESH KUMAR SAHU	16-Jul

Chemical & Biochemical Engg

Roll No.	Name of Student	Batch
1621CB05	RAKESH KUMAR SINHA	16-Jul
1621CB06	SASHANKA SEKHAR MANDAL	16-Jul
1621CB04	ASHISH KUMAR	16-Jul

Material Sc & Engg

Roll No.	Name of Student	Batch
1721MS01	PRABHAT TIWARI	17-Jan

INDIAN INSTITUTE OF TECHNOLOGY PATNA
FINANCIAL INFORMATION : F.Y. 2016-17

RECEIPTS AND PAYMENTS A/C FOR THE YEAR ENDED: 31st MARCH 2017

Amount in Rupees

Sr. No.	RECEIPTS	Current Year(2016-17)	Sr. No.	Payments	Current Year(2016-17)
1	Opening Balances (Bank Balances)	651311347.85	1	Establishment Expenditure	218864377.00
2	Grant Received from Govt. of India (Plan Grant)	1595676315.00	2	Administrative Expenditure	118100068.50
3	Academic Receipts (Including Mess fee)	81404278.00	3	Expenditure on Fixed Assets	463651434.50
4	Other income	14161143.00	4	Fellowships/Scholarships	89380919.45
5	Deposits & Advances	0.00	5	Deposits & Advances	498784455.18
6	Interest Received	35510857.18	6	Other Payment (Including Statutory Payments)	88603454.90
7	Misc. receipts (Including Statutory Receipt)	0.00	7	Closing Bank Balance (Including Current Liabilities)	900679231.50
	Total	2378063941.03		Total	2378063941.03

	Rs. In Lakh
Grants-in-aid under Plan from MHRD	15956.76
Internal Income	839.31
Expenditure	16430.30

A.O. 30/10/17

AR(F&A) 30/10/17

Sanjay Kumar 30/10/17
Offg. Registrar

Infrastructure Development at IIT Patna

After shifting of IIT Patna from heart of Patna city to Bihta which is approximately 40 km away from the city, there were immediate requirements of functional basic amenities in the campus like Shops, School, setting of laboratories, library, meeting rooms, office, sports courts, Banks, Post office, food courts etc. Institute Works Department (IWD) developed all of the above mentioned facilities at the permanent campus of IIT Patna.

School Building

Market Complex

The construction work of Second Part of First Phase I is in progress and following entities are being constructed during the current financial year:

a) Girls Hostel for 200 students including Mesh and Boundary wall
b) Boys Hostel for 450 students including mesh.
c) Gymkhana
d) C type Quarters, 56 units in two towers.

The following construction works have been entrusted to CPWD for which tendering is in progress:

a) Guest House
b) Auditorium
c) Library
d) Central Lecture Hall: 1 Building
e) Workshops
f) Academic Building: 2 Nos Building
g) B type Quarters 72 units in two towers
h) C type Quarters 56 Units in two Quarters
i) D type Quarters 48 units in three towers
j) Hostels (Boys Hostels for 950 students and Girls Hostel for 216 students)
k) Married Scholars' Accommodation in one tower
l) Swimming Pool
m) Students activity center (Balance part of Food Court)
n) Sports facility like fencing, grassing, various synthetic Courts, running track, lighting etc
o) Services like local storm water drainage, water supply, sewer line, street light, and external electrification.

Efforts are being made to complete the above infrastructure by 2019.

http://www.iitp.ac.in