ANNUAL REPORT

2019-2020

INDIAN INSTITUTE OF TECHNOLOGY PATNA

CONTENTS

DIRECTOR'S ADDRESS

Annual reports of an institute depict the stages of progress the institute has made over the years- step by step. These are valuable documents recording the history of an institute. IIT Patna- a member of the group of 2G IITs- was set up in 2008. Institutes of higher learning have intellectual, social, cultural, economic and moral responsibilities. Through academics and extra-curricular activities such institutes do man making and contribute to the wealth of the nation. IIT Patna too has been shouldering and will continue to shoulder the responsibility of nation-building.

The highlight of 2019-20 has been the momentum with which infrastructure creation and expansion has been continuing. There is continuous progress with recruitment, R & D funding and construction- new hostels, new workshops, new academic buildings etc.. IIT Patna has always been responsive to and responsible for local needs. The interaction with the state continues to be mutually fulfilling. Many new academic programs have been approved in the senate and the Board including MBA with AI specialization, B.Tech in Engineering Physics, BS in Economics, B.Tech in Mathematics and Computing, B.Tech in AI and Data Sciences and so on. Our aim is to reach the figures of 3000 students, 300 faculty members and 330 staff members in 2 years time. Our parent ministry's- MHRD's- continued support in this growth and expansion endeavour is gratefully acknowledged.

As we end the period Apr 19- Mar 20, we face a situation hitherto unseen. The covid 19 pandemic has struck the world, impeding normal day to day functioning. Most operations are going online. IIT Patna too has geared up for tackling the challenges of the neo-normal. We have decided to go for online teaching- one of the first institutes to do so. We know that the institute functioning will assume a different character, but normalcy will return and good days will come back.

Praying for everybody's well being and safety and reiterating the refrain of our institute song:

विश्वकामुकुटमणिआईआईटीपटना
सदातत्परसदाजाग्रतपीछेनाजानेहटना ||

Jai Hind.

ORGANIZATION STRUCTURE

Board of Governors

Prof. Pushpak Bhattacharyya
Chairman

Prof. Pushpak Bhattacharyya
Member(ex-officio)
Director, IIT Patna

Additional Secretary/ Joint Secretary
Member
MoE, Government of India

Principal Secretary, Department of Science & Technology,
Member
Government of Bihar

Principal Secretary, Department of Science & Technology, Member
Government of Jharkhand

Prof. Kailash Chandra Sharma
Member
Vice-Chancellor, Kurukshetra University,

Prof. Yogesh Singh
Member
Vice-Chancellor, Delhi Technological University (Formerly Delhi College of Engineering)

Dr. Mangesh V. Joshi
Member
Managing Director,
Sanrachna Structural Stenthening Pvt. Ltd

Dr. Mayank Tiwari
Member
Associate Professor,
Department of Mechanical Engineering, IIT Patna

Dr. Preetam Kumar
Member
Associate Professor,
Department of Electrical Engineering,IIT Patna

Mr. Vishwa Ranjan
Secretary
Registrar,
Indian Institute of Technology Patna

Finance Committee

Prof. Pushpak Bhattacharyya
Chairman
IIT Patna

Prof. Pushpak Bhattacharyya
Member (ex-officio)
Director, IIT Patna

Additional Secretary (TE)
Ministry of Education

Smt. Darshana M Dabral
Member JS & FA
Ministry of Education

Dr. Mayank Tiwari
Member(Board Nominee)
Associate Professor,
Department of Mechanical Engineering,
IIT Patna

Dr. Preetam Kumar
Member(Board Nominee)
Associate Professor,
Department of Electrical Engineering,
IIT Patna

Mr. Vishwa Ranjan
Secretary
Registrar,
IIT Patna

Administrative Heads

Prof. Pushpak Bhattacharyya
Director, Indian Institute of Technology Patna

Sh. Vishwa Ranjan
Registrar, Indian Institute of Technology Patna

Dr. Subrata Kumar
Associate Dean (Academic)

Dr. Kailash Chandra Ray
Associate Dean (Administration)

Dr. Karali Patra
Associate Dean (Faculty Affairs)

Dr. Sriparna Saha
Associate Dean (Research and Development)

Dr. Sumanta Gupta
Associate Dean (Resource)

Dr. Manoranjan Kar
Associate Dean (Student Affairs)

Senate

Prof. Puhpak Bhattacharyya
Director

Mr. Vishwa Ranjan
Registrar

Prof. S.D. Sharma
External

Prof. Pankaj Kumar
External

Dr. Lipika Dey
External

Dr. Subrata Kumar
Associate Dean

Dr. Kailash Chandara Ray
Associate Dean

Dr. Sriparna Saha
Associate Dean

Dr. Manoranjan Kar
Associate Dean

Dr. Sumanta Gupta
Associate Dean

Dr. Karali Patra
Associate Dean

Dr. Jimson Mathew
HoD

Dr. Md. Kaleem Khan
HoD

Dr. Om Prakash
HoD

Dr. Ahmad Ali
HoD

Dr. R.K.Bag
HoD

Dr. Sahid Hussain
HoD

Dr. Nalin Bharti
HoD

Dr .Anup Kumar Keshri
HoD

Dr. V.R. Dantham
HoD

Dr. Nitin Dutt Chaturvedi
HoD

Dr. Koushik Roy
PIC, PG

Dr. Sushant Kumar
PIC, UG

Dr. Sudhan Majhi
Chairperson, JEE
Dr. Pradipta Chakrabortty
Chairperson, GATE

Dr. Alpana Nayak
PIC, JAM

Dr. Neeladri Das
PIC, Library

Dr. Saurabh Kumar Pandey
Warden

Dr. S.K. Parida
Associate Prof.

Dr. Ranganathan Subramanian
Associate Prof.

Dr. A. K. Upadhyay
Associate Prof.

Dr. Asif Ekbal
Associate Prof.

Dr. Akhilendra Singh
Associate Prof.

Dr. Probir Saha
Associate Prof.

Dr. Ranjan Kumar Behera
Associate Prof.

Dr. Smriti Singh
Associate Prof.

Dr. Y. M. Tripathi
Associate Prof.

Dr. Utpal Roy
Associate Prof.
Associate Prof.

Dr. Manabendra Pathak
Dr. Somanath Tripathy
Associate Prof.

Dr. Mayank Tiwari
Associate Prof.

Dr. Mahesh Kumar H. Kolekar
Associate Prof.

Dr. Shovan Bhaumik
Associate Prof.

Dr. Debabrata Seth
Associate Prof.

Dr. Prolay Das
Associate Prof.

Dr. Naveen K. Nishchal
Associate Prof.

Dr. Somnath Sarangi
Associate Prof.

Dr. Preetam Kumar
Associate Prof.
Dr. Rajiv Misra
Associate Prof.

Dr. S.S. Panda
Associate Prof.

Dr .N.K. Tomar
Associate Prof.

Dr. Md. L. H. Choudhary
Associate Prof.

Dr. Jawar Singh
Associate Prof.

Dr. Rajib Kumar Jha
Associate Prof.
Dr. Yatendra Kumar Singh
Associate Prof.

Dr. P.K. Srivastava
Associate Prof.

Dr. Ajay Thakur
Associate Prof.

Dr. Subrata Hait
Associate Prof.

Dr. Atul Thakur
Associate Prof.

Dr. S Sivasubramani
Associate Prof.

Dr. Papia Raj
Associate Prof.

Dr. Priyanka Tripathi
Associate Prof.

Dr. Rishi Raj
Associate Prof.

Dr. Anirban Chowdhury
Associate Prof.

Dr. Amit Kumar
Associate Prof.

Dr. P.K. Tiwari
Associate Prof.

PGR Gymkhana
Vacant

Mr. Shivansh Shukla (1701CS46)
VP Gymkhana

Building Works Committee

Director,
lIT Patna
Chairman(Ex-Officio)

Mr. Sushant Baliga
(Retd.) Additional Director General,
CPWD Training Institute, New Delhi and
Advisor,Civil Works, liT Patna
Member

Mr. S. Ramanujam,
Consultant, Ex-Director, DCSEM, Dept. of
AtomicEnergy
Member

Mr. Biswajit Kumar,
President & Chief Project Officer,
Raheja Universal Private Ltd, Mumbai
Member

Mr. Rajiv Garg
Superintending Engineer, liT Kanpur
Member

Mr. B.K Sahoo
Superintending Engineer(Electrical), liT
Kharagpur
Member

Registrar, liT Patna
Secretary

All India Rank [2019-20] of IIT Patna

IIT Patna participated in the NIRF 2020 ranking under two categories – Overall and Engineering. This year IIT Patna obtained more scores under both the categories compared to the last year leading to improvement in the Overall ranking to 54 from last year's 58. In the Engineering category, however, the ranking has slipped to 26 from the last year's 22 rank despite the slight gain in the overall score.

In THE ranking 2020 IIT Patna was ranked in the range of 800 to 1000 ranks at world level in overall ranking and in range 601-800 in engineering. Among Indian universities, IIT Patna stood at 24.

In the QS 2020 ranking, IIT Patna was judged at Asia level where it got ranked in the range of 301 to 350 like last year. In QS 2020 India ranking, IITP was raked at 36 (down from rank 34 in 2019).

In Atal Ranking of Institutions on Innovation Achievements (ARIIA) - 2020, IIT Patna has been ranked in Band A (i.e ranked between 11 and 25).

Events of Significant Importance

Recruitment of Employees at IIT Patna during 2019-20

Teaching Staff Members

Sl. No.	Name	Department	Designation
1	Bcchu AnilKumar	Civil Engineering	Assistant Professor
2	Arvind Kumar Jha	Civil Engineering	Assistant Professor
3	Sourav Gur	Civil Engineering	Assistant Professor
4	K.Ajay Kumar	Metallurgical and Material Engineering	Assistant Professor
5	Udit Satija	Electrical Engineering	Assistant Professor
6	Shailesh Kumar Tiwari	Mathematics	Assistant Professor
7	Rahul Kumar Singh	Mathematics	Assistant Professor
8	Kumari Saloni	Mathematics	Assistant Professor
9	Abhishek Raj	Mechanical Engineering	Assistant Professor
10	Atanu Kumar Metya	Chemical and Biochemical Engineering	Assistant Professor

Non-Teaching Staff Members

Sl. No.	Employee Name	Designation	Date of Joining
1	Mr. Vijay Kumar	Deputy Registrar	01-04-2019(FN)
2	Mr.Rohit Kumar	Junior Superintendent (General Administration)	06.09.2019 (FN)
3	Mr.Keshav Kumar	Junior Assistant (General Administration)	24-09-2019(FN)
4	Mr.Ritesh Kumar	Junior Assistant (General Administration)	24-09-2019(FN)
5	Ms. Pallavi Kumari	Junior Assistant (General Administration)	24-09-2019(FN)
6	Mr.Sunil Kumar Yadav	Junior Assistant (General Administration)	26-09-2019(FN)
7	Mr.Bharat Kumar Yadav	Junior Assistant (General Administration)	26-09-2019(FN)
8	Ms. Namrata Upadhyay	Junior Superintendent (Audit/Accounts)	27-09-2019(FN)
9	Mr.Vikash Kr. Ray	Junior Assistant (General Administration)	27-09-2019(FN)

10	Mr.Abhay Kumar	Junior Superintendent (Audit/Accounts)	30.09.2019 (FN)
11	Mr.Santosh Kumar	Junior Superintendent (General Administration)	01-10-2019(FN)
12	Mr.Bhagaban Satapathy	Junior Assistant (General Administration)	01-10-2019(FN)
13	Mr.Rajiv Kumar	Junior Assistant (General Administration)	01-10-2019(FN)
14	Mrs. Shwet Bala	Junior Assistant (General Administration)	01-10-2019(AN)
15	Mr.Pankaj Kumar Parimal	Junior Assistant (General Administration)	01-10-2019(AN)
16	Mr.Vinod Kumar	Junior Assistant (General Administration)	03-10-2019(FN)
17	Mrs. Alka Kumari	Junior Assistant (General Administration)	04-10-2019(FN)
18	Mr.Rahul Kumar	Junior Assistant (General Administration)	04.10.2019(AN)
19	Mr.Satish Kumar	Junior Assistant (General Administration)	10-10-2019(FN)
20	Mr.Raju Kumar	Junior Superintendent (General Administration)	11.10.2019(FN)
21	Mr.Amit Kumar	Junior Assistant (General Administration)	22.10.2019 (FN)
22	Mr.Kumar Shanu	Junior Assistant (General Administration)	22.10.2019 (FN)
23	Mr.Shailendra Kumar Chaturvedi	Junior Superintendent (General Administration)	28.10.2019 (FN)
24	Mr.Kumar Deshbandhu	Junior Assistant (General Administration)	08.11.2019 (AN)
25	Mr.Praveen Kumar Tripathi	Junior Assistant (General Administration)	25.11.2019 (FN)
26	Mr.Raghwendra Choudhary	Junior Assistant (General Administration)	10.12.2019 (FN)
27	Mr.Rajeev Kumar	Junior Assistant (General Administration)	30.12.2019 (FN)
28	Mr.Kripa Shankar Singh	Training & Placement Officer	26.02.2020 (FN)
29	Dr. Karunesh Kumar	Sports Officer	09.03.2020 (FN)
30	Mr.Bappa Ghosh	Cook cum Caretaker	18.03.2020 (FN)

DEPARTMENT-WISE ACHIEVEMENTS

Chemical and Biochemical Engineering
Head:Dr. Nitin Dutt Chaturvedi

1. Dr. Anoop K Gupta
   Assistant Professor
   Computational fluid dynamics, Non-Newtonian flow rheology.Motion of bubble/drops.Particle dynamics in multiphase flows.CFD-DEM coupled simulations, Heat transfer in NanofluidsModelling of Phase change materials

2. Dr. Atanu Metya Assistant Professor Thermodynamics and statistical mechanics
   Phase equilibria and nucleation, Wetting phenomena, Structure, dynamics, and interfacial properties of solutions in bulk and confined systems, Design of anti-icing surfaces and force filed development using density functional theory

3. Dr. Jose V Parambil
   Assistant Professor
   Separation Processes, Crystallization, Carbon Footprinting,

4. Dr. Nitin Dutt Chaturvedi
   Assistant Professor
   Modeling and Simulation of Chemical processes, Process system engineering, Process Integration
   Pinch Analysis, Industrial Energy Conservation, Scheduling and optimization of batch processes

5. Dr. Sandip Khan
   Assistant Professor
   Molecular Modelling and Simulation, Statistical Thermodynamics, Equilibrium, Dynamic and Interfacial Properties of Complex fluids

6. Dr. Sujoy Kumar Samanta
   Assistant Professor
   Advanced Oxidation Processes, Wastewater Treatment, Photocatalysis, Microwave-Assisted Material Processing

7. Dr. Sushant Kumar
   Assistant Professor
   Clean Hydrogen Production Methods, Hydrogen Storage using metal hydrides, CO2 Utilization and Capture, Catalysts for clean energy applications

Member - Professional Bodies

1. Sujoy Kumar Samanta (2019) American Chemical Society
2. Sujoy Kumar Samanta (2019) AABB

Awards & Honours

1. Sandip Khan (2019) *Bharat Vikas Award*
2. Sandip Khan (2019) *Early Career Research Award*

Sponsored Research Projects

1. Bimetallic photocatalyst (BRNS-DAE, Rs.0.00 Lakhs) (PI : Sushant Kumar)
2. Continuous Polymorphic Crystallisation of Active Pharmaceutical Ingredients in a Slug-Flow-Cooling-Crystalliser (SERB, Rs.32.00 Lakhs) (PI : Jose V Parambil)
3. Design and optimization of systems containing microencapsulated phase change materials (MPCMs) for efficient thermal energy storage and heat transfer (DST, Rs.35.00 Lakhs) (PI : Dr. Anoop Kumar Gupta)
4. Low pressure ammonia formation (SERB, Rs.0.00 Lakhs) (PI : Sushant Kumar)
5. pranning of process industries production to minimize carbon emission and energy consumption (SERB-DST, Rs.22.36 Lakhs) (PI : Nitin Dutt Chaturvedi)
6. Recycling of reverse osmosis reject water for co-production of high value metabolites and biofuel precursors using high density algal cultivation (SERB-Imprint, Rs.40.00 Lakhs) (PI : Dr. Sanjeev Kumar)
7. Wetting behavior of Ionic Liquids on different surfaces: Insight from Molecular Dynamic Simulation (SERB, Rs.33.00 Lakhs) (PI : Sandip Khan)

Consultancy Projects

1. Evaluation of Arsenic and Iron Removal Technology and Process (H2O Mantra, Rs.1.99 Lakhs) Consultant Name: Dr. Trishiki Raychoudhury

Visits Abroad by Faculty Members

1. Sandip Khan - To present our research work (South Korea,) 3rd November to 6th November, 2019

Invited Lectures by Faculty Members

1. Crystallization: Applications and Developments in Pharmaceutical Sector *by* Jose Varghese Parambil (Cochin University of Science and Technology, Kerala)
2. Monte Carlo Simulation in Different Ensemble *by* Sandip Khan (IIT Kanpur)
3. "Relevant Guidance on Problems Faced by Todays Budding Chemical Engineers" *by* Sujoy Kumar Samanta (Department of Chemical Engineering, NIT Jalandhar)
4. Self-motivation for Life Skill Development and Management *by* Sujoy Kumar Samanta (Department of Chemical Engineering, Jadavpur University, Kolkata)
5. Process integration approach to production planning *by* Nitin Dutt Chaturvedi (IIT Madras)

Papers Published in Journals

1. Rakesh Kumar Sinha, Nitin Dutt Chaturvedi *,* A review on carbon emission reduction in industries and planning emission limits *,* *Renewable and Sustainable Energy Reviews*, 114 (2019).

2. Sushma Kumari, Sujoy Kumar Samanta , "1D study on microwave assisted warming of human blood with varied ceramic and composite supports" , *Journal of the Indian Chemical Society*, Accepted in Feb 2020 (2020).
3. Pranay Ranjan, Priyanshu Verma, Shweta Agrawal, T. Rajagopala Rao, Sujoy Kumar Samanta, Ajay D. Thakur , "Inducing Dye-Selectivity in Graphene Oxide for Cationic Dye Separation Applications" , *Materials Chemistry and Physics*, 226, 350–355 (2019).
4. Sandhya Mishra, Tumesh Kumar Sahu, Priyanshu Verma, Prashant Kumar, Sujoy Kumar Samanta , "Microwave-Assisted Catalytic Degradation of Brilliant Green by Spinel Zinc Ferrite Sheets" , *ACS Omega*, 4 (6), 10411-10418 (2019).
5. Sanchari Bhattacharya and Sandip Khan , Effect of Alkyl chain length on the Wetting behavior of Ionic Liquid: A Molecular Dynamic Study , *Fluid Phase Equilibria*, 501 (2019).
6. Niwesh Ojha, Abhinav Bajpai, Sushant Kumar , Enhanced and Selective Photocatalytic reduction of CO2 by H2O over Strategically Doped Fe and Cr into Porous Boron Carbon Nitride , *Catalysis Science and Technology*, (2020).
7. Priyanshu Verma, Sujoy Kumar Samanta, Sandhya Mishra , Photon-independent NaOH/H2O2–based degradation of rhodamine-B dye in aqueous medium: Kinetics, and impacts of various inorganic salts, antioxidants, and urea , *Journal of Environmental Chemical Engineering*, 8 (4), 103851 (2020).
8. Nitin Dutt Chaturvedi , Targeting Intermediate Fluid Flow in Batch Heat Exchanger Networks , *Process Integration and Optimization for Sustainability*, 3, 403–412 (2019).
9. Jose V Parambil, Sendhil K Poornachary, Jerry Y Y Heng, Reginald B H Tan , Template-induced nucleation for controlling crystal polymorphism: from molecular mechanisms to applications in pharmaceutical processing , *CrystEngComm*, 21, 4122-4135 (2019).
10. Sanchari Bhattacharya and Sandip Khan , The Wetting Behavior of Aqueous Imidazolium Based Ionic Liquids: A Molecular Dynamics Study , *Physical Chemistry Chemical Physics*, DOI: 10.1039/D0CP001 (2020).
11. Niwesh Ojha, Abhinav Bajpai, Sushant Kumar , Visible light-driven enhanced CO2 reduction by water over Cu modified S-doped g-C3N4 , *Catalysis Science and Technology*, 4598 - 4613 (2016).

Papers Presented in Conferences

1. Sanchari Bhattacharya and Sandip Khan , Effect of Alkyl chain length on the Wetting behavior of Aqeous Ionic Liquid , *sysposium on complex fluid and interfaces* , IIT Kanpur (2020)
2. Sushma Kumari, Sujoy Kumar Samanta and Kush Patel , Enhanced microwave assisted processing of 2D cylindrical porous food dielectric , *AMPERE 2019: 17th International Conference on Microwave and High Frequency Heating* , Univ. Politèc. de València, Spain (2019)
3. Azim Babu, Anoop Kumar Gupta , Melting and Thermal behavior of Phase Change Materials around an asymmetrically confined Circular Cylinder , *Advances in Chemical Engineering - 2020 (AdChE-2020).* , Dehradun (2020)
4. Sanchari Bhattacharya and Sandip Khan , Molecular Dynamic Study on Wettability of Ionic liquid on Smooth and Rough Surface , *International Conference on Molecular Simulation* , South Korea (2019)
5. Sanchari Bhattacharya and Sandip Khan , The Wetting Behavior of Imidazolium Based Ionic Liquids using Molecular Dynamics Simulation , *sysposium on complex fluid and interfaces* , IIT Kanpur (2020)

6. Sushma Kumari, Sujoy Kumar Samanta and Brij Saxena , Theoretical analysis on efficient microwave warming of human blood , *AMPERE 2019: 17th International Conference on Microwave and High Frequency Heating* , Univ. Politèc. de València, Spain (2019)

Chemistry
Head: Dr. Sahid Hussain

1. Dr. Amit Kumar
   Associate Professor
   Synthesis of modified sugar, glycosyltransferase inhibitors, Oligosaccharides and Chiral catalyst; Application ofMetal catalysis in the synthesis of natural products and Medicinal useful Pharmacophores

2. Dr. Debabrata Seth
   Associate Professor
   Photophysics, Chemical Dynamics, Ionic liquids

3. Dr. Md. Lokman Hakim Choudhury
   Associate Professor
   Diversity Oriented Synthesis (DOS) using multicomponent reactions (MCRs), the discovery and development ofnew synthetic methods with particular interest in heterocyclic chemistry and total synthesis of various biologicallyactive natural products and structural analogues

4. Dr. Neeladri Das
   Associate Professor
   Self-assembly and Supramolecular Chemistry, Organic Synthesis, Inorganicorganic hybrid material synthesis,Coordination polymers / Metal organic framework (MOF), Polymer Chemistry - syntheses/characterization/applications

5. Dr. Prolay Das
   Associate Professor
   DNA Nanotechnology, Carbon Dot based functional nanostructures, Biomaterials

6. Dr. Ranganathan Subramanian
   Associate Professor
   Spectroscopy, Computational, Instrumentation development, Physical Chemistry

7. Dr. Sahid Hussain
   Associate Professor
   Nano-scale Materials, Green Chemistry and Synthetic Organic Methodologies

8. Dr. T. Rajagopala Rao
   Asst. Professor
   Quantum reactive scattering of gas phase bi-molecular reactions, non-adiabatic coupling effects, geometric phaseeffects, nuclear spin symmetry effects, isotopic effects, spectral attributes of quasi-bound states, construction of potential energy surfaces

9. Dr. Snehasis Daschakraborty
   Asst. Professor

Studies of reaction and relaxation processes in complex chemical and biological systems using theory andcomputer simulation technique

10. Dr. Debajit Sarma
    Asst. Professor
    Coordination polymer, solid state chemistry, Chalcogenide and chalcogel based materials, oxide materials,energy conversion and catalysis.

11. Dr. Subrata Chattopadhyay
    Asst. Professor
    Polymer chemistry (sustainable/Green synthesis), nanomaterials and surface engineering

Member - Professional Bodies

1. Amit Kumar (2015) Chemical Research Society of India
2. Amit Kumar (2015) Association of carbohydrate chemist and technologist India
3. Amit Kumar (2015) Indian Science Congress
4. Md. Lokman Hakim Choudhury (2015) Chemical Research Society of India
5. Md. Lokman Hakim Choudhury (2020) American Chemical Society
6. Neeladri Das (2018) American Chemical Society
7. Ranganathan Subramanian (0) Chemical Research Society of India
8. Ranganathan Subramanian (0) American Chemical Society

Member - Editorial Board

1. Md. Lokman Hakim Choudhury (0) *Editorial Board Member* - American Journal of Organic Chemistry

Awards & Honours

1. Debajit Sarma (2019) *Sc ience & Engineering Research Board (SERB) Early Career Research Award*

Sponsored Research Projects

1. Quantum dynamical studies on bimolecular reactions of practical and fundamental interest. (DST (INSPIRE, Rs.30.00 Lakhs) (PI :)
2. 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 Hakim Choudhury)
3. Functional Polymers and Materials from Chitosan Using Green Click Inspired Reactions (CSIR, Rs.14.50 Lakhs) (PI : Dr. Subrata Chattopadhyay)
4. Glycodiversification: Design and Synthesis of Biologically Important Conformationally Constrained NonClassical Bicyclic Sugars via Activation of C(sp3 (SERB-DST, Rs.43.00 Lakhs) (PI : Dr. Amit Kumar)

5. Mechanism of Hydroxide Ion Transfer through Anion Exchange Membrane in Anion Exchange Membrane Fuel Cell: Investigation using Molecular Dynamics Simul (SERB-ECRA, Rs.23.65 Lakhs) (PI : Dr. Snehasis Daschakraborty)
6. Rational Design a nd Synthesis of Functionalized "Metal-organic Frameworks/gels for Biomimetic Heterogeneous Catalysis (cience & Engineering Research Board (SERB), Rs.24.31 Lakhs) (PI : Dr. Debajit Sarma)
7. REINFORCEMENT OF CAST ELASTOMERIC POLYURETHANE (EPU) BY NOVEL CARBONACEOUS NANOFILLERS LIKE CARBON DOTS (CDS) (Manali Petrochemical, Rs.25.00 Lakhs) (PI : Dinesh Kotness)

Visits Abroad by Faculty Members

1. Md. Lokman Hakim Choudhury - For participating in 20th Tetrahedron Symposium organized by Elsevier (Bankok, Thailand,) 18 - 21 June 2019

Invited Lectures by Faculty Members

1. Nanoporous organic polymers with triptycene motif: synthesis, characterization and applications *by* Neeladri Das (Mahatma Gandhi University, Kottayam, Kerala : Fifth International Conference on Polymer Processing and Characterization (ICPPC – 2019))
2. Self-assembly of Pt(II)-based macrocycles and their biological interactions with DNA or Cancer cells *by* Neeladri Das (IIT Guwahati : Modern Trends in Inorganic Chemistry (MTIC-XVIII))
3. Inorganic Pt(II) Based Molecules for Cancer Therapy *by* Neeladri Das (Dept. of Chemistry and Dept. of Biotechnology, Patna Science College, Patna University)
4. Some Application of Imidates Chemistry: En route to Functional Molecules,@OCS, Lucknow *by* Amit Kumar (Lucknow)
5. Some Aspect of Primary Amide Chemistry: Unexplored Directing Groups for C-H bonds Activation *by* Amit Kumar (Kolkata)
6. Some Aspect of Primary Amide Chemistry: Unexplored Directing Groups for C-H bonds Activation *by* Amit Kumar (Goa)
7. Process Efficiency via Catalysis: Need of Tomorrow *by* Amit Kumar (IIT Mumbai)
8. Metal Chalcogenides with Tunable Phase, Bandgap and Surface Properties for Removal of Organic Dyes *by* Sahid Hussain (Cotton University, Guwahati, Assam)
9. Theoretical Study of Hydrogen Abstraction in Gas Phase Reaction of N (2D) + HOX (Cl, Br) *by* Ranganathan Subramanian (BITS Pilani)
10. Diversity Oriented Synthesis of Heterocycles by Arylglyoxal based Multicomponent Reactions *by* Md. Lokman Hakim Choudhury (Mahatma Gandhi Central University, Motihari, Bihar)

Papers Published in Journals

1. Bomzon, B., Khunger, Y., Ranga Subramanian , A dielectric and spectrophotometric study of the tautomerization of 2-hydroxypyridine and 2-mercaptopyridine in water , *RSC Advances*, 10, 2389-2395 (2020).

2. A. A. Khan, A. Chowdhury, S. Kumari, Sahid Hussain , A Facile Soft-Template-Morphology-Controlled (STMC) Synthesis of ZnIn2S4 Nanostructures and Excellent Morphology Dependent Adsorption Properties , *J. Mater. Chem. A*, 8, 1986-2000 (2020).
3. Khushwant Singh, Sonam Kumari, Achintya Jana, Prolay Das, and Neeladri Das* , A Pt(II)-based Hexagonal Ionic Supramolecular Coordination Complex and its DNA Interactions , *ChemistrySelect*, 4, 8255 -8262 (2019).
4. Khushwant Singh, Sonam Kumari, Achintya Jana, Prolay Das and Neeladri Das , A Pt(II)□based Hexagonal Ionic Supramolecular Coordination Complex and its DNA Interactions , *ChemistrySelect*, 4, 8255 – 8262 (2019).
5. Y. Jaiswal and Amit Kumar , Acid-promoted palladium(II)-catalyzed ortho-halogenation of primary benzamides: En route to halo-arenes. , *Catalysis Commun*, 131,105784 (2019).
6. Mukta Shaw, and Amit Kumar* , Additive-Free Gold(III)-Catalyzed Stereoselective Synthesis of 2-Deoxyglycosides Using Phenylpropiolate Glycosides as Donors , *Chemistry - An Asian Journal*, 14, 4651 (2019).
7. R.Dwivedi, S.Singh, B. S.Chauhan, S.Sri krishna, A. K.Panday, Lokman H.Choudhury and V. P.Singh* , Aroyl hydrazone with large Stokes shift as a fluorescent probe for detection of Cu2+ in pure aqueous medium and in vivo studies , *Journal of Photochemistry and Photobiology A: Chemistry*, accepted (2020).
8. Saptarshi Mandal, S R Prasad, Debabrata Mandal, and Prolay Das , Bovine Serum Albumin Amplified Reactive Oxygen Species Generation from Anthrarufin-Derived Carbon Dot and Concomitant Nanoassembly for Combination Antibiotic–Photodynamic Therapy Application , *ACS Applied Materials & Interfaces* , 11, 33273-33284 (2019).
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3. Jagannath Pal and Ranga Subramanian , Theoretical Study of Structural and Optical properties of Li+ (H2O)n Clusters , *16th Indian Theoretical Chemistry Symposium* , BITS Pilani (2019)

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1. Dr. Amarnath Hegde
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Transportation Engineering

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6. Dr. Om Prakash
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Member - Professional Bodies

1. Amarnath Hegde (2019) American Society of Civil Engineers
2. Amarnath Hegde (2017) International Society for Soil Mechanics and Geotechnical Engineering
3. Amarnath Hegde (2017) The Institution of Engineers(India)
4. Amarnath Hegde (2017) Indian Science Congress Association
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6. Amarnath Hegde (2013) International Geosynthetic Society
7. Avik Samanta (2020) ASCE
8. Avik Samanta (2014) Indian Society of Earthquake Technology
9. Avik Samanta (2020) EERI
10. Dr. Arvind Kumar Jha (2008) Nepal Engineering Council
11. Dr. Arvind Kumar Jha (2008) Nepal Engineers Association
12. Dr. Arvind Kumar Jha (2013) Nepal Geotechnical Society
13. Dr. Arvind Kumar Jha (2019) ASCE Geo-Institute Soil Improvement Committee
14. Dr. Arvind Kumar Jha (2019) Indian Road Congress
15. Dr. Arvind Kumar Jha (2016) Indian Geotechnical Society
16. Dr. Arvind Kumar Jha (2016) American Society of Civil Engineers (ASCE)
17. Om Prakash (2020) International Association of Hydrogeologists
18. Pradipta Chakrabortty (0) Indian Society of Earthquake Technology
19. Pradipta Chakrabortty (0) Indian Geotechnical Society
20. Ramakrishna Bag (2019) Indian Geotechnical Society
21. Ramakrishna Bag (2016) Institute of Engineers (India)
22. Subrata Hait (2012) Institution of Engineers (India)
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27. Syed Khaja Karimullah Hussaini (2019) American Society of Civil Engineers
28. Syed Khaja Karimullah Hussaini (2019) International Geosynthetics Society

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Member - Editorial Board

1. Amarnath Hegde (2019) *Member* - Transportation and Transit Systems, Frontiers in Built Environment,
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Awards & Honours

1. Subrata Hait (2019) *Best Paper Award in SEES - 2019: International Conference on Sustainable Environmental Engineering and Science (SEES-2019)*
2. Vaibhav Singhal (2019) *Institute Best Teacher Award, Indian Institute of Technology Patna*

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. Bio-electrochemical Analysis and Systematic Enhancements in Microbial Fuel Cells for Bioelectricity Generation (Department of Biotechnology, Govt. of India, Rs.14.20 Lakhs) (PI : Dr. Subrata Hait)
3. Designing Disaster Preparedness Training Modules using Indigenous Knowledge and Increasing Community Awareness through Contextualized Techniques in Bi (ICSSR-IMPRESS, Rs.5.25 Lakhs) (PI : Dr. Sweta Sinha)
4. Experimental evaluation of TMH Processes in smectite clay and their impact on key barrier functions (Board of Research in Nuclear Sciences (BRNS), Rs.37.48 Lakhs) (PI : Dr. Ramakrishna Bag)

5. Experimental evaluation of TMH Processes in smectite clay and their impact on key barrier functions (BRNS (Status: sanctioned, letter awaiting), Rs.35.47 Lakhs) (PI : Dr Ramakrishna Bag)
6. In-situ remediation of arsenic by ferrous sulfide under heterogeneous porous media: Up-scaling effect and evaluation of long-term fate (DST-WTI (Reccomended for funding), Rs.55.40 Lakhs) (PI : Trishikhi Raychoudhury)
7. Performance Assessment of Roads Constructed Using Waste Plastics (National Rural Infrastructure Development Agency (NRIDA), Rs.20.50 Lakhs) (PI : Dr. Sudhir Varma)
8. Seismic design and performance verification of confined masonry walls for medium-rise buildings (Science and Engineering Research Board (SERB-DST), Rs.26.40 Lakhs) (PI : Dr. Vaibhav Singhal)
9. Seismic Strengthening of Unreinforced Masonry Buildings using Ferrocement Bands (Search Results Web results Council of Scientific & Industrial Research (CSIR), Rs.28.90 Lakhs) (PI : Dr. Vaibhav Singhal)
10. Study of variation in the flow hydrodynamics around a circular bridge pier in a sand mined stream channel (Science and Engineering Research Board: Start-up Research Grant (SRG/2019/002055), Rs.28.00 Lakhs) (PI : Dr. Vishal Deshpande)
11. TIH (SERB & DST, Rs.96.00 Lakhs) (PI : Prof. Pushpak Bhattacharya)

Consultancy Projects

1. Design Vetting of Sewerage Network and Allied Structures at Chhapra, Bihar under Namami Ganga Program (Chevrox Constructions Private Limited, 201, Lalita Nikunj Aprtment, Bengali Road, Mithapur Phulwari,, Rs.14.75 Lakhs) Consultant Name: Dr. Arvind Kumar Jha; Dr. Subrata Hait; Dr. Vaibhav Singhal
2. Design Vetting of Sewerage Network and Allied Structures at Chhapra, Bihar under Namami Gange Program (Chevrox Constructions Private Limited, Rs.14.75 Lakhs) Consultant Name: Dr. Arvind Kumar Jha, Dr. Vaibhav Singhal & Dr. Subrata Hait
3. Evaluation of the efficiency of proposed prototype for removal of arsenic and iron from drinking water (H2O Mantra, Rs.1.99 Lakhs) Consultant Name: Trishikhi Raychoudhury
4. Liquefaction Analysis for NIT Patna Bihta Campus (NIT Patna, Rs.8.44 Lakhs) Consultant Name: Dr. Pradipta Chakrabortty
5. Liquefaction Analysis for NIT Patna Bihta Campus (NIT Patna, Rs.8.43 Lakhs) Consultant Name: Dr. Pradipta Chakrobortty, Dr. Amarnath Hegde, Dr. Ramakrishna Bag
6. Liquefaction Analysis for NIT Patna Bihta Campus (NIT Patna, Rs.8.44 Lakhs) Consultant Name: Dr Pradipta Chakrabortty Dr Amarnath Hedge Dr Ramakrishna Bag
7. Performance of Destructive/Non-destructive Tests on a Well Cap of New BG Rail-line Projec (East Central Railway, Rs.1.54 Lakhs) Consultant Name: Dr. Koushik Roy
8. Performance of destructive/nondestructive tests on a well cap in connection with Hajipur-Sagauli New BG Rail line project (Dy. Chief Engineer/Con/II/HJP, East Central Railway, Hajipur, Pin - 844101, Rs.1.55 Lakhs) Consultant Name: Dr. Koushik Roy and Dr.Vaibhav Singhal
9. Proof Checking of Structural Design for Construction of constable barrack at New Police Line, Patna (Bihar police building construction corporation, Rs.6.00 Lakhs) Consultant Name: Dr. Pradipta Chakrabortty

10. Proof Checking of Structural Design for Construction of constable barrack at New Police Line, Patna (Bihar Police Building Construction, Rs.6.00 Lakhs) Consultant Name: Drs. Samanta, Roy, Hegde, Chakrabortty, Bag
11. Proof Checking of Structural Design for Construction of constable barrack at New Police Line, Patna (Bihar Police Building Construction Corporation, Rs.5.08 Lakhs) Consultant Name: Avik Samanta, Koushik Roy, Pradipta Chakrabortty, Amarnath Hegde, Ramakrishna Bag
12. Proof Checking of Structural Design for Construction of Govt. Medical College & Hospital, Purnea (Bihar Medical Services & Infrastructure Corporation Limited, Rs.11.35 Lakhs) Consultant Name: Koushik Roy
13. Proof Checking of Structural Design for Construction of Govt. Medical College & Hospital, Purnea (GM (Projects & Design), Bihar Medical Services & Infrastructure Corporation Limited, Rs.11.36 Lakhs) Consultant Name: Dr. Koushik Roy Co-PIs: Drs. Avik Samanta, Vaibhav Singhal and Ritwik Ghoshal and Amarnath Hegde
14. Proof checking of structural design for construction of Govt. Medical College and Hospital in Purnea (Bihar Medical Services and Infrastructure Corporation Limited,, Rs.11.35 Lakhs) Consultant Name: Dr. Koushik Roy
15. Proof checking of the structural design for construction of constable barrack at new police line Patna (Bihar Police Building corporation Ltd, Rs.5.99 Lakhs) Consultant Name: Dr. A. Hegde; Dr. P. Chakrabortty; Dr. R. Bag, Dr. K.Roy and Dr. A. Samanta
16. Review of Structural Design of Pre-stressed Precast Concrete Element (Shapoorji Palonji and Company Private Limited, Rs.1.62 Lakhs) Consultant Name: Dr. Vaibhav Singhal
17. Review of the Structural and Geotechnical Design for ISBT Patna, Bihar (Shapoorji Palonji and Company Private Limited, Rs.9.12 Lakhs) Consultant Name: Dr. Vaibhav Singhal
18. Seismic Strengthening and Retrofitting of Bihar State Chief Minister's residence at 1-Anne Marg, Patna (Building Construction Department, Rs.5.16 Lakhs) Consultant Name: Dr. Vaibhav Singhal
19. Soil Investigation for NIT Patna Bihta Campus (NIT Patna, Rs.15.95 Lakhs) Consultant Name: Dr. Pradipta Chakrabortty
20. Soil Investigation for NIT Patna Bihta Campus (NIT Patna, Rs.15.95 Lakhs) Consultant Name: Dr Pradipta Chakrabortty Dr Amarnath Hedge Dr Ramakrishna Bag
21. Soil Investigation for NIT Patna Bihta Campus (NIT Patna, Rs.15.95 Lakhs) Consultant Name: Dr. Pradipta Chakrobortty, Dr. Amarnath Hegde, Dr. Ramakrishna Bag
22. 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
23. Structural Design Vetting of Budha Smriti Stupa and Museum at Vaishali, Bihar (Building Construction Department, Govt. of Bihar, Rs.17.25 Lakhs) Consultant Name: Dr. Koushik Roy and Dr.Vaibhav Singhal
24. Structural Vetting of the Storm Water Drainage at EPIP, Industrial Area, Hajipur (Infrastructure Development Authority, Rs.3.10 Lakhs) Consultant Name: Dr. Vaibhav Singhal
25. Structural vetting of the storm water drainage at EPIP, Industrial Area, Hajipur (Infrastructure Development Authority, Rs.3.09 Lakhs) Consultant Name: Vaibhav Singhal and Dr. Amarnath Hegde
26. Study of Tilt and Shift of well Bangra Ghat (Bihar Rajya Pul Nirman Nigam Ltd, Rs.3.69 Lakhs) Consultant Name: Dr R Bag, Dr V Singhal

27. Technical Appraisal of DPRs for Setting up CETPs at Barari, Bhagalpur; Fatuha, Patna; Hajipur, Vaishali; and Bela, Muzaffarpur (Bihar Industrial Area Development Authority, Patna, Bihar, Rs.2.95 Lakhs) Consultant Name: Dr. Subrata Hait
28. Technical Vetting of DPR for Integrated Solid Waste Management (ISWM) for Bhagalpur Smart City (Bhagalpur Smart City Limited, Bhagalpur, Bihar, Rs.1.48 Lakhs) Consultant Name: Dr. Subrata Hait
29. Third Party Inspection of Ongoing Projects Related to National Mission for Clean Ganga (Urban Development and Housing Department, Govt. of Bihar, Rs.180.00 Lakhs) Consultant Name: Dr. Amarnath Hegde, Dr. Sudhir Varma, Dr. Syed K.K. Hussaini, Dr. Avik Samanta & Dr. Subrata Hait
30. Third party inspection of ongoing projects related to National Mission for Clean Ganga (NMCG) (Urban Development and Housing Department, Govt. of Bihar, Rs.60.00 Lakhs) Consultant Name: Avik Samanta, SKK Hussaiani, S Hait, A Hegde, S Varma
31. Third party inspection of sewerage projects under Namami Gange Program (Urban Development and Housing Department,Govt. of Bihar, Patna, Rs.230.10 Lakhs) Consultant Name: Dr. Amarnath Hegde, Dr. Sudhir Varma, Dr. Subrata Hait, Dr. Avik Samanta, Dr. Syed K.K. Hussaini
32. Third Party Inspection of the Ongoing Sewerage Projects under Namami Ganga Project (Buidco, GoB, Rs.89.94 Lakhs) Consultant Name: Dr. Syed K K Hussaini, Dr. Avik Samanta, Dr, Hait, Dr. Hegde, Dr. Varma
33. Vetting of curriculum of Undergraduate Civil Engineering program for Aryabhatta Knowledge University (Aryabhatta Knowledge University, Bihar, Rs.0.00 Lakhs) Consultant Name:
34. Vetting of design and drawing of 12 numbers (Techno Care Engineer and consultant, Lucknow, Rs.2.51 Lakhs) Consultant Name: Dr.Trishikhi Raychoudhury Dr. Vishal Deshpande Dr. Ramkrishna Bag
35. Vetting of design and drawing of 12 numbers hydraulic structures (Techno Care Engineer and consultant, Rs.2.50 Lakhs) Consultant Name: Trishikhi Raychoudhury
36. Vetting of design and drawing of 12 numbers hydraulic structures (Technocare Constructions, Rs.1.70 Lakhs) Consultant Name: Dr. Trishikhi Raychoudhury
37. Vetting of design and drawing of 8 numbers hydraulic structures (Techno Care Engineer and consultant, Rs.2.50 Lakhs) Consultant Name: Trishikhi Raychoudhury
38. Vetting of design and drawing of 8 numbers hydraulic structures (Techno Care Engineer and consultant, Lucknow, Rs.2.51 Lakhs) Consultant Name: Dr Trishikhi Raychoudhury
39. Vetting of the Structural Design of Additional Buildings ISBT Patna (Shapoorji Pallonji & Company Pvt Ltd, Rs.2.50 Lakhs) Consultant Name: Vaibhav Singhal

Visits Abroad by Faculty Members

1. Amarnath Hegde - To attend Fifth International Itasca Symposium (Vienna, Austria,) 16-21 February, 2020
2. Om Prakash - Research (University of New South Wales, Sydney Australia,) 1 year

Invited Lectures by Faculty Members

1. Geocell Applications: Recent Developments and Innovations *by* Amarnath Hegde (MIT Muzaffarpur)

2. Macroscopic Modelling Concepts and Applications *by* Dr. Bachu Anilkumar (IIT Madras)
3. Metallurgical Recovery of Metals from E-waste *by* Subrata Hait (CSIR-National Environmental Engineering Research Institute (CSIR-NEERI), Nagpur, Maharashtra)
4. INTRODUCTION TO ENGINEERING MATERIALS: Cement, Aggregate and Concrete *by* Dr. Arvind Kumar Jha (LNJPIT Chapra, Bihar, India)
5. Groundwater surface water interaction *by* Om Prakash (Connected Water Initiative Meet, UNSW, Sydney)
6. Water resources management in Indian sub continent *by* Om Prakash (Water research laboratory, UNSW, Sydney)
7. Alternative Housing: Confined Masonry *by* Vaibhav Singhal (TEQIP-III Brainstorming Session-cum-Workshop on Quantification of Seismic Hazard and Mitigation of Induced Effects in NER, IIT Guwahati)
8. Ground Source Energy- an alternative Energy resource *by* Ramakrishna Bag (Indian Geotechnical Society - Bihar Chapter)
9. Bridge Health Monitoring *by* Koushik Roy (Samrat Ashok Convenion Kendra, Patna)
10. Free Vibration Analysis *by* Koushik Roy (LNJPIT, Chapra)

Short-Term Courses, Training Programmes and Workshops organised

1. A GIAN Course on Analysis and Design of Mechanically Stabilized Earth (MSE) Walls (29th July – 9th August, 2019)
2. Solid and Liquid Waste Management in Rural Areas (March 13-14, 2020)

Papers Published in Journals

1. K. Kumar, A. Priya, A. Arun, S. Hait, and A. Chowdhury , Antibacterial and natural room-light driven photocatalytic activities of CuO nanorods , *Materials Chemistry and Physics*, 226, 106-112 (2019).
2. Syed K. K. Hussaini and Kumari Sweta , Application of Geogrids in stabilising rail track substructure , *Frontiers in Built Environment*, 6, 20 (2020).
3. Sharma, S., Venkateswarlu, H. and Hegde, A. , Application of Machine Learning Techniques for Predicting the Dynamic Response of Geogrid Reinforced Foundation Beds. , *Geotechnical and Geological Engineering* ., 37(6), 4845–4864. (2019).
4. Kumari Sweta and Syed K. K. Hussaini , Behavior evaluation of geogrid-reinforced ballast-subballast interface under shear condition , *Geotextiles and Geomembranes*, 47(1), 23-31. (2019).
5. A Achar, B Dhivyabharathi, BA Kumar, L Vanajakshi , Bus Arrival Time Prediction: A Spatial Kalman Filter Approach , *IEEE Transactions on Intelligent Transportation Systems* , 21(3), 1298-1307 (2020).
6. BD Bharathi, BA Kumar, A Achar, L Vanajakshi , Bus travel time prediction: a log-normal auto-regressive (AR) modelling approach , *Transportmetrica A: Transport Science*, 16 (3), 807-839 (2020).
7. A. Verma and S. Hait , Chelating extraction of metals from e-waste using diethylenetriamine pentaacetic acid , *Process Safety and Environmental Protection*, 121, 1–11 (2019).
8. BA Kumar, GH Prasath, L Vanajakshi , Dynamic Bus Scheduling Based on Real-Time Demand and Travel Time , *International Journal of Civil Engineering*, 17, 1481-1489 (2019).
9. A. Das, and P. Chakrabortty , Effect of Motion Characteristics in Response of Layered Soil , *International Journal of Civil Engineering*, (2020).

10. Dattatreya Tripathy and Vaibhav Singhal , Estimation of in-plane shear capacity of confined masonry walls with and without openings using strut-and-tie analysis , *Engineering Structures*, 188, 290-304 (2019).
11. Tiwari, M., Mandal, K.K. and Raychoudhury,Trishikhi, Evaluation of injection schedule for synthesizing iron-sulfide within the porous media for immobilizing arsenite: In-situ remediation approach for arsenic in groundwater. , *Groundwater for Sustaina Development*, https://doi.org/10.1 (2020).
12. V. Puri, P. Chakrabortty, and S Anand , Experimental investigation on flexural behaviour of bamboo reinforced wall panels with varying fly ash content , *Magazine of Concrete Research*, (2020).
13. Hegde, A. and Das, T , Finite element-based probabilistic stability analysis of rock-fill tailing dam considering regional seismicity. , *Innovative Infrastructure Solutions,*, 4:37 (2019).
14. Inanya, M., Faisal, H, A., Kar, A and Raychoudhury, Trishikhi , Fluoride removal by novel composite material and its performance in the fixed bed column filter , *Current Science*, 116(12):2077 (2019).
15. Jain, A.K., Jha, A.K. &Shivanshi , Improvement in Subgrade Soils with Marble Dust for Highway Construction: A Comparative Study , *Indian Geotech J.*, (2020).
16. Jha, A. K., Sivapullaiah, P. V. , Lime stabilization of soil –A physico-chemical study , *Indian Geotech J.*, (2019).
17. AtulKumar, Dibyanshu and TrishikhiRaychoudhury , Long-term fate of ZnO-FexOy mix-nanoparticles through the under constant head condition , *Science of the Total Environment*, https://doi.org/10.1 (2020).
18. Hegde, A. and Venkateswarlu, H , Mitigation of Traffic Induced Vibration Using Geocell Inclusions. , *Frontiers in Built Environment,*, 5:136 (2019).
19. Abhijit D Lade, Vishal Deshpande, Bimlesh Kumar, Giuseppe Oliveto , On the Morphodynamic Alterations around Bridge Piers under the Influence of Instream Mining , *Water MDPI*, (0).
20. Kumari Sweta and Syed K. K. Hussaini , Performance of Geogrid-Reinforced Railroad Ballast in Direct Shear Mode , *Ground Improvement*, 172(4), 244-256 (2019).
21. Hegde, A. and Palsule, P , Performance of Geosynthetics Reinforced Subgrade Subjected to Repeated Vehicle Loads: Experimental and Numerical Studies. , *Frontiers in Built Environment*, 6:15 (2020).
22. Dinesh Gundavaram and Syed K. K. Hussaini , Polyurethane-based stabilization of railroad ballast–a critical review , *International Journal of Rail Transportation*, 7(3) 219-240 (2019).
23. Sourav Gur, Yazhou Xie, Reginald DesRoches , Seismic fragility analyses of steel building frames installed with superelastic shape memory alloy dampers: Comparison with yielding dampers , *Journal of Intelligent Material Systems and Structures*, 30 (2019).
24. Abhijit D Lade, Vishal Deshpande, Bimlesh Kumar , Study of flow turbulence around a circular bridge pier in sand mined stream channel , *Proceedings of the Institution of Civil Engineers-Water Management*, (0).
25. Bonisha Borah, Vaibhav Singhal, Hemant B Kaushik , Sustainable Housing Using Confined Masonry Buildings , *SN Applied Sciences*, 1 (9) (2019).
26. Sourav Gur, Mohammad Rafat Sadat, George N Frantziskonis, Stefan Bringuier, Lianyang Zhang and Krishna Muralidharan , The effect of grain-size on fracture of polycrystalline silicon carbide: A multiscale analysis using a molecular dynamics-peridynamics framework , *Computational Materials Science*, 159 (2019).

27. Dibyanshu and TrishikhiRaychoudhury , Transport behavior of different metal-based nanoparticles through natural sediment in the presence of humic acid and under the groundwater condition , *Journal of Earth System Science*, Accepted (2020).

Papers Presented in Conferences

1. BA Kumar, A Achar, D Bharathi, L Vanajakshi , A Seasonal Modelling Approach Capturing Spatio-Temporal Correlations for Dynamic Bus Travel Time Prediction , *2019 22nd Intelligent Transportation Systems Conference (ITSC)* , Auckland, New Zealand (2019)
2. Dey, S., & Prakash, O. , Accurate estimation of initial saltwater-freshwater interface for simulating saltwater intrusion using numerical methods , *AGUFM 2019* , San Francisco, USA (2019)
3. Dattatreya Tripathy and Vaibhav Singhal , Analytical Investigation of Unreinforced Masonry Walls Strengthened using Ferrocement Overlay , *2nd International Conference on Earthquake Engineering and Post Disaster Reconstruction Planning* , Bhaktapur, Nepal (2019)
4. MA Nithishwer, BA Kumar, L Vanajakshi , Application of Deep Learning for Bus Travel Time Prediction , *12th International Conference on COMmunication Systems & NETworkS* , Bengaluru, India (2020)
5. Syed K. K. Hussaini and Kumari Sweta , "Stabilization of Rail Track Substructure using Geogrids", , *International Conference on Geotechnics for High Speed Corridors (GHC 2019),* , Thiruvananthapuram, Kerala, India (2019)
6. Saurabh Suman and Avik Samanta , BEHAVIOUR OF UNRESTRAINED STEEL I-SECTION BEAMS IN CASE OF FIRE , *Indian Structural Steel Conference (ISSC 2020)* , IIT Hyderabad (2020)
7. R Gracious, BA Kumar, L Vanajakshi , Characterizing Bus Travel Time using Big Data Visualization Techniques , *5th Conference of the Transportation Research Group of India (CTRG-2019)* , Bhopal, India (2019)
8. N. Gupta, A. Trivedi and S. Hait , Column leaching of metals from printed circuit board of end-of-life mobile phone using diethylene triamine pentaacetic acid under oxidizing condition , *Recycle - 2020: 3rd International Conference on Waste Management* , IIT Guwahati, Assam (2020)
9. Ravikant Singh, Avik Samanta and Saurabh Suman , CRITICAL BUCKLING MOMENT OF COLD-FORMED LIPPED CHANNEL SECTIONS , *Indian Structural Steel Conference (ISSC 2020)* , IIT Hyderabad (2020)
10. AK Narayanan, C Pranesh, SC Nagavarapu, BA Kumar, J Dauwels , Data-driven Models for Short-term Travel Time Prediction , *2019 22nd Intelligent Transportation Systems Conference (ITSC)* , Auckland, New Zealand (2019)
11. A Achar, R Regikumar, BA Kumar , Dynamic Bus Arrival Time Prediction exploiting Non-linear Correlations , *The 2019 International Joint Conference on Neural Networks (IJCNN)* , Budapest, Hangary (2019)
12. S. K. Nandan, T.S. Bandyopadhyay, and, P. Chakrabortty , Effect of Backfill Sand Density on Dynamic Response of Mechanically Stabilized Earth (MSE) Walls , *Indian Geotechnical Conference* , SVNIT Surat (2019)
13. Jha, A. K. & Sharma, Manuj , Effect of wetting-drying cycles on strength behaviour of lime stabilized expansive soil. , *Indian Geotechnical Conference-2019 GeoIndus* , SVNIT Surat, India (2019)

14. K Jadda, I Sharon Kumar, R Bag , entitled Hydro-mechanical behavior of glass fiber reinforced clay barriers , *Indian Geotechnical Conference* , Surat, India (2019)
15. A. Chakraborty and O. Prakash , Estimating Location and Release Flux History of Pollutant Source using Kriging based Linked Simulation Optimization , *8th APHW Conference* , Indian Institute of Technology Roorkee (2019)
16. PK Behera, Deshpande V, Kumar B , Estimation of Hazen-Williams 'C' Value for Commercial Pipes through Physical Roughness Measurements , *Water Knowledge Summit: 52nd Annual Convention, Indian Water Works Association* , NIT PATNA (2020)
17. Venkateswarlu H, and Hegde A , Factors Influencing Dynamic Response of Geocell Reinforced Soil Beds , *Geo-Congress 2020* , Minneapolis, Minnesota | (2020)
18. Bonisha Borah, Vaibhav Singhal, Hemant B Kaushik , Finite Element Modelling of Confined Masonry Wall under In-plane Cyclic Load , *International Conference on Materials, Mechanics and Structures* , NIT Calicut, Kerala (2020)
19. Hegde, A. and Venkateswarlu, H. , FLAC3D modeling of geocell reinforced foundation beds. , *Fifth International Itasca Symposium,* , Vienna, Austria, (2020)
20. Shivanshi, Singh, Vijay Bahadur & Jha, A. K. , Geotechnical properties of lime treated soil contaminated with sulphatic water , *Indian Geotechnical Conference-2019 GeoIndus* , SVNIT Surat, India (2019)
21. K. Kanaujia and S. Hait , Improved sequential approach for hybrid bioleaching of metals from e-waste , *International Conference on Sustainable Environmental Engineering and Science (SEES-2019)* , Kolkata, West Bengal (2019)
22. A. Trivedi and S. Hait , Influence of initial pH on bioleaching of selected metals from e-waste using Aspergillus niger , *Recycle - 2020: 3rd International Conference on Waste Management* , IIT Guwahati, Assam (2020)
23. K. Kanaujia and S. Hait , Maximizing iron oxidation for improved bioleaching of metals from e-waste employing Acidithiobacillus ferrooxidans , *Recycle - 2020: 3rd International Conference on Waste Management* , IIT Guwahati, Assam (2020)
24. R Gracious, BA Kumar, L Vanajakshi , Performance Evaluation of Passenger Information Systems , *5th Conference of the Transportation Research Group of India (CTRG-2019)* , Bhopal, India (2019)
25. Jain, Ankush K., Kumar, Ayush & Jha, A. K. , Physical and swell behaviour of sand-bentonite and marble dust-bentonite mixes , *Indian Geotechnical Conference-2019 GeoIndus* , SVNIT Surat, India (2019)
26. Kumar Anjneya and Koushik Roy , Reliability Of RSM Towards Damage Identification in a Six-Storey Shear Building using Vibrational Parameters , *Second National Conference on Recent Advances in Civil Engineering (RACE2019)* , NIT Patna, India – 800005 (2019)
27. Akshay Gupta and Vaibhav Singhal , Strengthening of Confined Masonry Structures for In-plane Loads: A Review , *International Conference on Materials, Mechanics and Structures* , NIT Calicut, Kerala (2020)
28. Shivanshi, S., Jha, A. K., & Jain, Ankush , Swell behaviour of Lime treated Soil under Sulphate Contamination , *Proceedings of the XVII ECSMGE-2019, Geotechnical Engineering foundation of the future, Reykjavik Iceland, 1 - 6 September 2019* , Reykjavik Iceland (2019)
29. Kumar Anjneya, Divya Grover and Koushik Roy , Uncertainty Propagation in Estimated Structural Parameters owing to Univariate Uncertain Parameter using RSM and PDEM , *ICCMS* , IIT Mandi India – 175001 (2019)

Computer Science and Engineering
Head: Dr. Jimson Mathew

1. Dr. Abyayananda Maiti
   Assistant Professor
   Online Algorithms, Complex Networks, Social Networks, Big Data

2. Dr. Arijit Mondal ***[Presently On lien]***
   Assistant Professor
   CAD for VLSI, Analog EDA

3. Dr. Asif Ekbal
   Associate Professor
   Natural Language Processing, Data Mining and Machine Learning Applications, Information Extraction, Text Mining

4. Dr. Joydeep Chandra
   Assistant Professor
   Peer-to-Peer Systems, Online Social Networks, Complex Networks, Distributed Systems

5. Dr. Rajiv Misra
   Associate Professor
   Distributed Systems, Cloud Computing, Big DataComputing, Consensus in Blockchain, Cloud IoT Edge Computing, Adhoc Networks and Sensor Networks

6. Dr. Raju Halder
   Assistant Professor
   Formal Methods for Analysis and Verification, Blockchain and Smart Contract, Programming Languages, Information Systems Security

7. Dr. Samrat Mondal
   Assistant Professor
   Security & Privacy, Database & Data Mining Applications, and Energy management &Intelligent transportation systems

8. Dr. Somanath Tripathy
   Associate Professor
   Blockchain, Cloud security, IoT Security, Machine Learning security

9. Dr. Sourav Kumar Dandapat
   Assistant Professor
   Wireless Networking, Mobile Social Computing, Human Computer Interaction

10. Dr. Sriparna Saha
Associate Professor

Machine Learning, Text Mining, Pattern Recognition, Multiobjective Optimization, Bio-Text Mining, Bioinformatics, Soft Computing

11. Dr. Suman Kumar Maji
Assistant Professor
Image Processing, Machine Learning & AI, Computer Vision, Biomedical Imaging, Bioinformatics

12. Dr. Jimson Mathew
Associate Professor
Fault Tolerant Computing, VLSI Design and Methodologies, Deep learning Architectures and Applied Time series Analysis

13. Dr. Mayank Agarwal
Assistant Professor
Wireless Network, Wi-Fi Security, Discrete Event Modeling

Member - Professional Bodies

1. Asif Ekbal (2014) IEEE
2. Asif Ekbal (2011) ACM
3. Asif Ekbal (2018) AI Standardization Committee
4. Asif Ekbal (2006) ACL
5. Jimson Mathew (2015) IEEE
6. Joydeep Chandra (0) IEEE
7. Rajiv Misra (2009) IEEE
8. Raju Halder (2019) ACM SIGSOFT
9. Raju Halder (2020) IEEE
10. Samrat Mondal (2019) IEEE
11. Somanath Tripathy (2018) IEEE
12. Somanath Tripathy (2005) CRSI
13. Sriparna Saha (2016) IEEE
14. Sriparna Saha (0) Association for Computing Machinery
15. Sriparna Saha (0) The Association of Computer, Electronics and Electrical Engineers (ACEEE),

Member - Editorial Board

1. Asif Ekbal (2020) *Editorial Board Member* - Machine Translation
2. Asif Ekbal (2017) *Associate Editor* - Sadhana
3. Jimson Mathew (2019) *Guest Editor* - Journal of Low Power Electronics ,
4. Jimson Mathew (2019) *Guest Editor* - Journal of Information Science and Engineering
5. Somanath Tripathy (2019) *Associate Editor* - Sadhana: Academy Proceedings in Engineering Sciences
6. Somanath Tripathy (2019) *Editor* - IETE Technical Review

7. Sriparna Saha (2017) *Associate Editor* - ACM Transactions on Asian and Low-Resource Language Information Processing

Awards & Honours

1. Raju Halder (2020) *Received Grant under "Visiting Professor 2020 at National Polytechnic Institute of Toulouse (TOULOUSE INP), France".*

Fellowships

1. Asif Ekbal (2019) *Erasmus Mundus Faculty Mobility*
2. Sriparna Saha (2020) *DUO-India fellowship*

Sponsored Research Projects

1. A computational model for 3D fluorescence microscopy super-resolution (SERB, Rs.15.09 Lakhs) (PI : Suman Kumar Maji)
2. A Platform for Cross-lingual and Multi-lingual Event Monitoring in Indian Languages (Imprint-1, Rs.85.00 Lakhs) (PI : Asif Ekbal (with Prof. Pushpak))
3. A Software Tool for the Planning and Design of Smart Micro Power Grids (MHRD, Rs.80.00 Lakhs) (PI : Arijit Mondal, Dr. R.K. Behera)
4. Accenture AI Lab (Accenture , Rs.65.00 Lakhs) (PI : Prof. Pushpak Bhattacharyya)
5. Application of Blockchain and Machine Learning for financial Transactions and end user fintech applications (Bosch, Rs.11.20 Lakhs) (PI : Dr Jimson Mathew)
6. Autonomous Goal-Oriented and Knowledge-Driven Neural Conversational Agents (Accenture Solutions Pvt Ltd, Rs.21.00 Lakhs) (PI : P. Bhattacharyya, A. Ekbal, S. Saha)
7. Bosch Intelligent Micro-grid for Asia (Bosch, Rs.16.40 Lakhs) (PI : Dr Jimson Mathew)
8. CDAC-DIGIFAI (Meity, Rs.91.00 Lakhs) (PI : Prof Pushpak Bhattacharyya)
9. CDAC-IIT Patna Digital Forensic Center with Artificial Intelligence based Knowledge Support Tool (Meity and Govt of Bihar, Rs.91.00 Lakhs) (PI : Prof. Pushpak Bhattacharyya)
10. Deep Learned Detection and Classification of Multiple Intrusions Using WDM Intensity and Phase-Sensitive OTDR in Underwater Environment (NRB, Rs.46.67 Lakhs) (PI : Dr Arijit Mondal)
11. Deep Learned Detection and Classification of Multiple Intrusions Using WDM Intensity and Phase-Sensitive OTDR in Underwater Environment (NRB, Rs.46.00 Lakhs) (PI : Arijit Mondal)
12. Development and Implementation of AI Driven Adaptive Microgrid Control and Protection Schemes (SPARC-Scheme for Promotion of Academic and Research Col (SPARC, Rs.33.83 Lakhs) (PI : Dr. Sanjoy Kumar Parida)
13. Development of Adaptive Algorithms for Solving Many-Objective Optimization Problems: Application in Machine Learning (Early Career Research Award, Department of Science and Technology, Rs.15.00 Lakhs) (PI : Sriparna Saha)
14. Development of CDAC Digital Forensic Centre with Artificial Intelligence based Knowledge Support Tools (MeiTy and Govt of Bihar, Rs.92.00 Lakhs) (PI : Pushpak Bhattacharyya)

15. Development of CDAC Digital Forensic Centre with Artificial Intelligence based Knowledge Support Tools (MeitY and Government of Bihar, Rs.94.40 Lakhs) (PI : Prof Pushpak Bhattacha)
16. Development of CDAC Digital Forensic Centre with Artificial Intelligence based Knowledge Support Tools (CDAC-DIGIFAI) (MeitY and Govt. of Bihar, Rs.395.37 Lakhs) (PI : Prof. Pushpak Bhattacharyya)
17. Development of CDAC-Digital Forensic Centre with Artificial Intelligence Based Knowledge Support Tool (Meity, Govt of India and Govt of Bihar, Rs.91.00 Lakhs) (PI : Prof. Pushpak Bhattacharyya)
18. Development of Lizard-like Robotic Spy Surveillance System (IMPRINT-II, Science & Engineering Research Board (SERB), DST, Govt. of India, Rs.101.50 Lakhs) (PI : Dr. Raju Halder)
19. Development of Planning and Designing Tool for Smartly Adopting Electric Vehicles in Indian Cities (MHRD, Rs.0.00 Lakhs) (PI : Dr. Samrat Mondal)
20. Development of Planning and Designing Tool for Smartly Adopting Electric Vehicles in Indian Cities (DST SERB under IMPRINT-2 scheme, Rs.57.42 Lakhs) (PI : Dr. Samrat Mondal)
21. Distributed EV charge scheduling and consensus based control for EV charging network (DST-DAAD-2019, Rs.8.82 Lakhs) (PI : Rajiv Misra-Indian PI)
22. Dynamic Natural Language Generation (Samsung, Bangalore, Rs.14.50 Lakhs) (PI : Prof. Pushpak Bhattacharyya)
23. Dynamic NLG (Samsung, Rs.18.00 Lakhs) (PI : Asif Ekbal)
24. Elsevier Centre of Excellence in NLP (Elsevier , Rs.213.00 Lakhs) (PI : Prof. Pushpak Bhattacharyya)
25. Energy efficient Cyber Security implementations for Internet of Things (DST, Rs.9.00 Lakhs) (PI : Dr Jimson Mathew)
26. Hindi to English Judicial Domain MT (MeiTY, Rs.214.00 Lakhs) (PI : Prof. Pushpak Bhattacharyya)
27. Improving Regional Transportation Services using GPS Data (SPARC, MHRD, Rs.53.49 Lakhs) (PI : Joydeep Chandra)
28. Interoperable Intelligent System and Network Security Framework (MICROSEC, Rs.7.20 Lakhs) (PI : Dr Jimson Mathew)
29. KG Driven NLG (Accenture , Rs.20.00 Lakhs) (PI : Asif Ekbal (with Prof. Pushpak and Dr. S)
30. Low-cost Energy Efficient Cloud for Cyber-Physical Disaster Management Systems (Department of Science and Technology, Govt of India, Rs.21.77 Lakhs) (PI : Rajiv Misra)
31. Multi-modal Summarization (LG Soft, Rs.15.00 Lakhs) (PI : Sriparna Saha, Pushpak Bhattacharyya)
32. Sentiment Analysis for Business Intelligence and Image Recognition (Skymap, Rs.51.00 Lakhs) (PI : Asif Ekbal (with Prof. Pushpak and Dr. S)
33. Sentiment, Emotion, Sarcasm and Hate Speech Detection (CDOT, NEW DELHI, Rs.33.00 Lakhs) (PI : Asif Ekbal)
34. SESH (CDOT, Rs.32.00 Lakhs) (PI : Asif Ekbal (with Prof. Pushpak and Dr. S)
35. Sevak: An Intelligent Indian Language Chatbot (SERB (Imprint 2A), Rs.98.00 Lakhs) (PI : Asif Ekbal)
36. TIH - Speech, Video & Text Analytics (SERB & DST, Rs.96.00 Lakhs) (PI : Prof. Pushpak Bhattacharya)

37. Time Series Forecasting (LG Soft, Rs.30.00 Lakhs) (PI : Pushpak Bhattacharyya)
38. V2D: Video-to-Description Generation using Deep Learning (DST, Rs.32.00 Lakhs) (PI : Dr Arijit MOndal)
39. V2D: Video-to-Description Generation using Deep Learning (DST, Rs.24.00 Lakhs) (PI : Arijit Mondal)
40. Virtual Reality Concepts (ATAL-AICTE, Rs.1.66 Lakhs) (PI : Rajiv Misra)
41. Visvevaraya Young Faculty Award (MeiTy, Rs.5.00 Lakhs) (PI : Sriparna Saha)
42. Women In Excellence Award (DST, Rs.18.00 Lakhs) (PI : Sriparna Saha)

Consultancy Projects

1. Architectural Audit for Blockchain (Federal Bank, Rs.1.48 Lakhs) Consultant Name: Dr Jimson Mathew
2. Bhagalpur smart city DPR (Bihar Govt, Rs.1.00 Lakhs) Consultant Name: Head-CSE
3. Bihar Sharif Smart City DPR (Bihar Govt, Rs.1.00 Lakhs) Consultant Name: Head CSE
4. Ripple net on premise payment system (Federal Bank, Rs.1.48 Lakhs) Consultant Name: Dr Jimson Mathew

Patents (filed / granted)

1. Patent Name:A Hyrbrid Multi-bit Random Number Generator; Patent Owner: Jimson Mathew
2. Patent Name:SYSTEM AND METHOD FOR DETECTING CHANGE IN OCCUPANCY STATUS OF A SLOT OVER A PLATFORM; Patent Owner: Jimson Mathew
3. Patent Name:SYSTEM AND METHOD FOR DETECTION OF BANNED OBJECTS FROM IMAGES IN REAL-TIME USING INTELLIGENCE AT THE EDGE; Patent Owner: Rajiv Misra

Visits Abroad by Faculty Members

1. Sriparna Saha - to conduct research (Dublin City University, Dublin,) July 2019
2. Sriparna Saha - To visit IEEE CEC 2019 (Wellington, New Zealand,) June 10-13, 2019
3. Sriparna Saha - To attend ICONIP 2019 (Sydney, Australia,) December 12-15, 2019
4. Mayank Agarwal - Conference Paper presentation (Italy,) 3 days
5. Asif Ekbal - Visiting Professorship (Dublin City University ,) 1 month
6. Asif Ekbal - Attending ACL (Italy,) 7 days
7. Asif Ekbal - Attending IJCAI (Macao,) 7 days

Invited Lectures by Faculty Members

1. Multiobjective Clustering Techniques: Applications to Summarization *by* Sriparna Saha (NIT Goa)
2. Efficient Unsupervised Feature Selection Algorithms For Intrusion Detection System *by* Sriparna Saha (NIT Patna)
3. Machine Learning *by* Sriparna Saha (NIT Patna)

4. Decision Trees, Principal Component Analysis, Linear Discriminant Analysis *by* Sriparna Saha (Institute of Technology, Bhubaneswar.)
5. Microblog Summarization *by* Sriparna Saha (IIIT Delhi)
6. Applications of Machine Learning for Solving Health Problems *by* Sriparna Saha (IIT Patna, Incubation Center)
7. Summarization and Dialogue Systems *by* Sriparna Saha (NIT Patna)
8. Unsupervised Classication *by* Sriparna Saha (Banasthali Vidyapith, Rajasthan)
9. Multiobjective Optization *by* Sriparna Saha (PES College, Bangalore)
10. Unsupervised Techniques for Search Result Clustering and Summarization *by* Sriparna Saha (IIT Roorkee)
11. Unsupervised Techniques for Search Result Clustering and Summarization *by* Sriparna Saha (IIT Indore)
12. AI Activities at IIT Patna *by* Sriparna Saha (IIM Bodhgaya)
13. Unsupervised Classication *by* Sriparna Saha (Vinoda Bhave University, Hazaribag)
14. Unsupervised Classification Techniques *by* Sriparna Saha (Guwahati University)
15. Unsupervised Techniques for Search Result Clustering and Summarization *by* Sriparna Saha (Dublin City University, Ireland)
16. Multiobjective Based Approaches for Solving Clustering Problem: Application to Information Retrieval *by* Sriparna Saha (NIT Durgapur)
17. Multiobjective Based Approaches for Solving Clustering Problem: Application to Information Retrieva *by* Sriparna Saha (Jadavpur University, Kolkata)
18. Image Segmentation *by* Sriparna Saha (Madhav Institute of Technology & Science, Gwalior)
19. Physically Unclonable Functions: Design, Applications & Threats *by* Jimson Mathew (Tencon 2019, Cochin)
20. Techniques for analyzing social networks *by* Joydeep Chandra (St. Xaviers College, Burdwan)
21. Monitoring Social Media Crimes *by* Joydeep Chandra (Economic Offence Unit, Patna)
22. Security issues in IoT system *by* Somanath Tripathy (Silicon Institute of Technology, Odisha)
23. Blockchain Technology: A Potential Game Changer *by* Raju Halder (Techno India University (Kolkata))
24. Blockchain Technology: A Potential Game Changer. *by* Raju Halder (Maulana Azad College of Engineering and Technology (Patna))
25. Introduction and Application of Blockchain Technology - An Overview *by* Raju Halder (Bihar State Student Convention in collaboration with Computer Society of India, NSIT (Bihta, Bihar))
26. Introduction and Application of Blockchain Technology - An Overview *by* Raju Halder (The Institute of Engineers, Durgapur Local Centre, West Bengal)
27. Blockchain Technology: A Potential Game Changer *by* Raju Halder (International School of Management Patna)
28. Blockchain Technology *by* Raju Halder (NPTI Durgapur, West Bengal)
29. You need to know more: Some Investigations in Aspect based Sentiment Analysis *by* Asif Ekbal (Dublin City University)
30. AI NLP ML Activities at IIT Patna *by* Asif Ekbal (Dublin City University)
31. Concept to Code: Aspect Sentiment Classification with Deep Learning (Tutorial) *by* Asif Ekbal (IJCAI 2019, Macao)
32. Towards building a Human-like Chatbot: Inducing Courteousness and Affects in AI enabled Conversation *by* Asif Ekbal (IIT Indore)
33. Machine Learning for Sentiment Analysis *by* Asif Ekbal (PES University, Bagalore)

34. Towards building a Human-like Chatbot: Inducing Courteousness and Affects in AI enabled Convers *by* Asif Ekbal (NIT Rourkela)
35. Aspect based Sentiment Analysis *by* Asif Ekbal (NIT Rourkela)
36. Emotion-Aware Dialogue Generation *by* Asif Ekbal (NERIST, Berhampore)
37. Sentiment Analysis using Machine Learning *by* Asif Ekbal (NERIST, Berhampore)
38. Aspect based Sentiment Analysis *by* Asif Ekbal (NIT Patna)
39. Dialogue Systems *by* Asif Ekbal (NIT Patna)
40. Search In AI *by* Asif Ekbal (NIT Patna)
41. Machine Learning basics *by* Asif Ekbal (NIT Patna)
42. FDP on Cyber Forensics *by* Mayank Agarwal (WBUT, WB)
43. Cyber Security Using Machine Learning/Big Data Analytics *by* Mayank Agarwal (NIT PATNA)
44. Password Security: Threats and Countermeasures *by* Samrat Mondal (Reserve Bank of India, Patna)
45. Research Proposal Writing for TEQIP-III Focus Institutions *by* Samrat Mondal (Hotel Chanakya, Patna)
46. Storage technologies for Big Data *by* Rajiv Misra (Indian Institute of Information Technology Allahabad, IEEE CIS Summer School 2019 Big Data Analytics and Stream Processing:Tools, Techniques and Application)

Books Published

1. K. Manna and Jimson Mathew: Design and Test Strategies for 2D/3D Integration for NoC-based Multicore Architectures *published by* Springer (2020)
2. Rajiv Misra and Yashwant Patel: Cloud and Distributed Computing: Algorithms and Systems *published by* Wiley (2020)

Short-Term Courses, Training Programmes and Workshops organised

1. CEP Short Term Course on Computer Forensics (5)
2. Deep Learning for Natural Language Processing (Jan 10-23)
3. Introduction to Blockchain Technology: Cryptocurrency and Beyond (14-18th Dec, 2019)
4. Machine learning and Image Processing (5 days)

Papers Published in Journals

1. Supriyo Mandal and Abyayananda Maiti , Explicit feedback meet with implicit feedback in GPMF: a generalized probabilistic matrix factorization model for recommendation , *Applied Intelligence*, (2020).
2. Angshuman Jana, Raju Halder, K. V. Abhishekh, S. D. Ganni, and Agostino Cortesi. , Extending Abstract Interpretation to Dependency Analysis of Database Applications , *IEEE Transactions on Software Engineering*, In Press (0).
3. Mauajama Firdaus, Hitesh Golchha, Asif Ekbal, Pushpak Bhattacharyya , A Deep Multi-task Model for Dialogue Act Classification, Intent Detection and Slot Filling , *Cognitive Computation* , https://doi.org/10.1 (2020).

4. Deepak Kumar Gupta,Asif Ekbal,Pushpak Bhattacharyya , A Deep Neural Network Framework for English Hindi Question Answering , *ACM Transaction on Asian and Low Resource Languages* , 25:1-22 (2020).
5. S. K. Maji and H. Yahia , A Feature based Reconstruction Model for Fluorescence Microscopy Image Denoising , *Scientific Reports*, (2019).
6. Rakesh Kumar Sanodiya, Jimson Mathew: , A framework for semi-supervised metric transfer learning on manifolds , *Knowledge Based Systems*, 176 (2019).
7. KM Pooja, Samrat Mondal and Joydeep Chandra , A Graph Combination with Edge Pruning Based Approach for Author Name Disambiguation , *Journal of the Association for Information Science and Technology*, 71 (1) (2020).
8. KM Pooja, Samrat Mondal, and Joydeep Chandra , A Graph Combination with Edge Pruning based Approach for Author Name Disambiguation , *Journal of the Association for Information Science and Technology*, 71 69-83 (2019).
9. Swagatika Sahoo, Akshay M. Fajge, Raju Halder, and Agostino Cortesi , A Hierarchical and Abstraction-based Blockchain Model , *Applied Sciences*, 9(11): 1-20 (2019).
10. R. K. Sanodiya, S. Saha, J. Mathew , A Kernel Semi-supervised Distance Metric Learning with Relative Distance: Integration with a MOO Approach , *Expert Systems With Applications*, Vol 125, Pp 233-248 (2019).
11. Rakesh Kumar Sanodiya, Sriparna Saha, Jimson Mathew: , A kernel semi-supervised distance metric learning with relative distance: Integration with a MOO approach , *Expert Syst. Applications*, 125: 233-248 (2019).
12. Rakesh Kumar Sanodiya, Jimson Mathew, Biju Paul, Bijoy Antony Jose: , A Kernelized Unified Framework for Domain Adaptation , *IEEE Access*, 7 (2019).
13. Ryan Sequeira, Avijit Gayen, Niloy Ganguly, Sourav Kumar Dandapat and Joydeep Chandra , A Large Scale Study of the Twitter Follower Network to Characterize the Spread of Prescription Drug Abuse Tweets, , *IEEE Transactions on Computational Social Systems*, 6(6) (2019).
14. R. Sequeira, A. Gayen, S.K. Dandapat, N. Ganguly, J. Chandra , A Large-Scale Study of the Twitter Follower Network to Characterize the Spread of Prescription Drug Abuse Tweets , *IEEE Transactions on Computational Social Systems*, Vol-6, PP 1232-1244 (2019).
15. Mauajama Firdaus, Ankit Kumar, Asif Ekbal, Pushpak Bhattacharyya , A Multi-Task Hierarchical Approach for Intent Detection and Slot Filling , *Knowledge based System*, 183 (2019).
16. S. Mitra, S. Saha, M. Hasanuzzaman , A Multi-view Deep Neural Network Model for Chemical-Disease Relation Extraction from Imbalanced Datasets , *IEEE Journal of Biomedical and Health Informatics*, accepted (2020).
17. S. Maitra and S. Saha , A Multiobjective Multi-view Cluster Ensemble Technique: Application in Patient Subclassication , *Plos One*, 14(5): e0216904 (2019).
18. R. K. Sanodiya, J. Mathew, S. Saha, and M. D. Thalakottur , A New Transfer Learning Algorithm in Semi-supervised Setting , *IEEE Access*, vol. 7, pp. 42956-42 (2019).
19. Rakesh Kumar Sanodiya, Jimson Mathew, Sriparna Saha, Michelle Davies Thalakottur , A New Transfer Learning Algorithm in Semi-Supervised Setting , *IEEE Access*, 7 (2019).
20. Rakesh Kumar Sanodiya, Jimson Mathew , A novel unsupervised Globality-Locality Preserving Projections in transfer learning , *Image Vis. Computing*, 90 (2019).
21. P. Dutta, S. Saha, S. Pai, A. Kumar , A Protein Interaction Information-based Generative Model for Enhancing Gene Clustering , *Scientic Reports, a journal of the Nature Research family*, accepted (2019).

22. H. Aetesam, K. Poonam and S. K. Maji , A Proximal Approach to Denoising Hyperspectral Images under Mixed-Noise Model , *IET Image Processing*, (2020).
23. H. Aetesam, J. Boulanger and S. K. Maji , A proximal iterative approach to image deconvolution in fluorescence microscopy , *IET Image Processing*, under review (2020).
24. Md Shad Akhtar, Deepanway Ghoshal, Asif Ekbal, Pushpak Bhattacharyya and Sadao Kurohashi, , All-in-One: Emotion, Sentiment and Intensity Prediction in a Multi-task Ensemble Framework , *IEEE Transaction of Affective Computing* , https://ieeexplore.i (2019).
25. Jaishree Mayank and Arijit Mondal , An Integer Linear Programming Framework for Energy Optimization of Non-Preemptive Real-Time Tasks on Multiprocessors , *Journal of Low Power Electronics*, 15 (2019).
26. Debajyoty Banik, Asif Ekbal, Pushpak Bhattacharyya, Siddhartha Bhattacharyya , Assembling translations from multi-engine machine translation outputs , *Applied Soft Computing* , 78: 230-239 (2019).
27. Michael George, Babita Roslind Jose, Jimson Mathew, Pranjali Kokare , Autoencoder-based abnormal activity detection using parallelepiped spatio-temporal region. , *IET Computer Vision*, 13 (2019).
28. N. Saini, S. Saha, C. Soni, P. Bhattacharyya , Automatic Evolution of Bi-clusters from Microarray Data using Self-Organized Multi-objective Evolutionary Algorithm , *Applied Intelligence*, accepted (0).
29. Zishan Ahmad, Raghav Jindal, Asif Ekbal, Pushpak Bhattachharyya , Borrow from rich cousin: transfer learning for emotion detection using cross lingual embedding , *Expert System with Application* , 139 (2020).
30. Jaishree Mayank, Arijit Mondal and Arnab Sarkar , Control-schedule co-design for fast stabilization in real time systems facing repeated reconfigurations , *Design Automation for Embedded Systems*, (2019).
31. Ashutosh Kumar Sinha, Somanath Tripathy, , CookieArmor: Safeguarding against cross-site request forgery and session hijacking, , *Security and Privacy* , (2019).
32. Vikash Kumar Rai,Boreddy V. Reddy, Somanath Tripathy,Jimson Mathew , Correlation power analysis and effective defense approach on light encryption device block cipher , *Security and Privacy* , 2.5 (2019): (2019).
33. A. El Aouni, K. Daoudi, H. Yahia, S. K. Maji and K. Minaoui , Defining Lagrangian coherent vortices from their trajectories , *Physics of Fluids*, (2019).
34. Smita Roy, Samrat Mondal, Asif Ekbal, Maunendra Sankar Desarkar: , Dispersion Ratio based Decision Tree Model for Classification , *Expert System with Application* , 116: 1-9 (2019).
35. S. Mishra, S. Saha, S. Mondalc, Carlos A. Coello Coello , Divide-and-Conquer Based Non-dominated Sorting with Reduced Comparisons , *Swarm and Evolutionary Computation*, accepted (2019).
36. Sumit Mishra, Sriparna Saha, Samrat Mondal and Carlos A. Coello Coello , Divide-and-Conquer Based Non-dominated Sorting with Reduced Comparisons , *Swarm and Evolutionary Computation*, (2019).
37. C. Suman, R. Chaudhari, S. Saha, P. Bhattacharyya , Emoji helps! A Multi-modal Siamese Architecture for Tweet-user Verification , *Cognitive Computation*, accepted (2020).
38. T. Saha, D. Gupta, S. Saha, P. Bhattacharyya , Emotion aided Dialogue Act Classification for Task-Independent Conversations in a Multi-Modal Framework , *Cognitive Computation*, accepted (2019).
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41. N. Saini, S. Saha, D. Chakraborty, P. Bhattacharyya , Extractive single document summarization using binary di
erential evolution: Optimization of di
erence sentence quality measures , *Plos One*, accepted (2019).
42. S. Yadav, A. Ekbal, S. Saha, A. Kumar, P. Bhattacharyya , Feature Assisted bi- directional LSTM Model for Protein-Protein Interaction Identication from Biomedical Texts , *Knowledge Based Systems*, Vol 166, Pp 18-29 (2019).
43. Shweta Yadav, Asif Ekbal, Sriparna Saha, Ankit Kumar, Pushpak Bhattacharyya , Feature assisted stacked attentive shortest dependency path based Bi-LSTM model for protein-protein interaction , *Knowledge based System*, 166: 18-29 (2019).
44. N. Saini, S. Saha, V. Potnuru, R. Grover, P. Bhattacharyya , Figure-Summarization: A Multiobjective optimization based approach , *IEEE Intelligent Systems*, accepted (2019).
45. Dipanjyoti Paul, Sriparna Saha, Jimson Mathew: , Fusion of evolvable genome structure and multi-objective optimization for subspace clustering , *Pattern Recognition*, 95 (2019).
46. D. Paul, S. Saha, J. Mathew , Fusion of Evolvable Genome Structure and Multiobjec- tive Optimization for Subspace Clustering , *Pattern Recognition*, accepted (2019).
47. P. Dutta, S. Saha, and S. Gulati , Graph-based Hub Gene Selection Technique using Protein Interaction Information: Application to Sample Classication , *IEEE Journal on Biomedical and Health Informatics*, 23(6):2670-2676 (2019).
48. S. Kala, Babita R. Jose, Jimson Mathew, Nalesh Sivanandan: , High-Performance CNN Accelerator on FPGA Using Unified Winograd-GEMM Architecture , *IEEE Transactions on Very Large Scale Integration Systems*, 27 (2019).
49. Md. Shad Akhtar, Asif Ekbal, Erik Cambria , How Intense Are You? Predicting Intensities of Emotions and Sentiments using Stacked Ensemble , *IEEE Computational Intelligence*, 15(1):64-75 (2020).
50. S. A. Qureshi, G. Dias, M. Hasanuzzaman, and S. Saha , Improving Depression Level Estimation by Concurrently Learning Emotion Intensity , *IEEE Computational Intelligence Magazine*, accepted (2020).
51. Md. Shad Akhtar, Palaash Sawant, Sukanta Sen, Asif Ekbal, Pushpak Bhattacharyya: , Improving Word Embedding Coverage in Less-Resourced Languages Through Multi-Linguality and Cross-Linguality: A Case Study with Aspect-Based Sentiment Analysis , *ACM Transaction on Asian and Low Resource Languages* , 18(2): 15:1-15:22 (2019).
52. Shweta Yadav, Asif Ekbal, Sriparna Saha , Information theoretic-PSO-based feature selection: an application in biomedical entity extraction , *Knowlede and Information System* , 60(3): 1453-1478 (2019).
53. Debajyoty Banik, Asif Ekbal, Pushpak Bhattacharyya , Machine Learning Based Optimized Pruning Approach for Decoding in Statistical Machine Translation , *IEEE Access*, 7: 1736-1751 (2019).
54. Ajay Pratap, Rajiv Misra, Sajal K. Das , Maximizing Fairness for Resource Allocation in Heterogeneous 5G Networks , *IEEE Transactions on Mobile Computing*, Vol() pp.1-16 (2019).
55. Chithra Liz Palson, Deepti Das Krishna, Babita R. Jose, Jimson Mathew, Marco Ottavi , Memristor Based Planar Tunable RF Circuits , *Journal of Circuits, Systems, and Computers*, 29(13) (0).

56. Mauajama Firdaus, Ankit Kumar, Asif Ekbal, Pushpak Bhattacharyya , Multi-Lingual Attention based Multi-Intent Detection in Dialogue System. , *Aust. J. Intell. Inf. Process. Syst.*, 17(1): 1-8 (2019).
57. N. Arya and S. Saha , Multi-modal classication for human breast cancer prognosis prediction: Proposal of deep-learning based stacked ensemble model , *IEEE Transactions on Computational Biology and Bioinformatics*, accepted (2019).
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62. A. Qureshi, S. Saha, Md. Hasanuzzaman, Gal Dias , Multitask Representation Learning for Multimodal Estimation of Depression Level , *IEEE Intelligent Systems*, accepted (0).
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68. R. K. Sanodiya, J. Mathew, S. Saha, M. Tiwari, P. Tripathi , Particle Swarm Op- timization based Parameter Selection Technique for Unsupervised Discriminant Analysis in Transfer Learning Framework , *Applied Intelligence*, accepted (2020).
69. Jaishree Mayank and Arijit Mondal , Polynomial time schedulability test for periodic non-preemptive 2-task system , *Information Processing Letters*, 154 (2020).
70. S. Kala, Jimson Mathew, Babita R. Jose, Nalesh Sivanandan , Radix-43 based two-dimensional FFT architecture with efficient data reordering scheme. , *IET Computers & Digital Techniques*, 13(2) (2019).
71. Michael George, Aswathy Sivan, Babita Roslind Jose, Jimson Mathew , Real-time single-view face detection and face recognition based on aggregate channel feature , *International Journal of Biometrics,*, 11 (2019).
72. Ananya Singla, Varsha Agarwal, Sudip Roy and Arijit Mondal , Reliability Analysis of Mixture Preparation using Digital Microfluidic Biochips , *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems*, 38 (2019).

73. Niraj Kumar, Jaishree Mayank and Arijit Mondal , Reliability aware Energy Optimized Scheduling of Non-preemptive Periodic Real-Time Tasks on Heterogeneous Multiprocessor System , *IEEE Tran. on Parallel and Distributed Systems (TPDS)*, (2019).
74. S. Kamila, M. Hasanuzzaman, A. Ekbal and P. Bhattacharyya , Resolution of grammatical tense into actual time, and its application in Time Perspective study in the tweet space , *PLOS One*, https://doi.org/10.1 (2019).
75. Sumit Kumar Tetarave, Somanath Tripathy, Ezhil Kalaimannan, Caroline John, and Anshika Srivastava , Routing Table Poisoning Model for Peer-to-Peer (P2P) Botnets , , *IEEE Access,*, 7, 67983 - 67995 (2019).
76. S. K. Maji, R. K. Thakur and H. Yahia , SAR Image Denoising using Multifractal Feature Analysis based TV Regularization , *IET Image Processing*, under review (2020).
77. Sanjeet Kumar Nayak, Somanath Tripathy , SEDS: secure and efficient server-aided data deduplication scheme for cloud storage , *International Journal of Information Security,*, (2019).
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80. S. K. Maji, R. K. Thakur and H. Yahia , Structure Preserving Denoising of SAR Images using Multifractal Feature Analysis , *IEEE Geoscience & Remote Sensing Letters* , (2020).
81. Shalini Priya, Manish Bhanu, Sourav Kumar Dandapat, Kripabandhu Ghosh and Joydeep Chandra , TAQE: Tweet Retrieval Based Infrastructure Damage Assessment During Disasters , *IEEE Transactions on Computational Social Systems*, 7(2) (2020).
82. S. Priya, M. Bhanu, S. K. Dandapat, K. Ghosh and J. Chandra , TAQE: Tweet Retrieval-Based Infrastructure Damage Assessment During Disasters , *IEEE Transactions on Computational Social Systems*, doi: 10.1109/TCSS.20 (2019).
83. Sabyasachi Kamila, Mohammed Hasanuzzaman, Asif Ekbal, Pushpak Bhattacharyya: , Tempo-HindiWordNet: A Lexical Knowledge-base for Temporal Information Processing. , *ACM Transaction on Asian and Low Resource Languages* , 18(2): 19:1-19:22 (2019).
84. N. Saini, S. Saha, P. Bhattacharyya, H. Tuteja , Textual Entailment based Figure Summarization for Biomedical Articles , *ACM Transactions on Multimedia Computing Communications and Applications*, accepted (0).
85. Niraj Kumar, Arijit Mondal , Timing Analysis of Precedence Constraint Messages Scheduled over Dynamic Segment of FlexRay , *IEEE Transactions on Automation Science and Engineering*, 17 (2020).
86. Nilesh Chakraborty, Vijay S. Anand and Samrat Mondal , Towards Identifying and Preventing Behavioral Side Channel Attack On Recording Attack Resilient Unaided Authentication Services , *Computers & Security*, 84, 193-205 (2019).
87. Smita Roy, Asif Ekbal, Samrat Mondal, Maunendra Desarkar and Shubham Chattopadhyay , Towards Predicting Risk of Coronary Artery Disease from Semi-structured Dataset , *Interdisciplinary Sciences: Computational Life Sciences*, (2020).
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92. Shalini Priya, Ryan Sequeira, Joydeep Chandra and Sourav Kumar Dandapat , Where should one get news updates: Twitter or Reddit , *Online Social Networks and Media*, 9 (2019).

Papers Presented in Conferences

1. wagatika Sahoo, Rishu Roshan, Vikash Singh and Raju Halder , BDmark: A Blockchain-driven Approach to Big Data Watermarking , *Proc. of the 12th Asian Conference on Intelligent Information and Database Systems (ACIIDS 20)* , Phuket, Thailand (2020)
2. Hitesh Golchha, Mauajama Firdaus, Asif Ekbal, Pushpak Bhattacharyya , Courteously Yours: Inducing courteous behaviour in Customer Care responses using Reinforced Pointer Generator Network. , *Proceedings of Proceedings of HLT-NAACL* , Minneapolis, USA (2019)
3. Tanik Saikh, Amit Anand, Asif Ekbal, Pushpak Bhattacharyya: , Novel Approach Towards Fake News Detection: Deep Learning Augmented with Textual Entailment Features , *24th International Conference on Applications of Natural Language to Information Systems* , UK (2019)
4. Hardik Chauhan, Mauzama Firdaus, Asif Ekbal and Pushpak Bhattacharyya , Ordinal and Attribute Aware Response Generation in a Multimodal Dialogue System , *Proceedings of Association for Computational Linguistics (ACL)* , Florence, Italy (2019)
5. K. S. Jauhri, R. K. Thakur and S. K. Maji , A Blind Metric Based Variational Approach for Ultrasound Image Denoising , *IEEE IC3A* , Lucknow (2020)
6. R. Dhir, S. K. Mishra, S. Saha, P. Bhattacharyya , A Deep Attention based Framework for Image Caption Generation in Hindi Language , *In the proceedings of 20th International Conference on Intelligent Text Processing and Computational Linguistics, CICLing 2019* , France (2019)
7. R. Dhir, S. K. Mishra, S. Saha, P. Bhattacharyya , A Deep Attention based Framework for Image Caption Generation in Hindi Language , *In the proceedings of 20th International Conference on Intelligent Text Processing and Computational Linguistics, CICLing 2019* , France (2019)
8. Arjun Roy, Kingshuk Basak, Asif Ekbal and Pushpak Bhattacharyya , A Deep Ensemble Framework for Fake News Detection and Multi-Class Classification of Short Political Statements , *Proceedings of ICON* , IIIT Hyderabad (2019)
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10. Tanik Saikh, Arkadipta De, Asif Ekbal and Pushpak Bhattacharyya , A Deep Learning Approach for Automatic Detection of Fake News , *Proceedings of ICON* , IIIT Hyderabad (2019)
11. T. Ghosal, A. Raj, A. Ekbal, S. Saha and P. Bhattacharyya , A Deep Multimodal Investigation To Determine the Appropriateness of a Scholarly Submission , *ACM/IEEE-CS Joint Conference on Digital Libraries (JCDL) 2019* , Urbana-Champaign, Illinois (2019)
12. Tirthankar Ghosal, Ashish Raj, Asif Ekbal, Sriparna Saha and Pushpak Bhattacharyya , A Deep Multimodal Investigation To Determine the Appropriateness of a Scholarly Submission. , *Proceedings of ACM/IEEE Joint Conference on Digital Libraries (JCDL)* , Urbana-Champaign, Illinois (2019)

13. Kumar Shikhar Deep, Asif Ekbal, Pushpak Bhattacharyya , A Deep Neural Framework for Contextual Affect Detection , *Proceedings of ICONIP* , Sydney, Australia (2019)
14. Sumit Mishra, Sriparna Saha, and Samrat Mondal , A Many Objective Optimization Based Entity Matching Framework for Bibliographic Database , *IEEE TENCON* , Kochi, Kerala (2019)
15. H. Aetesam, K. Poonam and S. K. Maji , A Mixed-Norm Fidelity Model for Hyperperspectral Image Denoising under Gaussian-Impulse Noise , *IEEE ICIT* , Bhubaneshwar (2020)
16. Sovan Kumar Sahoo, Saumajit Saha, Asif Ekbal and Pushpak Bhattacharyya , A Multi-task Model for Multilingual Trigger Detection and Classification , *Proceeding of ICON* , IIIT Hyderabad (2019)
17. T. Ghosal, D. Dey, A. Dutta, A. Ekbal, S. Saha and P. Bhattacharyya , A Multiview Clustering Approach To Identify Out-of-Scope Submissions in Peer Review , *ACM/IEEE-CS Joint Conference on Digital Libraries (JCDL) 2019* , Urbana-Champaign, Illinois (2019)
18. Tirthankar Ghosal, Debomit Dey, Avik Dutta, Asif Ekbal, Sriparna Saha and Pushpak Bhattacharyya , A Multiview Clustering Approach To Identify Out-of-Scope Submissions. , *Proceedings of ACM/IEEE Joint Conference on Digital Libraries (JCDL)* , Urbana-Champaign, Illinois (2019)
19. R. Kumar and S. K. Maji , A Novel Framework for Denoised High Resolution Generative Adversarial Network : DHRGAN , *IEEE SPIN* , New Delhi (2020)
20. Tirthankar Ghosal, Rajeev Verma, Asif Ekbal and Pushpak Bhattacharyya , A Sentiment Augmented Deep Architecture to Predict Peer Review Outcomes. , *Proceedings of ACM/IEEE Joint Conference on Digital Libraries (JCDL)* , Urbana-Champaign, Illinois (2019)
21. S. Yadav, A. Ekbal, S. Saha, P. Bhattacharyya , A Unified Multi-task Adversarial Learning Framework for Pharmacovigilance Mining , *ACL 2019* , Florence, Italy (2019)
22. S. Yadav, A. Ekbal, S. Saha and P. Bhattacharyya , A Unified Multi-task Adversarial Learning Framework for Pharmacovigilance Mining , *Proceedings of Association for Computational Linguistics (ACL)* , Florence, Italy (2019)
23. R. K. Thakur and S. K. Maji , A Variational Approach to Image Despeckling under Varied Blur , *IEEE SPIN* , New Delhi (2020)
24. P. Dutta and S. Saha , A Weak Supervision Technique with a Generative Model for Improved Gene Clustering , *IEEE CEC 2019* , New Zealand (2019)
25. Chanchal Suman, Somanath Tripathy, and Sriparna Saha , An Intrusion Detection System Using Unsupervised Feature Selection , *TENCON 2019* , (2019)
26. Dushyant Singh Chauhan, Rohan Kumar, Asif Ekbal , Attention Based Shared Representation for Multi-task Stance Detection and Sentiment Analysis. , *Proceedings of ICONIP* , Sydney, Australia (2019)
27. Bhavye Sharma, Raju Halder and Jawar Singh , Blockchain-based Interoperable Healthcare Using Zero-knowledge Proofs and Proxy Re-Encryption , *Workshop on Cybersecurity and Blockchain in conjunction with COMSNETS 20* , Bengaluru, India (2020)
28. Dushyant Singh Chauhan, Md Shad Akhtar, Asif Ekbal and Pushpak Bhattacharyya , Context-aware Interactive Attention for Multi-modal Sentiment and Emotion Analysis , *EMNLP/IJCNLP* , Hong Kong (2019)
29. Pranay Kumar Saha, Nilotpal Chakraborty, Arijit Mondal, Samrat Mondal , Coordinated Scheduling of Residential Appliances and Heterogeneous Energy Sources in a Smart Microgrid , *Buildsys* , USA (2019)

30. Pranay Kumar Saha, Nilotpal Chakraborty, Arijit Mondal and Samrat Mondal *,* Coordinated Scheduling of Residential Appliances and Heterogeneous Energy Sources in a Smart Microgrid , *SenSys/BuildSys 2019* , New York, USA (2019)
31. Yashwant Patel and Rajiv Misra *,* Deep Learning Based Resource Allocation For Auto-Scaling VNFs , *13th IEEE International Conference onAdvanced Networks and Telecommunications Systems (ANTS 2019)* , BITS-Goa Campus (2019)
32. Tirthankar Ghosal, Rajeev Verma, Asif Ekbal and Pushpak Bhattacharyya *,* DeepSentiPeer: Harnessing Sentiment in Review Texts To Recommend Peer Review Decisions. , *Proceedings of Association for Computational Linguistics (ACL)* , Florence, Italy (2019)
33. Abhishek Kumar, Asif Ekbal, Daisuke Kawahara, Sadao Kurohashi *,* Emotion helps Sentiment: A Multi-task Model for Sentiment and Emotion Analysis , *Proceedings of IJCNN* , Hungary (2019)
34. D. Paul, A. Kumar, S. Saha, J. Mathew *,* Evolutionary based subspace cluster- ing in multi-objective optimization framework , *ICONIP 2019* , Sydney, Australia (2019)
35. T. Saha, S. Srivastava, M. Firdaus, S. Saha, A. Ekbal and P. Bhattacharyya *,* Exploring Machine Learning and Deep Learning Frameworks for Task-Oriented Dialogue Act Classi

fication , *IEEE International Joint Conference on Neural Networks (IJCNN)* , Budapest, Hungary (2019)

36. Tulika Saha, Saurabh Srivastava, Mauajama Firdaus, Sriparna Saha, Asif Ekbal, Pushpak Bhattacharyya: *,* Exploring Machine Learning and Deep Learning Frameworks for Task-Oriented Dialogue Act Classification , *Proceedings of IJCNN* , Hungary (2019)
37. S. Saha, D. Sarkar and S. Kramer *,* Exploring Multi-Objective Optimization for Multi-Label Classifier Ensembles , *IEEE CEC 2019* , New Zealand (2019)
38. Luca Gnoli, Giuseppe Carnicelli, Alessio Parisi, Luca Urbinati, Burim Kabashi, Fabio Michieletti, Sebastian Ignacio Peradotto Ibarra, Marco Vacca, Mariagrazia Graziano, Jimson Mathew, Marco Ottavi: *,* Fault Tolerant Photovoltaic Array: A Repair Circuit Based on Memristor Sensing. , *34th DFT 2019: Noordwijk, Netherlands* , Netherlands (2019)
39. S. Roy, B.K. Suman, J. Chandra, S. K. Dandapat *,* Forecasting the Future: Leveraging RNN based Feature Concatenation for Tweet Outbreak Prediction , *CoDS-COMAD* , Hyderabad, India (2020)
40. Saswata Roy, Brijendra Suman, Joydeep Chandra and Sourav Dandapat *,* Forecasting the Future: Leveraging RNN based Feature Concatenation for Tweet Outbreak Prediction , *CoDS-COMAD* , Hyderabad (2020)
41. S. Priya, S. Singh, S. K. Dandapat, K. Ghosh and J. Chandra *,* Identifying Infrastructure Damage during Earthquake using Deep Active Learning , *International Conference on Advances in Social Networks Analysis and Mining* , Vancouver, Canada (2019)
42. Shalini Priya, Saharsh Singh, Sourav Kumar Dandapat, Kripabandhu Ghosh and Joydeep Chandra *,* Identifying Infrastructure Damage during Earthquake using Deep Active Learning , *Advances in Social Network Analysis and Mining* , Vancouver (2019)
43. Sukanta Sen, Kamal Kumar Gupta, Asif Ekbal, Pushpak Bhattacharyya: *,* IITP-MT System for Gujarati-English News Translation Task at WMT 2019 , *WMT 2019* , Florence, Italy (2019)
44. Dipanjyoti Paul, Abhishek Kumar, Sriparna Saha, Jimson Mathew: *,* Improved Multi-objective Evolutionary Subspace Clustering. , *26th ICONIP 2019:* , Sydney, NSW, Australia (2019)
45. T. Ghosal, A. Chakraborty, R. Sonam, A. Ekbal, S. Saha and P. Bhattacharyya *,* Incorporating Full Text and Bibliographic Features to Improve Scholarly Journal Recommendation , *ACM/IEEE-CS Joint Conference on Digital Libraries (JCDL) 2019* , Urbana-Champaign, Illinois (2019)
46. Tirthankar Ghosal, Ananya Chakraborty, Ravi Sonam, Asif Ekbal, Sriparna Saha and Pushpak Bhattacharyya *,* Incorporating Full Text and Bibliographic Features to Improve Scholarly Journal Recommendation. , *Proceedings of ACM/IEEE Joint Conference on Digital Libraries (JCDL)* , Urbana-Champaign, Illinois (2019)
47. Anita Chandra and Abyayananda Maiti *,* Investigating Saturation in Collaboration and Cohesiveness of Wikipedia Using Motif Analysis , *Complex Networks* , Lisbon, Portugal (2019)
48. T. Ghosal, A. Ekbal, S. Saha, P. Bhattacharyya and R. Sonam *,* Is the Paper Within Scope? Are You Fishing in the Right Pond? , *ACM/IEEE-CS Joint Conference on Digital Libraries (JCDL) 2019* , Urbana-Champaign, Illinois (2019)
49. Tirthankar Ghosal, Asif Ekbal, Sriparna Saha, Pushpak Bhattacharyya and Ravi Sonam *,* Is the Paper Within Scope? Are You Fishing in the Right Pond? , *Proceedings of ACM/IEEE Joint Conference on Digital Libraries (JCDL* , Urbana-Champaign, Illinois (2019)
50. Preenu Paul, Babita R. Jose, Shahana Thottathikkulam Kassim, Chikku Abraham, Jimson Mathew: *,* Isolated Switched Boost DC-DC Converter with Coupled Inductor and Transformer , *TENCON 2019:* , Kochi, India (2019)

51. H. Aetesam and S. K. Maji , L2-L1 Fidelity based Elastic Net Regularisation for Magnetic Reso- nance Image Denoising , *IEEE IC3A* , Lucknow (2020)
52. Md. Shad Akhtar, Abhishek Kumar, Asif Ekbal, Chris Biemann, Pushpak Bhattacharyya , Language-Agnostic Model for Aspect-Based Sentiment Analysis , *13th International Conference on Computational Semantics (IWCS 2019)* , Sweden (2019)
53. Yashwant Singh Patel, Sourasekhar Banerjee, Rajiv Misra, Sajal K. Das , Low-Latency Energy-Efficient Cyber-Physical Disaster System Using Edge Deep Learning , *ICDCN 2020* , Kolkata (2020)
54. K. Maity, R. Sengupta and S. Saha , MM-NAEMO : Multimodal Neighborhood- sensitive Archived Evolutionary Many-objective Optimization Algorithm , *IEEE CEC 2019* , New Zealand (2019)
55. N. Saini, S. Saha, A. Kumar, P. Bhattacharyya , Multi-document summarization using adaptive composite differential evolution , *ICONIP 2019* , Sydney, Australia (2019)
56. Zishan Ahmad, Deeksha Varshney, Asif Ekbal and Pushpak Bhattacharyya , Multi-linguality helps: Event-Argument Extraction for Disaster Domain in Cross-lingual and Multi-lingual setting , *Proceeding of ICON* , IIIT Hyderabad (2019)
57. Rakesh Kumar Sanodiya, Sriparna Saha, Jimson Mathew, Michelle Davies Thalakottur, Utkarshinee Aadya: , Multi-objective Approach for Semi-Supervised Discriminant Analysis with Relative Distance , *CEC 2019:* , Wellington, New Zealand (2019)
58. Suyash Sangwan, Dushyant Singh Chauhan, Md. Shad Akhtar, Asif Ekbal, Pushpak Bhattacharyya , Multi-task Gated Contextual Cross-Modal Attention Framework for Sentiment and Emotion Analysis , *Proceedings of ICONIP* , Sydney, Australia (2019)
59. Md Shad Akhtar, Dushyant Singh Chauhan, Deepanway Ghosal, Soujanya Poria, Asif Ekbal, Pushpak Bhattacharyya , Multi-task Learning for Multi-modal Emotion Recognition and Sentiment Analysis , *Proceedings of Proceedings of HLT-NAACL* , Minneapolis, USA (2019)
60. Sukanta Sen, Kamal Kumar Gupta, Asif Ekbal and Pushpak Bhattacharyya , Multilingual Unsupervised NMT using Shared Encoder and Language-Specific Decoders , *Proceedings of Association for Computational Linguistics (ACL)* , Florence, Italy (2019)
61. R. K. Sanodiya, S. Saha, J. Mathew, M. D. Thalakottur and U. Aadya , Multiobjective Approach for Semi-Supervised Discriminant Analysis with Relative Distance , *IEEE CEC 2019* , New Zealand (2019)
62. R. Salgotra, U. Singh, S. Saha and A. Nagar , New Improved SALSHADE- cnEpSin Algorithm with Adaptive Parameters , *IEEE CEC 2019* , New Zealand (2019)
63. D. Paul, R. Kumar, S. Saha, J. Mathew , Online Feature Selection for Multi- label Classification in Multiobjective Optimization Framework , *IEEE/ACM Interna- tional Conference on Social Networks Analysis and Mining (ASONAM 2019)* , Vancouver, Canada (2019)
64. Dipanjyoti Paul, Rahul Kumar, Sriparna Saha, Jimson Mathew: , Online feature selection for multi-label classification in multi-objective optimization framework , *11th ASONAM 2019:* , Vancouver, BC, Canada (2019)
65. Sukanta Sen, Asif Ekbal, Pushpak Bhattacharyya , Parallel Corpus Filtering Based on Fuzzy String Matching , *Proceedings of Fourth Conference on Machine Translation (WMT)* , Florence, Italy (2019)
66. Mayank Agarwal , Rogue Twin Attack Detection: A Discrete Event System Paradigm Approach , *IEEE SMC 2019 Conference* , Bari 6 - 9 Ottobre 2019 Italy (2019)
67. Niraj Kumar and Arijit Mondal , Schedule Synthesis for the Messages with Precedence Constraint over Dynamic Segment of the FlexRay Protocol , *ISED* , Kerala, India (2019)
68. N. Saini, R. Grover, S. Saha, P. Bhattacharyya , Scientific document clustering using granular self-organizing map , *ICONIP 2019* , Sydney, Australia (2019)

69. IEEE, 2019. Jeevan Surya Maddu, Somanath Tripathy, and Sanjeet Kumar Nayak , SDNGuard: An Extension in Software Defined Network to Defend DoS Attack , *IEEE TENSYMP* , (2019)
70. Rakesh Kumar Sanodiya, Michelle Davies Thalakottur, Jimson Mathew, Matloob Khushi , Semi-supervised Regularized Coplanar Discriminant Analysis , *26th ICONIP 2019:* , Sydney, NSW, Australia (2019)
71. A. Jangra, A. Jatowt, M. Hasanuzzaman and S. Saha , Text-Image-Video Summary Generation using Joint Integer Linear Programming , *ECIR 2020* , Lisbon (2020)
72. Marco Ottavi, Vishal Gupta, Saurabh Khandelwal, Shahar Kvatinsky, Jimson Mathew, Eugenio Martinelli, Abusaleh M. Jabir: , The Missing Applications Found: Robust Design Techniques and Novel Uses of Memristors , *25th IOLTS 2019:* , Rhodes, Greece (2019)
73. Tirthankar Ghosal, Abhishek Shukla, Asif Ekbal, Pushpak Bhattacharyya , To Comprehend the New: On Measuring the Freshness of a Documen , *Proceedings of IJCNN* , Hungary (2019)
74. T. Saha, S. Saha and P. Bhattacharyya , Tweet Act Classification : A Deep Learning based Classifier for Recognizing Speech Acts in Twitter , *IEEE International Joint Conference on Neural Networks (IJCNN)* , Budapest, Hungary (2019)
75. H. Aetesam and S. K. Maji , Ultrasound Image Deconvolution adapted to Gaussian and Speckle Noise Statistics , *IEEE SPIN* , New Delhi (2020)
76. Rakesh Kumar Sanodiya, Chinmay Sharma, Jimson Mathew: , Unified Framework for Visual Domain Adaptation Using Globality-Locality Preserving Projections , *26th ICONIP 2019:* , Sydney, NSW, Australia (2019)
77. Niraj Kumar, Jaishree Mayank and Arijit Mondal , Work-in-Progress: An ILP Framework for Energy Optimized Scheduling for Weakly-Hard Real-Time Systems , *EMSOFT* , USA (2019)

Electrical Engineering
Head: Dr. Ahmad Ali

1. Dr. Ahmad Ali
   Associate Professor
   Control Systems, Evolutionary algorithms, New tuning strategies for controller design, Relay based system identification

2. Dr. Jawar Singh
   Associate Professor
   Semiconductor Devices/Microelectronics/VLSI/ Modeling and Simulation of Classical and Non- classical devices

3. Dr. Kailash Chandra Ray
   Associate Professor
   VLSI architectural design, VLSI Signal Processing, Digital VLSI Design, Hardware design methodologies, FPGA based System Design, CORDIC

4. Dr. Maheshkumar H. Kolekar
   Associate Professor
   Digital Image Processing, Digital Signal Processing, Digital Video Processing, Video Surveillance, Multimedia Communication, Signal Processing for communication, Tele-medicine, Medical Signal and Image Processing, Neuroscience, Neuro-congnition.

5. Dr. Pramod Kumar Tiwari
   Associate Professor
   Semiconductor Devices and Circuits

6. Dr. Preetam Kumar
   Associate Professor
   Physical Layer issues in Wireless Communications, Signal Processing for Communication Systems, VLSI for Communication, Wideband Antenna Design, Underwater Communications

7. Dr. Rajib Kumar Jha
   Associate Professor
   Image and Video Processing, Multimedia applications, Medical Imaging, Stochastic resonance, Fractional differential/integral equations.

8. Dr. Ranjan Kumar Behera
   Associate Professor
   Design and Fabrication of Power Electronics Circuits, Control of Electrical Drives, Application of Nonlinear Control Theory to Power Electronics and Electric Drives, Pulse Width Modulation Techniques for Power Electronics

9. Dr. S. Sivasubramani
   Associate Professor

Power System Optimization, Smart Grid

10. Dr. Sanjoy Kumar Parida
    Associate Professor
    Optimal Operation and Control of Power System; Power System Dynamics; Wide-Area Monitoring, Control and Protection; Microgrid Operation, Control and Protection

11. Dr. Saurabh Kumar Pandey
    Assistant Professor
    Optoelectronics Devices, Semiconductor thin films, Photovoltaic, Sensors, Microelectronics/VLSI device modeling and simulation, MEMS

12. Dr. Sudhir Kumar
    Assistant Professor
    Wireless Sensor Networks, Internet of Things (IoT), Molecular and MIMO Communications, Applications of Signal Processing and Machine Learning. Topics of current interests: Location based services, Tracking, Navigation, Clustering, Anomaly Detection, Supervised and Unsupervised Learning for Smart Environments, Activity Recognition, Molecular and MIMO Communications

13. 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.ion, 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

14. Dr. Shovan Bhaumik
    Associate Professor
    Statistical signal processing, Nonlinear estimation, Aerospace target tracking and Smart material. Solar Cells.Micro-Nanoelectronics, MEMS, Modeling & Simulation. Power System Dynamics; Wide-Area Monitoring, Control and Protection; Microgrid Operation, Control and Protection

15. Dr. Sudhan Majhi
    Associate 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

16. Dr. Udit Satija
    Assistant Professor

Bio-medical signal processing, Wearable healthcare monitoring, Human activity monitoring, Machine and deep learning, Signal processing for wireless communication, Compressed sensing, Cognitive radios, Internet of things

17. Dr. Yatendra Kumar Singh
    Associate Professor
    RF MEMS, Computational Electromagnetics

Member - Professional Bodies

1. Dr. Udit Satija (2017) IEEE
2. Kailash Chandra Ray (2004) IEEE
3. Mahesh Kumar Kolekar (0) CSI
4. Mahesh Kumar Kolekar (0) ISTE
5. Mahesh Kumar Kolekar (2016) IEEE
6. Mahesh Kumar Kolekar (0) IETE
7. Pramod Kumar Tiwari (2019) Senior Member IEEE
8. Pramod Kumar Tiwari (2019) ISTE
9. Preetam Kumar (2016) IEEE
10. Rajib Jha (2018) IEEE
11. Rajib Jha (2015) IUPRAI
12. Ranjan Kumar Behera (2011) IEEE
13. S. Sivasubramani (2014) IEEE
14. Sanjoy Kumar Parida (2016) IEEE Power and Energy Society
15. Sanjoy Kumar Parida (2016) IEEE Power Electronics
16. Sanjoy Kumar Parida (2016) IEEE Control System Society
17. Sanjoy Kumar Parida (2016) IEEE
18. Saurabh Kumar Pandey (2018) IRED
19. Saurabh Kumar Pandey (2018) IAAM
20. Saurabh Kumar Pandey (2016) IAENG
21. Saurabh Kumar Pandey (2020) IEEE
22. Saurabh Kumar Pandey (2018) ISTE
23. Saurabh Kumar Pandey (2016) IACSIT
24. Sudhan Majhi (2015) IEEE
25. Sudhir Kumar (2016) IEEE
26. Sudhir Kumar (2017) ACM
27. Sudhir Kumar (2018) INDIAN SOCIETY FOR TECHNICAL EDUCATION
28. Sumanta Gupta (9) IEEE

Member - Editorial Board

1. Mahesh Kumar Kolekar (2019) *member* - American Journal of Signal Processing
2. Mahesh Kumar Kolekar (2020) *Principal General Chair* - International Conference on Evolving Technologies for Computing, Communication and Smart World
3. Preetam Kumar (2019) *Member Editorial Board* - International Journal Wireless Personal Communication

4. Saurabh Kumar Pandey (2018) *Associate Editor* - Research & Development in Material Science
5. Saurabh Kumar Pandey (2018) *Guest Editor* - Advances in Optoelectronics
6. Sudhan Majhi (2018) *Editor* - IEEE Transactions on Vehicular Technology
7. Sudhan Majhi (2019) *Senior Editor* - IEEE Communications Letters

Awards & Honours

1. Preetam Kumar (2018) • *L&T- ISTE Best M.Tech. Project (MTP) award - Supervisor 2018*
2. Ranjan Kumar Behera (2020) *Best Poster Award*
3. Sudhan Majhi (2020) *Best Poster Award received by PhD student in research scholar day*
4. Sudhir Kumar (2019) *Received CSIR Partial Financial Assistance to attend GLOBECOM 2019, Hawaii, USA*
5. Sudhir Kumar (2019) *Recipient of International Travel Grant by Science and Engineering Research Board (SERB), Department of Science and Technology (DST), Government of India to attend conference GLOBECOM 2019, Hawaii, USA*
6. Sudhir Kumar (2019) *The Best Teacher in UG Teaching from EE Department Announced in Teachers day (Aabhar)*
7. Sudhan Majhi (2018) *Young Faculty Research Fellowship for next three Years*

Fellowships

1. Rajib Jha (2020) *Visvesvaraya Young Faculty Research Fellow Extended for one more year*
2. Sudhan Majhi (2018) *Young Faculty Research Fellowship for next three Years*

Sponsored Research Projects

1. A software tool for planning and design of smart micro power grids (MHRD, Rs.202.00 Lakhs) (PI : Ranjan K Behera)
2. Application of Non-Convex Game in Demand Side Management of an Electric Utility (SERB, DST, Govt. of India, Rs.6.60 Lakhs) (PI : Dr. S. K. Parida)
3. Capacity building training program under MSME National SC ST Hub (MSME, Rs.15.61 Lakhs) (PI : P KTiwari)
4. Decentralized Consensus Filtering for Underwater Target Motion Analysis (NRB, Rs.30.62 Lakhs) (PI : Shovan Bhaumik)
5. Deep Learned Detecation and Classification of Multiple Instrusions Using WDM Intensity and Phase-Sensitive OTDR in Underwater Environment (NRB, DRDO, Rs.46.64 Lakhs) (PI : SUMANTA GUPTA, JIMSON MATHEW)
6. Design and development of RF energy harvesting circuits for low power electronics devices (DST (SERB), Rs.55.00 Lakhs) (PI : Jawar Singh)
7. Design and Implementation of Intelligent Receiver over Randomized Environment by Statistical and Machine Learning (MEITY, Rs.67.00 Lakhs) (PI : Sudhan Majhi)
8. Design and Implementation of Intelligent Receiver over Randomized Environment by Statistical and Machine Learning Approach (MeitY, Government of India, Rs.65.50 Lakhs) (PI : Dr Sudhan Majhi)

9. Design and Implementation of Orbital Angular Momentum (OAM) Assisted Spectrally Efficient Wavelength Division Multiplexed Communication System Using C (Science and Engineering Research Board (SERB), Rs.76.43 Lakhs) (PI : SUMANTA GUPTA)
10. Design of Blind Modulation Classification for MIMO-OFDM and MIMO-SC-FDMA System through FPGA Module and Testbed Implementation (SERB, Rs.21.00 Lakhs) (PI : Sudhan Majhi)
11. Design, Development, and Characterization of Blue LED and Visible Laser Based Underwater Optical Wireless Communication System for Audio and Video Sig (NRB, DRDO, Rs.23.61 Lakhs) (PI : SUMANTA GUPTA)
12. Development of AI Driven Microgrid Protection and Control Schemes (SPARC, MHRD, Govt. of India, Rs.33.00 Lakhs) (PI : Dr. S. K. Parida)
13. Development of Wearable Intelligent Electro-encephalograms (EEG) Signal Analysis IoT-Enabled System for Unsupervised Mental-Health Monitoring and Beha (ICMR (Technically Approved), Rs.39.80 Lakhs) (PI : Dr. Udit Satija)
14. Efficient Multicarrier Waveform Design for Next Generation Non-Orthogonal Multiple Access for Wireless Mobile Communication (MeitY, Government of India, Rs.64.50 Lakhs) (PI : Dr Preetam Kumar)
15. Efficient Non-Stationary OFDM based Multicarrier Waveform Design for High Data Rate Next Generation Mobile Wireless Communication (MEITY, Rs.64.00 Lakhs) (PI : Preetam Kumar)
16. Exploration of 8/9 nano-meter process variation immune doping and junction free devices and their circuits (DST (SERB), Rs.35.00 Lakhs) (PI : Jawar Singh)
17. Geospatial Location Estimation and Navigation in Autonomous Sensor Networks/Smart City (Department of Science and Technology, Rs.28.85 Lakhs) (PI : Dr. Sudhir Kumar)
18. Interoperable Intelligent Systems and Network Security Framework (MicroSec Singapore , Rs.8.00 Lakhs) (PI : Jimson Mathew)
19. IoT based LVRT compatible Protective relays (TEQIP Collaborative Research Scheme, NPIU, MHRD, Govt. of India, Rs.14.44 Lakhs) (PI : Dr. Amutha, Nalanda College of Engineeri)
20. Multi-Node Wide Area Distributed Control to Improve Power System Stability in Indian Context (SERB, DST, Govt. of India, Rs.55.22 Lakhs) (PI : Dr. S. K. Parida)
21. National Resource Centre on Internet of Things (MHRD, Govt. of India, Rs.25.00 Lakhs) (PI : Dr. S. K. Parida)
22. SMDP-C2SD (MeitY, Govt. of India, Rs.215.00 Lakhs) (PI : Dr. Kailash Chandra Ray)
23. Teaching Learning Centre on Internet of Things (MHRD, Govt. of India, Rs.343.00 Lakhs) (PI : Dr. S. K. Parida)
24. Young Faculty Research Fellowship (Media Lab Asia, Meity, Rs.37.00 Lakhs) (PI : Sudhan Majhi)

Consultancy Projects

1. Energy Audit in Ruban Hospitals (Ruban Hospitals, Patna, Rs.2.14 Lakhs) Consultant Name: S. Sivasubramani
2. Impact Analysis for Rural Broadband Services (UVACA Inc USA, Rs.1.47 Lakhs) Consultant Name: Preetam Kumar

3. Vetting of the electrical drawing of solar plant including cable, earthing and components for MES Birchgunj, PortBlair (Rishabh Constructions Pvt. Ltd., Rs.1.26 Lakhs) Consultant Name: Ranjan K Behera

Patents (filed / granted)

1. Patent Name:A Blind Modulation Classification Method for Determining Modulation Format of a Received Signal; Patent Owner: Sudhan Majhi

Visits Abroad by Faculty Members

1. Saurabh Kumar Pandey - Conference (Switzerland,) 4 days
2. Sudhir Kumar - Paper presentation of accepted paper in GLOBECOM conference (h5 index: 57) (Hawaii, USA,) Dec 2019
3. Jawar Singh - Conference (EPFL Lausanne, Switzerland,) One week
4. Pramod Kumar Tiwari - Conference (Kuching Malysia ,) 5 days
5. Mahesh Kumar Kolekar - To present paper in International conference on Softcomputing (Liverpool, UK,) Sept 2 to Sept 4, 2019
6. Sudhan Majhi - Visiting Professor (Southwest Jiaotong University, China,) 30 days
7. Sanjoy Kumar Parida - For research activities related to SPARC joint project (Energy Technology Department, Aalborg University, Denmark,) July 09 - 21, 2019
8. Sanjoy Kumar Parida - To Chair Conference Sessions (University POLITEHNICA of Bucharest ,) September 29 - October 02
9. Rajib Jha - Attending 25th International Conference on Noise and Fluctuations (ICNF 2019) (Neuchatel, Switzerland,) 18-21 June 2019
10. Ranjan Kumar Behera - Conferance (Bonus Aries, Argentina,) February 26-28, 2020

Invited Lectures by Faculty Members

1. Short Term Course on Development of IOT Based Power Electronic Interface for Green Energy Management *by* Sudhir Kumar (BIT Mesra)
2. Emerging Devices, Circuits and Systems *by* Saurabh Kumar Pandey (NIT Silchar)
3. Electronic Systems for Mechanical Automation & Robotic Technology *by* Saurabh Kumar Pandey (NIT Silchar)
4. Faculty Development Program on RF and Analog Integrated Circuits Designing *by* Saurabh Kumar Pandey (NIT Patna)
5. Digital Electronics: Basic Fundamentals *by* Saurabh Kumar Pandey (LNJPIT Chapra)
6. Microprocessor *by* Saurabh Kumar Pandey (DCE, Darbhanga)
7. Faculty Development Program (FDP) in Signal Processing *by* Sudhir Kumar (Bhagalpur College of Engg)
8. 21 days summer school *by* Sudhir Kumar (Bihar Agricultural University, Sabour, Bhagalpur)
9. Interplay of Machine Learning and IoT *by* Sudhir Kumar (IIT Patna)
10. Signals and Systems *by* Sudhir Kumar (Darbhanga College of Engineering under TEQIP III activities)
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12. Event: Innovation and Entrepreneurship *by* Sudhir Kumar (Aryabhatta Knowledge University Patna)
13. Role of Semiconductor Memories in Smart Electronics from AI/ML and In-memory Computing Perspectives *by* Jawar Singh (MANIT Jaipur)
14. Modeling and Simulation of Classical and Non- classical devices *by* Jawar Singh (NIT Utterakhand)
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17. MOSFET: The biggest game changers of previous centuary *by* Pramod Kumar Tiwari (SRM Engineering College Hajipur)
18. Semiconductor Diodes *by* Pramod Kumar Tiwari (LNJP chappra)
19. Deep Learning Approach for Video Surveillance systems *by* Mahesh Kumar Kolekar (International Conference on Futuristic Trends in Network and Computing Technologies, Mohali)
20. Intelligent Receiver for Future Wireless Communication Systems *by* Sudhan Majhi (IEEE International Conference on Wireless Communications, Signal Processing and Networking (WiSPNET))
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27. Blind Modulation classification by Deep learning *by* Sudhan Majhi (UPES, Dehradun, India, 2019)
28. Application of model free control techniques in Green Energy Technology *by* Ahmad Ali (Integral University Lucknow)
29. Modelling of Optimal Power Flow in MATLAB *by* Sanjoy Kumar Parida (BIT Meshra, Patna Campus)
30. Recent Trends in Renewable Energy Integration: Scope in India *by* Sanjoy Kumar Parida (MIT Muzaffarpur)
31. Recent Research in image processing areas *by* Rajib Jha (GB Pant University, Paudi)
32. Electromagnetic Compatibility of Electronics Systems *by* Yatendra Kumar Singh (Incubation Center, IIT Patna)
33. Digital Image Processing Expert *by* Rajib Jha (Bharat Dynamic Limited)
34. Wide Band Gap Devices and IoT *by* Ranjan Kumar Behera (Indira Gandhi Institute of Technology, Saranga, Orissa)

35. Design of Electric Vehicle *by* Ranjan Kumar Behera (Sri Venkateswara College of Engineering,(AUTONOMOUS - Affiliated to Anna University, Chennai), Sriperumbudur tk)
36. Smart Power system *by* Ranjan Kumar Behera (Parla Maharaja College of Engineering, Berhampur, Orissa)
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38. Control of High Efficient Solar and Wind Power Converters *by* Ranjan Kumar Behera (Rajkiya Engineering College, Ambedkarnagar, Uttar Pradesh)
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2. Interplay of Machine Learning and IoT (3 days, Aug 2019)
3. Microgrids: Operation, Control and Protection (September 23 - 27, 2019)
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33. MD IRSHAD and AHMAD ALI , IMC based optimal PI/PID tuning rules for inverse response plus time delay processes , *ICC* , IIT HYDERABAD (2019)
34. A. Prakash and S. K. Parida , Impact of Solar Photovoltaic on LFC of Interconnected Power System using I-PD Controller , *2019 IEEE PES Innovative Smart Grid Technologies Europe (ISGT-Europe)* , Bucharest, Romania (2019)
35. A. Prakash and S. K. Parida , LFC of Interconnected Power System with TCSC using Salp Swarm Algorithm , *8th International Conference on Power System (ICPS)* , MNIT Jaipur (2019)
36. K. Kumar and R. K. Behera , Loss Assessment of a 3.3 kW Integrated Charger for Electric Vehicles using GaN Semiconductor Devices , *IEEE International Conference on Power Electronics, Smart Grid and Renewable Energy (PESGRE 2020),* , Cochi, Kerla (2020)
37. D. P. Jana and S. Gupta , Machine Learning Enabled Detection for QPSK-PD-NOMA System Employing Single Mode Fiber , *2020 National Conference on Communications (NCC).* , Kharagpur, India (2020)

38. M. A. Hasan and S. K. Parida , Modeling and Design of a Synchronous Reference Frame Enhanced Phase Locked Loop , *2019 IEEE PES Innovative Smart Grid Technologies Europe (ISGT-Europe)* , Bucharest, Romania (2019)
39. Saif Ahmad and Ahmad Ali , Modified Active Disturbance Rejection Control for Improved Performance , *ICC* , IIT HYDERABAD (2019)
40. S. Das, U. Parampalli, Sudhan Majhi, and Z. Liu , Near-Optimal Zero Correlation Zone Sequence Sets from Paraunitary Matrices , *IEEE International Symposium on Information Theory (ISIT)* , Paris (2019)
41. V K Waghmare and M H Kolekar , Neural Network for Automatic Brain Tumor Detection , *Int conf on Evolving Technologies for Computing, Communication and Smart World* , CDAC, Noida (2019)
42. MD IMRAN KALIM and AHMAD ALI , New Tuning Strategy for Series Cascade Control Structure , *ACODS* , IIT MADRAS (2020)
43. P. Kumar, D. V. Bhaskar, R. K. Behera and U. Muduli , Novel closed loop speed control of permanent magnet brushless dc motor drive , *IEEE ICIT 2020* , Bonus Aries, Argentina (2020)
44. . Kumar, P.S.T.N. Srinivas, and Pramod Kumar Tiwari , ompact Drain Current Model for Ultra-thin Double Gate-All-Around (DGAA) MOSFETs Incorporating Short Channel Effects , *IEEE NMDC,* , Stockholm (2019)
45. B. Lokeshgupta and S. Sivasubramani , Optimal operation of a residential microgrid with demand side management , *2019 IEEE PES Innovative Smart Grid Technologies Europe (ISGT-Europe)* , Bucharest, Romania, (2019)
46. A. Sadhukhan and S. Sivasubramani , Optimal Placement of EV Charging Stations , *2019, International Conference on Power Systems (ICPS)* , MNIT, Jaipur (2019)
47. MD IRSHAD and AHMAD ALI , Optimal Tuning Rules for Integrating Processes for 2-DOF Parallel Control Structure , *CoDIT* , FRANCE (2019)
48. Deepak Punetha and Saurabh Kumar Pandey , Optimization in NH3 Gas Response of WO3 Nanorods Based Sensor Array , *IEEE Sensor Conference* , Montreal, Canada (2019)
49. 3. V. V. S. R. C. Kantipudi, K. Kumar, R. K. Behera and S. Banerjee , Overview and Analysis of Various Coil Structures for Dynamic Wireless Charging of Electric Vehicles , *IEEE International Conference on Power Electronics, Smart Grid and Renewable Energy (PESGRE 2020),* , Cochi, Kerla (2020)
50. Raghvendra, Rashmi Ranjan and Saurabh Kumar Pandey , Performance Improvement and Defects Analysis in Perovskite based Solar Cell , *IEEE 46th Photovoltaic Specialists Conference* , Chicago, USA (2019)
51. A. Kumar, P.S.T.N. Srinivas, and Pramod Kumar Tiwar , Physical Insight into Self-heating Effects in Ultra-thin Junctionless Gate-All-Around FETs , *IEEE INEC,* , Kuching (2019)
52. Atul Singh and S. K. Parida , Power System Frequency and Phase Angle Measurement using Raspberry Pi , *21st European Conference on Power Electronics and Applications (EPE 19 ECCE Europe)* , Genova, Italy (2019)
53. RK Jha, B Soni, S Kumar, VS Verma , Radon Transform and Dynamic Stochastic Resonance based Technique for Line Detection from Noisy Images , *25th International Conference on Noise and Fluctuations (ICNF 2019)* , Switzerland (2019)
54. S Kumar, T Singh, R Jha, MA Rahman , Randomness Assists in Wireless Connectivity , *25th International Conference on Noise and Fluctuations (ICNF 2019)* , EPFL-Switzerland (2019)
55. A. Srivastava and S. K. Parida , Recognition of Fault Location and Type in a Medium Voltage System with Distributed Generation Using Machine Learning Approach , *20th International Conference on Intelligent Systems Applications to Power Systems (ISAP)* , IIT Delhi (2019)

56. Shovan Bhaumik Nikhil Sharma, Ranjeet Kumar Tiwari , Risk Sensitive Shifted Rayleigh Filter for Underwater Bearings-Only Target Tracking Problems , *Maritime Situational Awareness Workshop 2019* , Italy (2019)
57. MD IRSHAD and AHMAD ALI , Robust PI-PD Controller Design for Integrating and Unstable Processes , *ACODS* , IIT MADRAS (2020)
58. A. M. Shukla and S. Gupta , Simultaneous Measurement of Atmospheric Turbulence Induced Intensity and Polarization Fluctuation for Free Space Optical Communication , *2020 National Conference on Communications (NCC).* , Kharagpur, India (2020)
59. S Kumar, N Chauhan, RK Jha , Suprathreshold Stochastic Resonance Characterization for Gamma Noise with Watermarking Application , *25th International Conference on Noise and Fluctuations (ICNF 2019)* , Switzerland (2019)
60. A. Singh and S. K. Parida , Synchronized Measurement of Power System Frequency and Phase Angle Using FFT and Goertzel Algorithm for low cost PMU Design , *2019 IEEE PES Innovative Smart Grid Technologies Europe (ISGT-Europe)* , Bucharest, Romania (2019)
61. Pritam Khan, Yasin Khan and Sudhir Kumar , Tracking and Stabilization of Heart-rate using Pacemaker with FOF-PID Controller in Secured Medical Cyber-physical System , *12th International Conference on Communication Systems & Networks (COMSNETS), IEEE* , Bengaluru, India (2020)
62. Deepak Punetha and Saurabh Kumar Pandey , Ultrafast and Highly Selective CO Gas Sensor Based on rGO/Fe3O4 Nanocomposite at Room Temperature , *IEEE Sensor Conference* , Montreal, Canada (2019)
63. S. Anand and S. K. Parida , Wide-Area Measurement Based Identification of Faulty Lines Considering Data Unavailability from Critical Buses , *2019 IEEE PES Innovative Smart Grid Technologies Europe (ISGT-Europe)* , Bucharest, Romania (2019)

Humanities and Social Sciences
Head: Dr. Nalin Bharti

1. Dr. Nalin Bharti
   Associate Professor
   Macroeconomic Reforms, Labour Economics, WTO and India, International Economy

2. Dr. Smriti Singh
   Associate Professor
   English language, Exploratory Action research, gamification and literature

3. Dr. Aditya Raj
   Assistant Professor
   Sociology of Education, Migration and Diaspora Studies, Development Discourse, Qualitative Research Design, Youth

4. Dr. Papia Raj
   Associate Professor
   Health Care Management, Population and Public Health, Gender and Development, Environmental Health, Regional Development, Quantitative Methods

5. Dr. Priyanka Tripathi
   Associate Professor
   Gender Studies, Indian Writing in English, Short Fiction, Censorship Studies

6. Dr. Richa Chaudhary
   Assistant Professor
   Workplace ethics, Corporate social responsibility, Environmental sustainability, Workplace Loneliness, Authentic Leadership

7. Dr. Sweta Sinha
   Assistant Professor
   Research areas- Sociolinguistics, Phonetics and Phonology, Forensic Linguistics and Language Typology

8. Dr. Meghna Dutta
   Assistant Professor
   Applied Microeconomics, Panel Data and Cross–Section Econometrics, International Trade, Development Economics.

9. Dr. Rajendra N. Paramanik
   Assistant Professor
   Macro-dynamic modeling, Time Series Analysis, International Economics and Finance

Fellow - Professional Bodies

1. Aditya Raj (2013) Indian Sociological Society

2. Aditya Raj (2018) Indian Social Science Academy
3. Papia Raj (2019) Indian Social Science Academy

Member - Professional Bodies

1. Aditya Raj (2001) Indian Sociological Society
2. Aditya Raj (2003) American Sociological Society
3. Aditya Raj (2004) International Sociological Society
4. Aditya Raj (2003) Canadian Sociological Society
5. Aditya Raj (2018) Canadian Association for the Study of International Development
6. Meghna Dutta (2015) The Indian Economietric Society
7. Meghna Dutta (2016) Indian Society of Labour Economics
8. Nalin Bharti (0) Indian Society of Labour Economics (Life Time)
9. Nalin Bharti (0) The Indian Science Congress Association
10. Nalin Bharti (0) Indian Economic Association
11. Nalin Bharti (0) Virtual Institute UNCTAD
12. Nalin Bharti (2019) American association of Economics
13. Papia Raj (2013) Indian Sociological Society
14. Papia Raj (2016) Global Studies Research Network
15. Papia Raj (2003) Canadian Association for the Study of International Development
16. Papia Raj (2019) Womens and Gender Studies et Recherches Féministes
17. Richa Chaudhary (2019) Academy of Management
18. Smriti Singh (2010) ELT@I
19. Smriti Singh (2009) Forum on Contemporary theory
20. Smriti Singh (2010) MELUS-MELOW
21. Sweta Sinha (0) Indian Society of Teacher Educators'
22. Sweta Sinha (0) All India Association for Educational Research
23. Sweta Sinha (0) Social Science and Humanities Research Association
24. Sweta Sinha (0) Linguistic Society of India
25. Sweta Sinha (0) International Pragmatics Association

Member - Editorial Board

1. Aditya Raj (0) *Editorial Board* - International Journal of Critical Pedagogy
2. Aditya Raj (0) *Editorial Board* - International Journal of Youth Studies
3. Nalin Bharti (2019) *Member* - Indian Journal of Economics and Business
4. Nalin Bharti (2019) *Member* - Issues and Ideas in Education A journal published
5. Nalin Bharti (2019) *Memebr* - Journal of Management & Public Policy (JMPP)
6. Nalin Bharti (2019) *Member* - International Journal of Humanities and Social Sciences (IJHSS)
7. Papia Raj (2015) *Editorial Board* - Amity Journal of Health Care Management
8. Richa Chaudhary (2018) *Editorial Board Member* - Indonesian Journal of Corporate Social Responsibility and Environmental Management
9. Richa Chaudhary (2017) *Member, Editorial Board* - Samvad: An International Journal of Management
10. Richa Chaudhary (2015) *Member, Editorial Advisory Board* - Review of HRM Journal

11. Richa Chaudhary (2018) *Member, Editorial Advisory Board* - Indonesian Journal of Sustainability Accounting and Management (ESCI)

Awards & Honours

1. Richa Chaudhary (2019) *Academy of Management Best Paper Award*
2. Sweta Sinha (2019) *Best Paper Award*
3. Nalin Bharti (2019) *best paper award (in the English presentation category) at the 14th Symposium for young Researchers-FIKUSZ 2019 at Obuda University, Budapest on 29th November*
4. Richa Chaudhary (2019) *Emerald Literati Outstanding paper of the year award*

Sponsored Research Projects

1. Designing Disaster Preparedness Training Modules using Indigenous Knowledge and Increasing Community Awareness through Contextualized Techniques in Bi (ICSSR, Rs.5.25 Lakhs) (PI : Dr. Sweta Sinha)
2. Designing Disaster Preparedness Training Modules using Indigenous Knowledge and Increasing Community Awareness through Contextualized Techniques in Bi (ICSSR, Rs.5.25 Lakhs) (PI : Dr. Sweta Sinha)
3. Diffusion of Environmental Sustainability Innovations in Hospitals of Bihar state in India (ICSSR), Rs.15.00 Lakhs) (PI : Dr. Richa Chaudhary)
4. Farmers Income Issues Determinants and Strategies (ICSSR, Rs.8.00 Lakhs) (Dr. Meghna Dutta)
5. Green Human Resource Management in Indian Automobile Industry located in Tamilnadu state of India (ICSSR, Rs.6.45 Lakhs) (PI : Dr. Richa Chaudhary)
6. India-Japan Trade and Investement :What next after CEPA (ICSSR, Rs.12.00 Lakhs) (PI : Nalin BHarti)
7. mHealth technologies for women empowerment in Bihar (ICSSR, Rs.7.00 Lakhs) (PI : Dr. Papia Raj)

Visits Abroad by Faculty Members

1. Sweta Sinha - Conference participation (Graz, Austria) September 4- 11, 2019
2. Rajendra N. Paramanik - Conference paper presentation (Johns Hopkins University, US) 2 Days (10-11 June, 2019)
3. Aditya Raj - Congress of Humanities and Social Sciences (University of British Columbia) June 2019
4. Papia Raj - Congress of Humanities and Social Sciences (University of British Columbia) June 2019
5. Nalin Bharti - 14th FIKUSZ - Symposium for Young Researchers (Obuda University, Karoly Keleti Faculty in Budapest,) 29th November 2019

Invited Lectures by Faculty Members

1. Feminism in India *by* Smriti Singh (Hajipur)
2. Exchange Programmes *by* Smriti Singh (Patna University)
3. Creating Linguistic Evidence for Forensic Investigation *by* Sweta Sinha (IIT Ropar)

4. Exploring the Future Avenues of Research in Linguistics *by* Sweta Sinha (Jadavpur University)
5. Understanding Speaker Classification in Forensic Phonetics- A Case Study of Indian English *by* Sweta Sinha (JNU, New Delhi)
6. Panel Data analysis and Logit-Probit modeling *by* Rajendra N. Paramanik (Farook College, Kozhikode in collaboration with TIES)
7. Measurement and Scaling, Sampling Design (3 hours) *by* Richa Chaudhary (Amity University Patna, 7 days Research Methodology and Statistical Packages workshop)
8. Staffing for Entrepreneurs (1.5 hours) *by* Richa Chaudhary (IIT Patna, Entrepreneurship Development Program by Incubation Center)
9. "Mediation, Moderation, and Conditional Process Analysis *by* Richa Chaudhary (IIT Patna, CEP Short term course on "Mediation, Moderation, and Conditional Process Analysis)
10. Feminist Theory as Praxis *by* Priyanka Tripathi (Amity University Patna)
11. Communication Skills: Context, Content and Strategies *by* Priyanka Tripathi (Gaya Engineering College, Gaya)
12. Teacher Education in India *by* Aditya Raj (University of British Columbia)
13. Exploring links between child health and female empowermnet *by* Aditya Raj (A N Sinha Institute of Social Sciences, Patna)
14. Health and Culture Nexus among Indigenous Female Adolescents in Jharkhand, India, *by* Papia Raj (University of British Columbia)
15. Anthropological & Sociological Perspective of Women Empowerment & Child Health *by* Papia Raj (Patna)
16. "Is India a Reformed Economy: Mining policy and Empirics" *by* Nalin Bharti (Obuda University, Karoly Keleti Faculty in Budapest)

Short-Term Courses, Training Programmes and Workshops organised

1. CEP Short term course on "Mediation, Moderation, and Conditional Process Analysis (May 17-18, 2019)
2. Effective Communication and presentation Skills (21- 24 May)
3. Effective Communication and Presentation Skills (4 days)
4. Health Informatics (2 days)
5. Principles and Practices in Social Research (4 days)
6. Principles and Practices in Social Research (4 days)

Papers Published in Journals

1. Kumar Gaurav and Nalin Bharti *,* Some Common Lessons from Uncommon FTAs *, South Asia Economic Journal*, Volume 20 Issue 1 (2019).
2. Sharma, Sandeep Sinha Sweta *,* A Cognitive Theoretical Investigation of the Conceptualization of Hindi Sarcasm *, Issues of Cognitive Linguistics*, (2020).
3. Rashmi & Aditya Raj *,* Analyzing Teacher Education Curriculum in India: Problems & Prospects *, International Journal of Multidisciplinary Research and Development*, Vol. 6 (7) (2019).
4. Chaudhary, R. *,* Authentic Leadership and Meaningfulness at Work: Role of Employees' CSR Perceptions And Evaluations *, Management Decision*, Online first (2020).

5. Das, Chhandita and Priyanka Tripathi, 'Female Subjectivity' within and beyond Victorian 'Purity: Rereading Thomas Hardy's Tess of the D'Urbervilles , *Indian Review of World Literature in English*, vol. 16, No. 1 (2020).
6. Bisai, Samrat and Singh, Smriti , Bridging the Divide: Collaborative Learning and Translanguaging in Multilingual Classrooms , *Fortell- A Journal of Teaching English Language and Literature*, 46-57 (2019).
7. Smriti Singh , Building Employability Skills in English as a Second Language (ESL) Classroom in India. , *The English Teacher Journal, Malaysia*, 70-81 (2019).
8. T P Kumar and Aditya Raj , Contextualizing Youth Studies in Contemporary India , *Indian Journal of Development Research and Social Action*, Volume 14, No 1 (2019).
9. Chaudhary, R., Corporate social responsibility perceptions and employee engagement: role of psychological meaningfulness, safety and availability , *Corporate Governance: An International Journal of Business in Society*, 19 (4), 631-647 (2019).
10. Rajendra N. Paramanik , Critique of the new consensus macroeconomics and implications for India ,*Journal of Quantitaive Economics*, 17 (3) (2019).
11. Chaudhary, R. and Akhouri, A. , CSR perceptions and Employee Creativity: Examining Serial Mediation effects of Meaningfulness and Work Engagement , *Social Responsibility Journal* , 15 (61-74) (2019).
12. Mandal, Samrat & Singh, Smriti. , Culture, Oral Narratives and "Monomyth": Projection of the Archetypal Hero in Easterine Kire's When the River Sleeps , *International Journal of English Language, Literature in Humanities*, 1374-1389 (2019).
13. Meghna Dutta, Does Informality hold the key to growth and stability? , forthcoming *Applied Economics Quarterly*, (2020).
14. Chaudhary, R. , Effects of green human resource management: testing a moderated mediation model , *International Journal of Productivity and Performance Management*, Online first (2019).
15. Akhouri, A. and Chaudhary, R. , Employee perspective on CSR: a review of the literature and research agenda , *Journal of Global Responsibility*, 10(4), 355-381 (2019).
16. Chaudhary, R. and Panda, C. , Examining Self-Monitoring and Neuroticism as Predictors and Self-Efficacy as an Outcome of Authentic Leadership , *Organization Management Journal*, 16(3), 179-192 (2019).
17. Chaudhary, R. , Green Buying Behavior In India: An Empirical Analysis , *Journal of Global Responsibility*, 10(2), 161-175 (2019).
18. Chaudhary, R. , Green Human Resource Management and Employee Green Behaviours: An Empirical Analysis , *Corporate Social Responsibility and Environment Management.*, Online first (2019).
19. Chaudhary, R. , Green Human Resource Management and Job Pursuit Intentions: Examining the Underlying Processes , *Corporate Social Responsibility and Environment Management* , 26 (929-937) (2019).
20. Biswas, Sanjib K, and Priyanka Tripathi , History and/through Oral Narratives: Relocating Women of the 1971 War of Bangladesh in Neelima Ibrahim's A War Heroine, I Speak , *Journal of International Womens Studies*, vol. 20, no. 2 (2019).
21. Aditya Raj, In-DIA-Spora: Context and Critique , *The Eastern Anthropologist*, Vol. 71, No 3-4 (2019).
22. M Birasnav, Richa Chaudhary, Joanne Scillitoe , Integration of social capital and organizational learning theories to improve operational performance , *Global Journal of Flexible Systems Management* , 20(2), 141-155 (2019).

23. Kashyap, V. and Chaudhary, R. , Linking Employer Brand Image and Work Engagement: Modelling Organizational Identification and Trust in Organization as Mediators , *South Asian Journal of Human Resources Management.*, 6(2), 177-201 (2019).
24. Meghna Dutta, Migrating for Caring? (Book Review) , *Economic and Political Weekly*, Accepted (2020).
25. Bhattacharjee, Partha, and Priyanka Tripathi , Negotiating the Social Struggle: Deconstructing the Dalit Subalternity in Omprakash Valmikis Joothan: A Dalits Life , *IUP Journal of English Studies*, vol. 14, no.1 (2019).
26. Rajendra N. Paramanik , Non-linear nexus between financial innovation and economic growth in India , *Asian Economic and Financial Review*, Forthcoming volume (2020).
27. Ayesha Fatma & Nalin Bharti, Perception vs. Reality: Understanding the US–China Trade War , *Transnational Corporations Review*, Volume 11,4 (2019).
28. Atreya Lata, and Sinha, Sweta , Phonological and Functional Analysis of Diminutive Marker waa- in Magahi , *Dialectologia*, 42-57 (24) (2020).
29. Mritunjay Kumar and Nalin Bharti , Provisions of Generic Drugs under Section 3 (d) of Indian IP Act: What does data from the Backward States Reveal? , *Artha Vijnana,* , Vol. LXI, No.4 (2019).
30. Das, Chhandita and Priyanka Tripathi , Reconstructing the Changing Urban Landscape beyond Spatio-Temporal Dimensions: Post-colonial 'Allahabad' in Neelum Saran Gour's Invisible Ink , *Rupkatha Journal of Interdisciplinary Studies in Humanities*, vol. 12, No. 1 (2020).
31. Bisai, Samrat and Singh, Smriti , Social Mobility and Crime in Aravind Adiga's 'The White Tiger' , *Language in India*, 456-464 (2019).
32. Rajendra N. Paramanik, V.N. Pandit and Rajbhushan N. , Sustainability of public debt in India , *Artha Vijnana*, LXI (3) (2019).
33. Bhattacharjee, Partha, and Priyanka Tripathi , When a Violated Body Strikes/Writes Back: Unveiling the Violence in Meena Kandasamy's When I Hit You: Or, a Portrait of the Writer as a Young Wife , *Atlantic Literary Review*, vol. 20, no. 2 (2019).

Papers Presented in Conferences

1. Chaudhary, R. , Authentic Leadership and Meaningfulness at Work: Role of Employees' CSR Perceptions and Evaluations , *79th Academy of Management Annual Meeting* , Boston, USA (201)
2. Anand, Ajit and Priyanka Tripathi , "'Home' is Not Just Where Your Heart is: Postcolonial Diasporic Consciousness in the Writings of Amitava Kumar , *Recalibrating Diasporas Conference* , Murdoch University, Australia (2019)
3. Das, Chhandita and Priyanka Tripathi , Beyond Geographical Contours: Allahabad in Neelum Saran Gours Invisible Ink , *IACLALS Annual Conference* , Jadavpur University, Kolkata (2020)
4. Aditya Raj , Developing Bihar: contextualizing the importance of community education , *53rd Annual Canadian Sociological Association (CSA) Conference* , University of British Columbia (2019)
5. Sweta Sinha , Dialect Classification: An Acoustic- Phonetic Study of Indian English Varieties , *GSFL 19* , Graz, Austria (2019)
6. Lata, M. and Chaudhary, R. , Does Spiritual Work Environment Reduce Workplace Incivility? The Mediating Role of Prosociality , *80th Academy of Management Annual Meeting* , Vancouver, BC, Canada (2020)

7. Kislay Kashyap and Nalin Bharti , Exploration of the trend in L and K contribution of the output in the Indian Textile and Garment Industry , *61st Annual ISLE Conference* , Patiyala Punjab (2019)
8. Toni Sharma and Nalin Bharti , India's clothing exports to selected European Union Economies: What next for India and Hungary , *14th FIKUSZ - Symposium for Young Researchers* , Obuda University, Karoly Keleti Faculty (2019)
9. Toppo, R and Sweta Sinha , Investigating acoustic characteristics of Indian English vowels towards Dialect profiling , *BROCAS 2019* , IIT Ropar (2019)
10. Rajendra N. Paramanik , Nonlinear Nexus between growth and inflation in India-Does business cycle matter? , *TIES confernce* , NISM-SEBI Mumbai (2019)
11. Mahela, Ratul Sinha, Sweta , Phonological Adaptations of English Loanwords in Sanzari Boro , *BROCAS 2019* , IIT Ropar (2019)
12. Toni Sharma and Nalin Bharti , Productivity, Income and Employment of Craftswomen in Madhubani: Crafting the Sheconomy through household Survey , *61st Annual ISLE Conference* , Patiyala Punjab (2019)
13. Papia Raj , Re-analyzing the role of International NGOs in the development discourse of Bihar, India , *Canadian Association for the Studies of International Development (CASID) Conference* , University of British Columbia (2019)
14. Chaired a panel discussion and presentations , Review & Reflection on Law and Economics , *5th International Conference on Law and Economics* , IIM Bangalore (2019)
15. Kislay Kashyap and Nalin Bharti , Revisiting Input-Output relation in Textile and Clothing: A Comparison between Indian and the European Union , *14th FIKUSZ - Symposium for Young Researchers,* , Obuda University, Karoly Keleti Faculty (2019)
16. Nalin Bharti , Roots in Law and Economics , *5th International Conference on Law and Economics* , IIM Bangalore (2019)
17. Priyanka Tripathi , Surviving among Perpetrators: Violence in Nadia Murad's The Last Girl , *International Conference on Gender Studies* , University of Helsinki (2019)
18. Nalin Bharti as a session chair , Sustainability and Innovation Session , *14th FIKUSZ - Symposium for Young Researchers* , Obuda University, Karoly Keleti Faculty (2019)
19. Aditya Raj , The concurrent politics of healthcare in India , *Canadian Association for the Studies of International Development (CASID) Conference* , University of British Columbia (2019)
20. Begum, Nusrat Sinha, Sweta , The languages of the Holyscapes of India , *ICOIL 2* , IIT Madras (2020)
21. Begum, Nusrat Sinha, Sweta , The Visibility and Salience of Language in Public Space in Patna: an Empirical Study , *XI Linguistic landscape Workshop* , Bangkok, Thailand (2019)
22. Madhuri Kumari, Chandan Kumar Kumar Gaurav and nalin Bharti , Trends, Composition and Issues in India-Japan Agro Trade , *Indo-Japanese Dialogue* , PAU (Ludhiyana) (2019)
23. Bhattacherjee, M and Sweta Sinha , Understanding Social Positioning of Animals in Bangla through the Conceptualization of Metaphors , *BROCAS 19* , IIT Ropar (2019)
24. Firoz, M. and Chaudhary, R. , Workplace Loneliness, Quality of Interpersonal relationship, and Work-Family Conflict: Moderating Influence of Psychological Capital , *36th EGOS (European Group of Organizational Studies)Colloquium 2020* , Hamburg, Germany (2020)
25. Lata, M. and Chaudhary, R. , Workplace Spirituality and Incivility at Work: A Conceptual Framework , *79th Academy of Management Annual Meeting* , Boston, USA (2019)

Mathematics
Head: Dr. Om Prakash

1. Dr. Yogesh Mani Tripathi,
   Associate Professor
   Statistical Decision Theory, Statistical Inference

3. Dr. Ashish Kumar Upadhyay,
   Associate Professor
   Combinatorial Topology and Geometry, Geometric Topology, Algebraic Topology, Algorithmic and Combinatorial aspects of Low - dimensional Manifolds, Graphs on Surfaces, Automorphism Groups, Coding theory over rings, Spectra of Graphs and Surfaces

4. Dr. Om Prakash,
   Associate Professor
   Rings and Modules (Skew Polynomial Rings, Associated Prime Rings), Algebraic Coding Theory, Algebraic Graph Theory, Algebraic Number Theory

5. Dr. Nutan Kumar Tomar,
   Associate Professor
   Mathematical Control Theory, Nonlinear Functional Analysis, Optimal Control

6. Dr. Prashant Kumar Srivastava,
   Associate Professor
   Mathematical Modeling in Ecology and Epidemiology, Applications of Differential Equations in Biology, Stability and Bifurcation, Mathematical Modeling of HIV dynamics: in vivo

7. Dr. Amit Kumar Verma,
   Assistant Professor
   Monotone Iterative Techniques in Abstract Spaces, Upper and Lower Solution Techniques, Nonlinear Singular Boundary Value Problems, Multi Point Boundary Value Problems, Wavelet Transforms, Theoretical Numerical Analysis

8. Dr. Pratibhamoy Das, Assistant Professor
   Numerical Analysis, Moving Mesh Methods, Singular Perturbation, A posteriori Error Estimates, r-refinement Strategy Ordinary and Partial Differential Equations, System of differential Equations, Integral Equations, Fractional Order Equations, Nonlinear Problems

9. Dr. Subhabrata Paul,
   Assistant Professor
   Algorithmic Graph Theory

10. Dr. Balendu Bhooshan Upadhyay,
    Assistant Professor
    Nonlinear Optimization, Variational Inequality Semi-infinite Programming, Fixed Point Theory, Differential Manifolds

11. Dr. Shailesh Kumar Tiwari,
    Assistant Professor
    Associative Rings and Algebras

12. Dr. Rahul Kumar Singh,
    Assistant Professor
    Differential Geometry

13. Dr. K. Saloni,
    Assistant Professor
    Commutative Algebra

Member - Professional Bodies

1. Amit Kumar Verma (2000) AMS
2. Amit Kumar Verma (2000) BGP
3. Ashish Kumar Upadhyay (2005) Ramanujan Math Society
4. Ashish Kumar Upadhyay (2020) IEEE
5. Ashish Kumar Upadhyay (2020) American Math Society
6. Ashish Kumar Upadhyay (0) Indian Math Society
7. Om Prakash (2019) Ramanujan Mathematical Society
8. Om Prakash (2005) The Indian Science Congress
9. Om Prakash (2010) Calcutta Mathematical Society
10. Om Prakash (2012) The Indian Mathematical Society
11. Prashant Kumar Srivastava (2012) Indian Mathematical Society (IMS)
12. Prashant Kumar Srivastava (2018) Indian Science Congress Association (ISCA)
13. Prashant Kumar Srivastava (2017) NASI, Allahabad
14. Prashant Kumar Srivastava (2013) Society for Mathematical Biology
15. Prashant Kumar Srivastava (2010) Indian Academy for Mathematical Modelling and Simulation (ISMMAS)
16. Pratibhamoy Das (2018) Indian Mathematical Society

Member - Editorial Board

1. Amit Kumar Verma (2019) *Editorial Board* - JNPG-Journal of Revelation

Sponsored Research Projects

1. Algorithmic study of upper domatic number (SERB, Rs.6.60 Lakhs) (PI : Subhabrata Paul)
2. Estimation and Prediction with Constrained and Unconstrained Observations (DST, Rs.0.00 Lakhs) (PI : Yogesh Mani Tripathi)
3. Impact of information of disease prevalence on the dynamics of diseases: A mathematical study (MATRICS, SERB (DST), Rs.6.60 Lakhs) (PI : Dr PK Srivastava)
4. Investigation of bi-f-harmonic and f-bi-harmonic maps on Finsler spaces (TEQIP-III Collaborative Research Scheme of National Project Implementation Unit, MHRD, Government of, Rs.260000.00 Lakhs) (PI : Ghanshyam Prajapati)

5. Parameter uniform numerical analysis for singularly perturbed differential equations based on mesh adaptivity (SERB, Rs.24.40 Lakhs) (PI : Pratibhamoy Das)
6. Systems described by di
erential and algebraic equations together: Analysis and Design (SERB, Rs.6.60 Lakhs) (PI : Nutan Kumar Tomar)
7. Towards New Platform on Generalized Vector Variational Inequalities: Scope in Optimization and Bilevel Programming (SERB DST Government of India, Rs.1494350.00 Lakhs) (PI : Balendu Bhooshan Upadhyay)

Visits Abroad by Faculty Members

1. Pratibhamoy Das - TU Berlin Alumni meet and meeeting with my Research Collaborator (Technische Universitat Berlin, Germany,) 7 days during May 2019
2. Prashant Kumar Srivastava - Conference DSABNS-2020 (University of Trento, Italy,) February 4-7, 2020
3. Prashant Kumar Srivastava - Conference- CIJK 2019 (University of Science and Technology Beijing, Beijing, China,) August 23-27
4. Om Prakash - To present the work in AAA-98 conference (Technische Universitat Dresden, Dresden, Germany ,) June 20-24, 2019
5. Om Prakash - To present the work in SPAS-2019 conference (Mälardalen University, Västerås, Sweden ,) Sept. 29- Oct. 4, 2019
6. Balendu Bhooshan Upadhyay - Given an Invited talk at 6th WCGO 2029 (University of Lorrain, Metz France,) July 07th-July 11th 2019
7. Yogesh Mani Tripathi - (NA,)

Invited Lectures by Faculty Members

1. Geometircal ways of findining solutions for PDEs, *by* Pratibhamoy Das (Darbhanga College of Engineering,)
2. How to prepare for GATE Math *by* Pratibhamoy Das (LNJPIT Chapra College)
3. Combinatorial Manifolds *by* Ashish Kumar Upadhyay (Banaras Hindu University)
4. Centrally Symmetric Manifolds *by* Ashish Kumar Upadhyay (IIT Kharagpur)
5. Topics in Topology *by* Ashish Kumar Upadhyay (University of Hyderabad)
6. On PL Structures:Work of Prof B L Sharma *by* Ashish Kumar Upadhyay (B N College Patna)
7. A study of the divisor graphs over a local ring R *by* Om Prakash (Sushil Kar College, Ghoshpur, Kolkata)
8. New quaternary codes as the Gray images of constacyclic codes over the quotient ring of Z4[u, v] *by* Om Prakash (MIT Manipal University, Manipal)
9. Applications of Algebra in Coding Theory *by* Om Prakash (NIT Manipur, Manipur)
10. Applications of Algebra in Information and Technology *by* Om Prakash (Gaya College of Engineering, Gaya)
11. Introduction to Γ-Near Rings *by* Om Prakash (Department of Mathematics, Acharya Nagarjuna University, Nagarjuna Nagar)
12. On reversible cyclic codes over the ring Zpk *by* Om Prakash (Department of Mathematics, AMU Aligarh)

13. Fundamental of Algebraic Coding Theory *by* Om Prakash (Department of Mathematics, CHRIST University, Bangaluru)
14. Differential Equations in Matlab *by* Prashant Kumar Srivastava (MNNIT Allahabad, Prayagraj)
15. Mathematical modeling *by* Prashant Kumar Srivastava (Amity University, Jharkhand)
16. Impact of Information on Treatment as well as on Disease Dynamics *by* Prashant Kumar Srivastava (University of Science and Technology Beijing, Beijing, China)
17. Geometrical representation of solutions of differential equations *by* Prashant Kumar Srivastava (University of Allahabad, Prayagraj)
18. Stability and oscillations in an infectious disease model with control interventions *by* Prashant Kumar Srivastava (Banaras Hindu University, Varanasi.)
19. Qualitative solutions of differential equations *by* Prashant Kumar Srivastava (Department of Mathematics, Sambalpur University, Sambalpur)
20. Mathematical Modeling: A System's Perspective *by* Prashant Kumar Srivastava (SUIIT, Sambalpur University, Sambalpur)
21. Impact of Information Induced Behavioural Change on Treatment as well as on Disease Dynamics *by* Prashant Kumar Srivastava (SRM Institute of Science & Technology, Chennai)
22. Mathematical Modeling: A System's Perspective *by* Prashant Kumar Srivastava (Dr Hari Singh Gaur University, Sagar)
23. Impact of Information on Treatment as well as on Disease Dynamics *by* Prashant Kumar Srivastava (University of Kalyani, West Bengal)
24. Mathematical epidemiology- Lecture Series *by* Prashant Kumar Srivastava (University of Kalyani, West Bengal)
25. Mathematical Modeling for Social Sciences *by* Prashant Kumar Srivastava (Dept. of Anthropology, Dr Hari Singh Gaur University, Sagar)
26. On the Applications of Nonsmooth Vector Optimization Problems to Solve Generalized Vector Variationa *by* Balendu Bhooshan Upadhyay (University of Lorrain, Metz France)
27. Optimization and Its Applications in Engineering *by* Balendu Bhooshan Upadhyay (Lok Nayak Jai Prakash Institute of Technology (LNJPIT) Chapra, Bihar)
28. Applications of Matlab (Optimization toolbox) in Linear and Nonlinear Optimization *by* Balendu Bhooshan Upadhyay (Birla Institute of Technology Mesra Patna)
29. On generalized Stampacchia vector variational inequality ad nonsmooth vector optimization problem us *by* Balendu Bhooshan Upadhyay (SSN Engineering College Chennai)
30. On Stampacchia vector variational inequality ad nonsmooth vector optimization problem us *by* Balendu Bhooshan Upadhyay (Sri Ram Swaroop Memorial University Lucknow)
31. On Nonsmooth Minty and Stampacchia Vector Variational-Like Inequalities and Nonsmooth Vector Optimiz *by* Balendu Bhooshan Upadhyay (Banaras Hindu Univeersity)
32. *by* Yogesh Mani Tripathi (NA)
33. Matlab under TEQIP *by* Amit Kumar Verma (LNJPIT Chapra)
34. Monotone Iterative Technique *by* Amit Kumar Verma (R N College Hajipur, Vaishali, during NCRAPS–2019)

Papers Published in Journals

1. P. Das, , An a posteriori based convergence analysis for a nonlinear singularly perturbed system of delay differential equations on an adaptive mesh, , *Numerical Algorithms,*, 81, 465-487, (2019).

2. P. Das, S. Rana and J. Vigo-Aguiar, , Higher order accurate approximations on equidistributed meshes for boundary layer originated mixed type reaction diusion systems with multiple scale nature, , *Applied Numerical Mathematics*, 148, 79-97 (2020).
3. P. Das and J. Vigo-Aguiar, , Parameter uniform optimal order numerical approximation of a class of singularly perturbed system of reaction diffusion problems involving a small perturbation parameter, , *Journal of Computational and Applied Mathematics,* , 354, 533-544 (2019).
4. H. Islam, T. Bag and Om Prakash , A class of constacyclic codes over □4 [u]/uk , *J. Appl. Math. Comput.*, 60(1-2), 237-251 (2019).
5. Habibul Islam, Ram Krishna Verma and Om Prakash , A family of constacyclic codes over Fpm[v,w]/v2-1, w2-1, vw-wv , *Int. J. Infor. Coding Theory* , 6(1) (2020).
6. Tushar bag, Habibul Islam, Om Prakash and Ashish K. Upadhyay , A note on constacyclic and skew constacyclic codes over the ring Zp[u v]/u2 - u v2 - v uv – vu , *J. Algebra Comb. Discrete Struct. Appl. (2019)* , 6(3) 163-172 (2019).
7. C. Arusha, S. K. Tiwari , A note on generalized derivations as a Jordan homomorphisms , *Bulletin of the Korean Mathematical Society*, Accepted (2020).
8. Habibul Islam and Om Prakash , A note on skew constacyclic codes over Fq + uFq + vFq , *Math. Algorithms Appl.* , 11(3) 1950030(1-13) (2019).
9. Verma, Amit K, Sheerin Kayenat, Gopal Jee Jha , A note on the convergence of fuzzy transformed finite difference methods , *Journal of Applied Mathematics and Computing*, (2020).
10. P. Das, S. Rana and H. Ramos, , A perturbation based approach for solving fractional order Volterra-Fredholm integro differential equations and its convergence analysis, , *International Journal of Computer Mathematics,* , doi:10.1080/002071 (2019).
11. T.Bag, H. Islam, O. Prakash, A.K. Upadhyay, , A study of constacyclic codes over the ring Zp[u,v]/hu2,v2,uv −vui , *Journal of Algebra Combinatorics Discrete Structures and Applications*, 6(3), 163–172 (2019).
12. T. Bag, A. Dertli, Y. Cengellenmis, A. K. Upadhyay , Application of Constacyclic Codes over the Semi Local Ring Fpm +vFpm, , *Indian Journal of Pure and Applied Mathematics*, 51(1), (2020).
13. Sushma Singh and Om Prakash , Armendariz Property with weakly semicommutativity , *Southeast Asian Bull. Math.* , 44(2) 279-296 (2020).
14. Sukhdev Singh, Yogesh Mani Tripathi and Shuo-Jye Wu , Bayesian analysis for lognormal distribution under Progressive Type-II censoring , *Hacettepe Journal of Mathematics and Statistics*, 48 (5), 1488 – 150 (2019).
15. Habibul Islam and Om Prakash , class of constacyclic codes over the ring □4[u,v]/u2, v2, uv-vu and their Gray images , *Filomat*, 33(8) 2238-2248 (2019).
16. T. Bag, Sachin Pathak and A K Upadhyay , Classes of constacyclic codes of length p^s over the ring Fpm + uFpm + vFpm + uvFpm , *Beiträge zur Algebra und Geometrie / Contributions to Algebra and Geometry*, 60(4), pp. 693-707 (2019).
17. Amit Kumar Verma, Sheerin Kayenat , Correction to: On the convergence of Mickens' type nonstandard finite difference schemes on Lane–Emden type equations , *Journal of Mathematical Chemistry*, (2019).
18. Yogesh Mani Tripathi, C. Petropoulos and Farha Sultana , Estimating an Exponential Scale Parameter under Double Censoring , *Communications in Mathematics and Statistics*, Vol. 7, no. 3, 309-3 (2109).

19. Raj Kamal Maurya, Yogesh Mani Tripathi and Manoj Kumar Rastogi , Estimation and prediction for a progressively first-failure censored inverted exponentiated Rayleigh distribution , *Journal of Statistical Theory and Practice*, 13, no. 3, Art. 39, (2019).
20. Farha Sultana and Yogesh Mani Tripathi , Estimation and prediction for the generalized half normal distribution under hybrid censoring , *Journal of Testing and Evaluation*, 48(2),JTE2017072 (2020).
21. Arijit Bishnu, Sameer Desai, Arijit Ghosh, Gopinath Mishra, and Subhabrata Paul , Existence of planar support for geometric hypergraphs using elementary techniques , *Discrete Mathematics*, 343 (2020).
22. Dipendu Maity and A K Upadhyay , Hamiltonicity of a class of toroidal graphs , *Math Slovaca*, 70(2),497–503 (2020).
23. Swati Rana, Karanjeet Singh, Amit K. Verma, Mandeep Singh , Higher order Emden-Fowler type equations via uniform Haar Wavelet resolution technique , *Journal of Computational and Applied Mathematics*, 376, 112836 (2020).
24. Amit K Verma, Diksha Tiwari , Higher resolution methods based on Quasilinearization and Haar Wavelets on Lane-Emden Equations , *International Journal of Wavelets Multiresolution and Information Processing*, 17(3)1950005 (2019).
25. Tanmay Kayal, Yogesh Mani Tripathi and Liang Wang , Inference for the Chen Distribution Under Progressive First-Failure Censoring , *Journal of Statistical Theory and Practice*, Vol. 13, no. 4, Pape (2019).
26. Arindam Ghosh and Om Prakash , Jordan left {g, h}-derivation over some algebras , *Indian J. Pure Appl. Math.* , 51(4) (2020).
27. S. Kumar and N.K. Tomar , Mild solution and controllability of second order nonlocal retarded semilinear systems , *IMA journal of Mathematical control and information*, 37 (2020).
28. Amit K. Verma, Nazia Urus, Mandeep Singh , Monotone Iterative Technique for a Class of Four Point BVPs with Reversed Ordered Upper and Lower Solutions, , *International Journal of Computational Methods* , (2019).
29. T. Bag, H. Q. Dinh, A. K. Upadhyay , New non-binary quantum codes from cyclic codes over product rings , *IEEE Communication Letters*, DOI 10.1109/LC OMM.2 (2020).
30. Amit K. Verma, Biswajit Pandit, Carlos Escudero , Numerical solutions for a class of singular boundary value problems arising in the theory of epitaxial growth , *Engineering Computations*, (2020).
31. Raj Kamal Maurya, Yogesh Mani Tripathi, Manoj Kumar Rastogi and Chandrakant , On a Generalization of Lomax distribution , . *International Journal of Systems Assurance Engineering and Management*, 10(5),1091–1104 (2019).
32. Om Prakash, Sushma Singh and K. P. Shum , On Almost Armendariz Rings , *Algebra Colloq.* , 27(2) 199-212 (2020).
33. Mandeep Singh, Amit K. Verma, Ravi P. Agarwal , On an iterative method for a class of 2 point and 3 point nonlinear SBVPs , *Journal of Applied Analysis and Computation*, 4(9) (2019).
34. Amit K. Verma, Biswajit Pandit and Ravi P. Agarwal, , On approximate stationary radial solutions for a class of boundary value problems arising in epitaxial growth theory, , *Journal of Applied and Computational Mechanics*, 6(4) 713-734 (2020).
35. B B Upadhyay Priyanka Mishra , On Generalized Minty and Stampacchia Vector Variational-Like Inequalities and Nonsmooth Vector Optimization Problem Involving Higher Order Strong Invexity , *Journal of Scientific Research* , 64, 182-191 (2020).
36. Amit K. Verma, Sheerin Kayenat , On the stability of Mickens type NSFD schemes for generalized Burgers Fisher equation , *Journal of Difference Equations and Applications*, 25(1) 1706-1737 (2019).

37. H. Q. Dinh, T. Bag, A. K. Upadhyay, R. Bandi, W. Chinnakum , On the structure of cyclic codes over the ring FqRS and applications in quantum and LCD codes constructions, , *IEEE Access*, 8(1), 18902-18914, (2020).
38. A.Kumar, P.K. Srivastava, Y.Dong, Y. Takeuchi , Optimal control of infectious disease: Information-induced vaccination and limited treatment , *Physica-A: Statistical Mechanics and its Applications*, 592, 123-196 (2020).
39. A. Kundu, S. Kumar, and N.K. Tomar , Option Implied Risk-neutral Density Estimation: A Ro- bust and Flexible Method, , *Computational Economics*, 54 (2019).
40. Farha Sultana, Yogesh Mani Tripathi and Manoj Kumar Rastogi , Parameter Estimation and Prediction for the Generalized Half Normal Distribution under Progressive Hybrid Censoring , *Journal of Iranian Statistical Society*, 18(1), pp. 191-236 (2019).
41. T. Bag, M. Ashraf, G. Mohammad, A. K. Upadhyay, , Quantum codes from (1−2u1−2u2−⋯−2um)-skew constacyclic codes over the ring Fq+u1Fq+⋯+u2mFq, , *Quantum Information Processing*, 8(9), 270, (0).
42. H. Q. Dinh, T. Bag, A. K. Upadhyay, M. Ashraf, G. Mohammad and W. Chinnakum , Quantum codes from a class of constacyclic codes over finite commutative rings , *Journal of Algebra and Its Application,*, 21, 2150003, 1-19, (0).
43. T. Bag, H. Q. Dinh, A. K. Upadhyay, R. Bandi, W. Yamaka , Quantum codes from the classes of skew constacyclic codes over the ring Fq[u,v]/hu2 −1,v2 − 1,uv−vu , *Discrete Mathematics*, 343, (2020).
44. Habibul Islam and Om Prakash , Quantum codes from the cyclic codes over Fp[u, v,w]/u2 − 1, v2 − 1,w2 – 1, uv − vu, vw − wv, wu – uw , *J. Appl. Math. Comput.*, 60(1-2) 625-635 (2019).
45. H. Islam, O. Prakash and R. K. Verma , Quantum codes from the cyclic codes over Fp[v,w/ v2-1, w2-1, vw-wv, wu-uw , *Proceedings in Mathematics & Statistics*, 307 (2019).
46. Habibul Islam, Om Prakash and Dipak Kumar Bhunia , Quantum codes obtained from constacyclic codes , *Int. J. Theor. Phys.* , 58(11) 3945–3951 (2019).
47. Amit K. Verma, Mandeep Singh, Ravi P. Agarwal , Regions of existence for a class of nonlinear diffusion type problems , *Applicable Analysis and Discrete Mathematics*, (2019).
48. A Kumar, PK Srivastava , Role of Optimal Screening and Treatment on Infectious Diseases Dynamics in Presence of Self-protection of Susceptible , *Differential Equations and Dynamical Systems*, 1-29 (2019).
49. Nazia Urus, Amit K. Verma, Mandeep Singh , Some New Existence Results for a Class of Four Point Nonlinear Boundary Value Problems , *JNPG-The Journal of Revelations*, 3(1) (2018).

Papers Presented in Conferences

1. Om Prakash, Habibul Islam and Syamantak Das , A note on cyclic codes over the ring Zpk , *International Conference on Stochastic Processes and Algebraic Structures (SPAS 2019)* , Mälardalen University, Västerås, Sweden (2019)
2. Habibul Islam and Om Prakash , codes over the matix ring M3(F2) , *Arbeitstagung Allgemeine Algebra(AAA-98): 98th Workshop on General Algebra* , T U Dresden, Dresden, Germany (2019)
3. Ram Krishna Verma and Om Prakash , Constacyclic codes over finite non-chain ring Rk,m and their applications of constructing new non-binary quantum codes , *RSD 2020* , IIT Patna, Bihta (2020)

4. Shikha Patel and Om Prakash , Cyclic Codes over M_4(F2 + u F2) , *International Conference on Recent Advances in Algebra, Analysis & Applications (ICRAAAA-19)* , Mohanlal Sukhadia University, Udaipur (2019)
5. Yogesh Mani Tripathi, Mayank Jha and Constantinos Petropoulos , Estimation of parameters of the Pareto distribution , *International Conference on Importance of Statistics in Global Emerging Scenario* , Savitribai Phule Pune University (2020)
6. Amulya Kumar Mahto and Yogesh Mani Tripathi , Inference for LOMAX competing risk model with partially observed failure causes under generalized progressive hybrid censoring , *International Conference on Innovations in Data and Statistical Sciences* , IIT Bombay (2019)
7. Om Prakash , Introduction to Γ-Near Rings , *National seminar on Rings and Near-Rings with special emphasis on Gamma Near-Ring Theory (NWRN-2019)* , A. Nagarjuna University, Nagarjuna Nagar (2019)
8. Shikha Yadav and Om Prakash , LCD codes over Fq+u Fq , *RSD 2020* , IIT Patna, Bihta (2020)
9. Habibul Islam and Om Prakash , New better quantum codes over the finite field of even characteristic , *RSD 2020* , IIT Patna (2020)
10. Chandrakant Lodhi and Yogesh Mani Tripathi , On progressively censored competing risks data from Gompertz distribution , *International Conference on Innovations in Data and Statistical Sciences* , IIT Bombay (2019)
11. Om Prakash and Habibul , On reversible cyclic codes over the ring Zpk , *International Conference on Algebra and Related Topics with Applications (ICARTA-19)* , AMU Aligarh, UP (2019)
12. B B Upadhyay Priyanka Mishra R N Mohapatra S K Mishra , On the Applications of Nonsmooth Vector Optimization Problems to Solve Generalized Vector Variational Inequalities Using Convexificators , *6th World Congress on Global Optimization (WCGO-19)* , Metz France (2019)
13. Subhabrata Paul and Keshav Ranjan , On vertex-edge and independent vertex-edge domination , *13th International Conference on Combinatorial Optimization and Applications (COCOA 2019)* , Xiamen, Fujian, China. (2019)
14. Om Prakash and Habibul Islam , Skew constacyclic codes over Fq[u, v]/ u2-1, v2-v, uv-vu , *Arbeitstagung Allgemeine Algebra(AAA-98): 98th Workshop on General Algebra* , T U Dresden, Dresden, Germany (2019)
15. Shikha Patel and Om Prakash , Skew Generalized Cyclic Codes over R[x1, σ1, δ1] [x2, σ2, δ2] , *RSD 2020* , IIT Patna, Bihta (2020)
16. Om Prakash and Habibul , Some new quaternary codes as the Gray images of constacyclic codes over the ring Z4[u, v]/ u2, v2, uv-vu , *4th Alterman Conference-cum-Workshop on Computational & Geometric Algebra, and Workshop on Kähler Calculus* , MIT, Manipal University, Manipal (2019)
17. Farha Sultana, Yogesh Mani Tripathi , Statistical Analysis of Type- ii Progressive Hybrid Censoring for Generalized Half-normal Distribution , *11th International Conference on Mathematical Methods in Reliability* , Hong Kong (2019)
18. Ram Krishna Verma and Om Prakash , Structure of constacyclic codes over F2 + u F2 +v F2 +uv F2 , *International Conference on Algebra and Related Topics with Applications (ICARTA-19)* , AMU Aligarh (2019)

Mechanical Engineering
Head: Dr. Mohd. Kaleem Khan

1. Dr. AKHILENDRA SINGH
Associate professor
FEM, XFEM, Meshfree Method, Computational Mechanics, Fracture & Fatigue, Thermal Engineering.

2. Dr. ATUL THAKUR
Associate professor
Bio-inspired Robotics, Physics aware planning of Robotics system and application of Robotics techniques for Micro- manipulation of Biological cell

3. Dr. KARALI PATRA
Associate professor
Micro Machining techniques, Micro grinding Smart Sensor and actuators, Energy Harvesting.

4. Dr. MANABENDRA PATHAK
Associate professor
Computational Fluid dynamics and heat Transfer, Turbulence Modeling, Two Phase flow in Micro and Mini Channels, Dispersion of Particles, Droplets & Bubbles at Micro& Nano Scales, Rheological & Heat Transfer Characteristics of viscoplastic fluids, Nuclear Materials, Solar Thermal Technology

5. Dr. MAYANK TIWARI
Associate professor
Machine Dynamics- Rotor Dynamics, Acoustics, Tribology-Rolling Sliding, Fretting and Vaccum Tribology

6. Dr. MOHD. KALEEM KHAN
Associate professor
Nuclear Reactor Safety, Solar Thermal Collectors, Flow boiling in Microchannels, Pool boiling heat transfer enhancement using, Non-Newtonian Fluid Mechanics, Thermohydraulics of Chaotic coils

7. Dr. PROBIR SAHA
Associate professor
Conventional and Non-Conventional Machining, Welding, Soft Computing in Manufacturing process

8. Dr. SOMNATH SARANGI
Associate professor
Continuum Mechanics

9. Dr. RISHI RAJ
Associate professor

Boiling heat transfer for thermal management application, Colloids and Interfacial Science,Energy Water Food nexus.

10. Dr. SUBRATA KUMAR
Associate professor
Heat transfer, Laser Material Processing, Flow of Granular material,CFD

11. Dr. SUDHANSHU SEKHAR PANDA
Associate professor
Tool Condition Monitoring, Soft Computing, Metal cutting and machining, Industrial application of soft computing, Technique in machining, Designing Experiments, Statistical Modeling, Bio Machining, Sensor Calibration

12. Dr. ANIRBAN BHATTACHARYA
Assistant professor
Incremental Sheet metal Forming, Rapid prototyping. Conventional Machining, Grinding, Non-Conventional machining Welding, Modeling and simulation of manufacturing process

13. Dr. ANIRBAN MAHTO
Assistant professor
Manufacturing Processes,Material processing, Tribology

14. Dr. CHIRANJIT SARKAR
Magnetorheological (MR) Fluids and devices, Tribology, CFD of Grease flow, Design of Bio Medical Devices, Economic in Design

15. Dr. MURSHID IMAM
Assistant professor
Additive manufacturing, Plastic Deformation, Superplasticity, Friction Stir Processing / Welding, Micro structural characterization of Deformed Metals, Finite Element Modeling of Welding machine

16. Dr. DEEPU.P
Assistant professor
Hydrodynamics Stability, Bio- Physical Aerodynamics, Multi phase Flow

17. Dr. SURAJIT KUMAR PAUL
Assistant professor
Computational Plasticity, Fatigue and Fracture, Sheet metal Forming, Crashworthiness, Finite Element Analysis, Molecular Dynamics

18. Dr. ABHISHEK RAJ
Assistant professor
Microfluidics, Bio mechanics, BioMEMs

19. Dr. ASHWANI ASSAM
DST Inspire Faculty

Computational Fluid Dynamics (CFD), Compressible Fluid Flow, Turbulence Modeling, Rarefield gas flow, Numerical Methods for flow and heat transfer.

Fellow - Professional Bodies

1. Rishi Raj (2018) INAE Young Engineer
2. Rishi Raj (2018) IASc Young Associate
3. Rishi Raj (2019) INSA Young Associate

Member - Professional Bodies

1. Akhilendra Singh (2012) Indian Society of Theoretical and Applied Mechanics
2. Akhilendra Singh (0) Society of Automotive Engineers
3. Anirban Mahato (2019) Society of Automotive Engineers INDIA
4. Manabendra Pathak (2018) National Society of Fluid Mechanics and Fluid Power
5. Manabendra Pathak (2010) American Society of Mechanical Engineers
6. Manabendra Pathak (2013) Indian Society for Heat and Mass Transfer
7. Mayank Tiwari (2006) Tribology Society of India
8. Mayank Tiwari (2019) ASME
9. Mohd. Kaleem Khan (2010) Americal Society of Refrigerating and Air Conditioning Engineers
10. Mohd. Kaleem Khan (2018) Society of Fluid Mechanics and Fluid Power
11. Mohd. Kaleem Khan (2018) International Solar Energy Society
12. Mohd. Kaleem Khan (2011) American Society of Mechanical Engineers
13. Rishi Raj (2015) Indian Society of Heat and Mass Transfer
14. Surajit Kumar Paul (0) Indian Institute of Metals

Member - Editorial Board

1. Chiranjit Sarkar (2020) *Associate Editorial Board Member* - The Open Mechanical Engineering Journal
2. Karali Patra (2017) *Member, Editorial board* - Bulletin of South Ural State University, Series: Mechanical engineering
3. Mayank Tiwari (2019) *Editor* - Indian Journal of Tribology
4. Murshid Imam (2019) *Active Editor* - Journal of High Temperature Materials and Processes
5. Surajit Kumar Paul (2020) *Academic Editor* - Mathematical Problems in Engineering

Awards & Honours

1. Karali Patra (2019) *Among top six best business ideas award in Business Plan Competition, organized by BIA and Venture Park, Patna, Bihar*
2. Mohd. Kaleem Khan (2019) *Certificate of Reviewing from Applied Energy*
3. Mohd. Kaleem Khan (2019) *Certificate of Reviewing from Renewable Energy*

4. Manabendra Pathak (2019) *International travel grants from, SERB, Department of Science & Technology, Govt. of India to attend 14th International Conference on Heat Transfer Fluid Mechanics and Thermodynamics 2019 (HEFAT2019), Wicklow, Ireland, 22-24 July 2019*
5. Rishi Raj (2019) *Medal for Young Scientists , INSA*
6. Akhilendra Singh (2019) *Nominated as best teacher from the Department in the UG category*
7. Rishi Raj (2019) *Prof. P. K. Sarma Best Paper Award*

Fellowships

1. Karali Patra (2020) *DUO-INDIA fellowship (Exchange of EU and Indian Professors)*

Sponsored Research Projects

1. A Self Adaptive Cooling System by enhanced pool boiling (DST(SERB), Rs.36.25 Lakhs) (PI : Manabendra Pathak)
2. A self-adaptive electronic cooling system by enhanced pool boiling (SERB-DST, Rs.36.25 Lakhs) (PI : Manabendra Pathak)
3. Acoustic Detection of Leidenfrost Dynamics on Scalable Micro-/Nanostructured Surfaces (DST Nanomission, Rs.27.00 Lakhs) (PI : Rishi Raj)
4. Controlling the vibrational dynamics of fluid-carrying flexible tubes via acoustic irradiation (SERB-DST, Rs.26.50 Lakhs) (PI : Dr. Deepu P)
5. Design of an Integral Squeeze Film Damper (AR&DB, Rs.36.71 Lakhs) (PI : Mayank Tiwari)
6. Design of an Integral Squeeze Film Damper (Aeronautic and R&D Board, Rs.36.41 Lakhs) (PI : Dr Mayank Tiwari)
7. Design of Asperity for Textured Metal Surfaces to Improve Tribological Characteristic in Sliding: An In Situ Imaging Approach (SERB, Rs.28.96 Lakhs) (PI : Anirban Mahato)
8. Design of Noval SMA bearing Supports and Retrofit for Enhanced Performance of Rotating Machinary (MHRD, Ministry of Power, Geneal Electric, Rs.100.00 Lakhs) (PI : Dr Mayank Tiwari)
9. Developing interfacial characterization facilities (DST, Funds for Improvement of S&T Infrastructure, (FIST), Rs.297.00 Lakhs) (PI : Head, Mechanical Engineering Department)
10. Developing interfacial characterization facilities (DST-FIST, Rs.297.00 Lakhs) (PI : Dr. M.K. Khan, HoD, ME)
11. Developing Interfacial Characterization Facilities (ongoing) (DST-FIST, Rs.290.00 Lakhs) (PI : Head, Mechanical Engineering)
12. Development of an agricultural waste based off-the-grid climate control unit for storage and processing of agricultural produce (SERB, Rs.108.00 Lakhs) (PI : Rishi Raj)
13. Development of an Ionic Liquid-based Ultra-High Heat Dissipation Module for Energy Efficient Boiling Systems (SERB, Rs.47.00 Lakhs) (PI : Rishi Raj)
14. Development of cryogenic micromachining for fabrication of soft and stretchable polymer based artificial skin with multi-modal sensing capability (DST, Rs.53.67 Lakhs) (PI : Dr. Karali Patra)
15. Development of Lizard-like Robotic Spy Surveillance System (SERB, Rs.101.49 Lakhs) (PI : Dr. Raju Halder)

16. Development of Low Cost, Efficient Mechanism for Collection of Garbage and Dirt for Municipal Corporations, Panchayat (Swacchta Action Plan MHRD, Rs.16.71 Lakhs) (PI : Mayank Tiwari)
17. Development of Low Cost, Efficient, Mechanism for Collection of Garbage and Dirt for Municipal Corporations, Panchayats (Swacchta Action Plan, MHRD, Rs.16.71 Lakhs) (PI : Dr. Mayank Tripathi)
18. Development of low friction rolling element bearings for enhanced Reliability and Efficiency (Impacting Research Innovation and Technology (IMPRINT-2), DST, Rs.47.27 Lakhs) (PI : Mayank Tiwari)
19. Development of low friction rolling element bearings for enhanced Reliability and Efficiency Funding Agency (IMPRINT II SERB & National Bearing Company Pvt. Ltd, Rs.63.00 Lakhs) (PI : Mayank Tiwari)
20. Development of Microstructure Gradient Functionally Graded Composite Material using Friction stir Additive Manufacturing (Science & Engineering Research Board (SERB), Rs.2496100.00 Lakhs) (PI : Dr. Murshid Imam)
21. Development of Novel SMA Bearing Support and Retrofit for Enhanced Performances and Durability of Rotating Machinery (UAY MHRD and GE India Pvt. Limited, Rs.182.00 Lakhs) (PI : Mayank Tiwari)
22. Effect of burnup and ballooning and burst behavior of Zircaloy-4 cladding tubes under simulated LOCA (BRNS, Rs.32.99 Lakhs) (PI : Mohd. Kaleem Khan)
23. Effect of burnup on ballooning and burst behavior of Zircaloy-4 cladding tubes under simulated LOCA (BRNS, Rs.32.99 Lakhs) (PI : Mohd. Kaleem Khan)
24. Effect of cyclic creep in rolling contact fatigue of railways (ASEAN-India STI Cooperation (AISTDF), Rs.20.07 Lakhs) (PI : Surajit Kumar Paul)
25. Experiments and Modelling of Wall bounded flow of Magnetorheological grease (DST SERB, Rs.19.20 Lakhs) (PI : Dr. Chiranjit Sarkar)
26. Experiments and Modelling of Wall-Bounded flow of Lubricating Magnetorheological Grease (DST(SERB), Rs.19.20 Lakhs) (PI : C. Sarkar)
27. Hybrid 3D printing with GMAW-twin wire based additive layer enhanced by friction stir processing (Ministry of Human Resource Development (SPARC), Rs.4318590.00 Lakhs) (PI : Dr. Murshid Imam (Indian) and Dr. Enriqu)
28. Improvement of fatigue and ductile fracture behavior of steel and aluminium alloy (ECR (SERB), DST, Rs.20.04 Lakhs) (PI : Surajit Kumar Paul)
29. Influence of Secondary Heat in Friction Stir Welding: Mechanical Properties and Metallurgical Observations (completed on 07-08-2019) (SERB, DST, Rs.16.03 Lakhs) (PI : Anirban Bhattacharya)
30. Mechanical and micro-structural characterization of additive friction stirred (AFS) 3D structures made of Al6061 T6 aluminium powder (DST , Rs.21.70 Lakhs) (PI : Dr. Probir Saha)
31. Strengthening Interfacial Characterization Facilities: Funds for Improvement of S&T Infrastructure (DST FIST, Rs.290.00 Lakhs) (PI : HoD ME)
32. Surface Active Additives for Enhanced Flow Boiling in Microchannels (DST-RFBR, Rs.16.00 Lakhs) (PI : Rishi Raj)

Consultancy Projects

1. Analysis of Rolling Element Friction (National Bearing Company Pvt. ltd. Jaipur, Rs.4.62 Lakhs) Consultant Name: Mayank Tiwari
2. Determine hole expansion ratio (HER) from notch tensile test (Tata Steel Limited, R&D, Jamshedpur, Rs.17.70 Lakhs) Consultant Name: Surajit Kumar Paul
3. Establish Correlation Between specimen level fatigue and cornering fatigue (TATA Steel, Rs.17.50 Lakhs) Consultant Name: Dr S K Paul
4. Establish correlation between specimen level fatigue and cornering fatigue test (Tata Steel Limited, R&D, Jamshedpur, Rs.17.70 Lakhs) Consultant Name: Surajit Kumar Paul
5. Inspection of 01 Unit of Volvo Truck Tree Transplanter (VOLVO FMX 460) (VOLVO Trucks, Rs.0.00 Lakhs) Consultant Name: Manabendra Pathak
6. Inspection of 06 Units (Super Sucker Machines) (ENSOL multicleaner Equipment Pvt. Ltd., Rs.5.31 Lakhs) Consultant Name: Manabendra Pathak
7. Inspection of 06 Units (Truck mounted suction cum jetting machine) (ENSOL multicleaner Equipment Pvt. Ltd., Rs.0.77 Lakhs) Consultant Name: Manabendra Pathak
8. Inspection of 06 Units Kirloskar APM300-34 Dewatering (Debson Pumps Pvt. Ltd, Rs.1.46 Lakhs) Consultant Name: Dr. M. Pathak
9. Inspection of 06 Units Kirloskar APM300-34 Dewatering Pump (Debson Pumps Pvt. Ltd., Rs.1.46 Lakhs) Consultant Name: Manabendra Pathak
10. Inspection of 06 Units Kirloskar APM300-34 Dewatering pump (Debson Pumps Pvt. Ltd, Rs.1.45 Lakhs) Consultant Name: Manabendra Pathak
11. Inspection of 1 unit of Volvo truck Tree Transplanter (VOLVO FMX 460) - ON HOLD (VOLVO trucks, Rs.0.00 Lakhs) Consultant Name: Dr. M. Pathak
12. Inspection of 405 Units of Wheelbarrow (New Bharat Engg. Solid Waste Pvt. Ltd., Rs.0.14 Lakhs) Consultant Name: Manabendra Pathak
13. Inspection of 75 Units (Tata ACE ZIP Cab &Load body BS-IV) (Tata Motors, Rs.0.94 Lakhs) Consultant Name: Dr. M. K. Khan
14. Inspection of 75 Units (Tata ACE ZIP Cab &Load body BS-IV) (Tata Motors, Rs.0.94 Lakhs) Consultant Name: Mohd. Kaleem Khan
15. Inspection of 75 Units of Fogging Machine (Sulabh Infrastructure, Rs.1.40 Lakhs) Consultant Name: Manabendra Pathak
16. Inspection of 75 Units of Fogging Machine (Sulabh Infrastructure, Rs.1.40 Lakhs) Consultant Name: Dr. M. Pathak
17. Inspection of 75 Units of Fogging Machine (Sulabh Infrastructure, Rs.1.40 Lakhs) Consultant Name: Manabendra Pathak
18. Inspection of 75 Units of Fogging Machine RPF-10-SPe2 (Royal Tradelinks Pvt Ltd, Rs.0.42 Lakhs) Consultant Name: Manabendra Pathak
19. Inspection of 75 Units of Fogging Machine RPF-10-SPe2 (Royal Tradelinks P. Ltd., Rs.0.42 Lakhs) Consultant Name: Dr. M. Pathak
20. Inspection of 75 Units of Fogging Machine RPF-10-SPe2 (Royal Tradelinks P. Ltd., Rs.0.42 Lakhs) Consultant Name: Manabendra Pathak
21. Inspection of 75 Units of Fogging Machine RPF-10-SPe2 (Royal Tradelinks Pvt. Ltd., Rs.0.42 Lakhs) Consultant Name: Manabendra Pathak
22. Inspection of 75 Units of Tata Ace Cab mounted Fogging Machine (Sulabh Infrastructure, Rs.1.40 Lakhs) Consultant Name: Manabendra Pathak
23. Inspection of 75 Units Tata ACE ZIP Can & Load body BS-IV (TATA Motors, Rs.0.95 Lakhs) Consultant Name: Md. Kaleem Khan
24. Inspection of Wheelbarrows (New Bharat Engg. Solid Waste P Ltd, Rs.0.14 Lakhs) Consultant Name: Manabendra Pathak

25. Mould Design (Lakshmi Designers, Bangalore, Rs.0.10 Lakhs) Consultant Name: Dr. Karali Patra
26. Pre-delivery inspection of 03 Nos. Dulevo Road Sweeping Machine (Lion Services Pvt. Ltd., Rs.2.53 Lakhs) Consultant Name: Manabendra Pathak
27. Pre-delivery Inspection of 06 Units (Truck mounted suction cum jetting machine) (ENSOL Multiclean Equipment Pvt. Ltd., Rs.0.77 Lakhs) Consultant Name: Manabendra Pathak
28. Predelivery inspection of 03 Nos. Dulevo Road Sweeping Machine (Lions Services Pvt Limited, Rs.2.77 Lakhs) Consultant Name: Manabendra Pathak
29. Predelivery inspection of 03 Nos. Dulevo Road Sweeping Machine (Lion Services Pvt. Ltd., Rs.2.77 Lakhs) Consultant Name: Manabendra Pathak
30. Predelivery inspection of 03 Nos. Dulevo Road Sweeping Machine at Ranchi Nagar Nigam (Lion Services Pvt. Ltd., Rs.2.53 Lakhs) Consultant Name: Manabendra Pathak
31. Predelivery Inspection of 06 Units (Super Sucker Machines) (ENSOL Multiclean Equipment Pvt. Ltd., Rs.5.31 Lakhs) Consultant Name: Manabendra Pathak
32. Predelivery Inspection of 06 Units Kirloskar APM300-34 Dewatering pump (Debsons Pump Pvt. Ltd., Rs.1.46 Lakhs) Consultant Name: Manabendra Pathak
33. Predelivery Inspection of 75 Units (Tata ACE ZIP Cab &Load body BS-IV) (Tata Motors, Rs.0.95 Lakhs) Consultant Name: Mohd Kaleem Khan
34. Solid array (Lakshmi Designers, Bangalore, Rs.0.77 Lakhs) Consultant Name: Dr. Karali Patra
35. Testing using FESEM and its acessories (Educational Institutions, Rs.1.28 Lakhs) Consultant Name: Anirban Mahato

Patents (filed / granted)

1. Patent Name:A hybrid tracking system for portable parabolic trough collector ; Patent Owner: Manabendra Pathak
2. Patent Name:A METHOD OF JOINING PoLYMERS RODS THROUGH DEFORMATION TECHNIQUE USING AY-SHAPE DIE APPARATUS; Patent Owner: Sudhansu Sekhar Panda
3. Patent Name:Curved Serpentine Flow Inverter; Patent Owner: Mohd. Kaleem Khan
4. Patent Name:Rolling cutting edge at the tip of a cutting tool (in process - Approved by IPR committee March 2020); Patent Owner: Anirban Mahato
5. Patent Name:Stepped Microchannel Heat Sink for cooling an Electronic Device; Patent Owner: Mohd. Kaleem Khan
6. Patent Name:Surfactant Based Boiling System for Zero Gravity; Patent Owner: Rishi Raj

Visits Abroad by Faculty Members

1. Somnath Sarangi - World Congress on Condition Monitoring (Singapore ,) 2-5 th December
2. Probir Saha - To attend ASME conference (Salt Lake City, Utah, USA,) 14-17th Nov 2019
3. Atul Thakur - Research work (Shanghai Jiao Tong University,) 14-12-2019 to 13-01-2020
4. Manabendra Pathak - To attend 4th International Conference on Heat Transfer, Fluid Mechanics and Thermodynamics, 2019 (Wicklow, Ireland,) 21-25 July 2019
5. Surajit Kumar Paul - Attain technical expo,travel sponsored by Zwick Roell, Ulm, Germany (Zwick Roell, Ulm, Germany,) October 14-17, 2019
6. Mayank Tiwari - ECOTRIB2019 (Vienna Austria,) 4 days

7. Karali Patra - Paper presentation in COMADEM 2019 (University of Huddersfield, UK,) 2-5 September, 2019

Invited Lectures by Faculty Members

1. Crack repair in Structure by Smart Material *by* Akhilendra Singh (10th ICMPC, Mathura)
2. Technical innovations for socio-economic improvement of rural Bihar *by* Manabendra Pathak (Maithily Sahitya Sansthan, Patna)
3. Bubble Dynamics during Boiling with Foaming Solutions *by* Rishi Raj (Two Day International Workshop on Interfacial Flow and Heat Transfer in Droplets and Liquid Films for Advanced Thermal Management, Indian Institute of Technology Bombay)
4. Boiling with Foaming Solutions for Earth and Microgravity Applications *by* Rishi Raj (25th National and 3rd International ISHMT-ASTFE Heat and Mass Transfer Conference, IIT Roorkee)
5. Passive Heat Spreader for Hotspot Mitigation *by* Rishi Raj (Structured Training Programme (STP) on GenNext Spacecraft Systems & Technologies, URSC, ISRO)
6. Workshop on Research Projects and Publications *by* Rishi Raj (Amity University, Ranchi, Jharkhand)
7. Energizing the Waste: Biomass Based Gasifier Heating System for Energy and Environment Applicatio *by* Rishi Raj (TEQIP-III Sponsored Faculty Development Programme, Bhagalpur College of Engineering, Bihar)
8. Development of Two-Phase heat Sinks for Earth and Microgravity Thermal Management Applications *by* Rishi Raj (Department of Mechanical Engineering, Indian Institute of Science, Bangalore)
9. Failure criteria in sheet metal forming: FLD and HER *by* Surajit Kumar Paul (Indian Institute of Metals, Jamshedpur & CSIR- National Metallurgical Laboratory, Jamshedpur)
10. Wear Evolution with Operational Cycles *by* Mayank Tiwari (India Trib 2019, IISc Bangalore)
11. In-situ study of delamination wear caused by surface folding in sliding *by* Anirban Mahato (IISc Bangalore (INCAM 2019))
12. Bidirection distractor for TMJ Ankylosis *by* Chiranjit Sarkar (King George Medical University Lucknow)
13. Enhancement wettablity and bio-tribological properties through micro-texturing of ti-6al-4v surface *by* Karali Patra ('Recent Advances in Materials Processing and Materials Tribology' 6-10 January, 2020, IIT BHU, Varanasi)
14. • Micro-slot grinding of bk7 glass using poly crystalline diamond (PCD) tool *by* Karali Patra (Recent Advances in Materials Processing and Materials Tribology' 6-10 January, 2020, IIT BHU, Varanasi)

Short-Term Courses, Training Programmes and Workshops organised

1. Recent Trends In Friction Stir Processing Technique (December 18-20)

Papers Published in Journals

1. Deepak Kumar, Somnath Sarangi, Prashant Saxena , Universal relations in coupled electro-magneto-elasticity , *Mechanics of Materials*, Volume 143 (2020).

2. Deepak Kumar & Somnath Sarangi & R. Bhattacharyya , Universal Relations in Nonlinear Electro-magneto-elasticity , *Archive of Applied Mechanics*, Accepted but Doi awa (2020).
3. R.Gouda, M. Pathak, M.K. Khan , A biosurfactant as prospective additive for pool boiling heat transfer enhancement , *International Journal of Heat and Mass Tranfer*, 150, 119292 (2020).
4. R.K. Gouda, M. Pathak and M.K. Khan 2020 , A biosurfactant as prospective additive for pool boiling heat transfer enhancement , *International Journal of Heat and Mass Transfer*, 150, 119292, pp.1-13 (2020).
5. A. Pratap, K. Patra and A. A. Dyakonov , A comprehensive review of Micro-grinding: Emphasis on toolings, performance analysis and modeling techniques , *International Journal of Advanced Manufacturing Technology*, 104, pp 63–102 (2019).
6. SK Paul , A critical review of experimental aspects in ratcheting fatigue: microstructure to specimen to component. , *Journal of Materials Research and Technology*, 8(5), 4894-4914. (2019).
7. SK Paul , A critical review on hole expansion ratio. , *Materialia*, 9, 100566 (2020).
8. Kriti Arya, Somnath Sarangi & Ranjan Bhattacharyya , A damaged Ogden material tube under pressure: stability and bifurcation analysis , *Soft Materials*, 18:1, 74-88 (2019).
9. S. Raj, A. Shukla, M. Pathak, M.K. Khan , A Novel Stepped Microchannel for Performance Enhancement in Flow Boiling , *International Journal of Heat and Mass Transfer*, 144, 118611 (2019).
10. S. Raj, A. Shukla, M. Pathak and M.K. Khan , A Novel Stepped Microchannel for Performance Enhancement in Flow Boiling , *International Journal of Heat and Mass Transfer*, 144, 118611, pp.1-14 (2019).
11. S S Panda , A PCA Based Quality Loss Approach for Minimum Drilling Induced Bone Tissue Damage , *Universal Journal of Surgery. Vol (1), 1-5*, (2019).
12. S Kumar, H Krishnaswamy, RK Digavalli, SK Paul, , Accounting Bauschinger effect in the numerical simulation of constrained groove pressing process. , *Journal of Manufacturing Processes*, 38, 49-62. (2019).
13. S. Raj, M.Pathak, M.K. Khan , An improved mechanistic model for predicting bubble characteristic size in subcooled flow boiling , *International Journal of Heat and Mass Transfer*, 149, 119188 (2020).
14. S. Raj, M. Pathak and M.K. Khan , An improved mechanistic model for predicting bubble characteristic size in subcooled flow boiling , *International Journal of Heat and Mass Transfer*, 149, 119118, pp.1-11 (2020).
15. Ghosh, D. P., Sharma, D., Kumar, A., Saha, S. K., and Raj, R. , An Ingenious Fluidic Capacitor for Complete Suppression of Thermal Fluctuations in Two-Phase Microchannel Heat Sinks , *International Communications in Heat and Mass Transfer*, 110 (2020).
16. J. Ranjan, K. Patra, T. Szalay, M. Mia, M. K. Gupta, Q. Song, V. A. Pashnyov, D. Y. Pimenov , Artificial intelligence based hole quality prediction in micro-drilling using multiple sensors , *Sensors*, 20(3), 885 (2020).
17. P Kumar S S Panda, Assessment of Thermoplastic Weldability Using the Deformation Technique, *WELDING JOURNAL 98 (6), 165S-171S*, (2019).
18. D K Prajapati, Mayank Tiwari, "Effect of Correlation Length, Surface Roughness, and Load on Friction Coefficient Under Mixed Lubrication Regime," *Lubrication Science 2019,31 (5), 218-228*, 31 (5), 218-228 (2019).
19. D K Prajapati, "Experimental Investigation on Evolution of Surface Damage and Topography Parameters during Rolling Contact Fatigue Tests," *Fatigue &Fracture of EngineeringMaterials & Structures*, 2019,DOI:10.1111/ffe (2019).
20. D K Prajapati, Mayank Tiwari, "The Correlation between Friction Coefficient and Areal Topography: An Experimental Study," *Friction*, in press (2020).

21. Hedau, G., Dey, P., Raj, R., and Saha, S.K. , Combined Effect of Inlet Restrictor and Nanostructure on Two-Phase Flow Performance of Parallel Microchannel Heat Sinks , *International Journal of Thermal Sciences*, 153 (2020).
22. SK Paul,"Correlation between hole expansion ratio (HER) and notch tensile test", *Manufacturing Letters*, 20, 1-4. (2019).
23. Ashutosh Rajput, Surajit Kumar Paul, "Cyclic plastic deformation response of nanocrystalline BCC iron", *Metals and Materials International.* , Online (2020).
24. D.S. Reddy, M.K. Khan , Design and Ray Tracing of Multifaceted Scheffler Reflector with Novel Crossbars , *Solar Energy*, vol.185, 363-373 (2019).
25. K. Awasthi, D.S. Reddy, M.K. Khan , Design of Fresnel lens with Spherical Facets for Concentrated Solar Power Applications , *International Journal of Energy Research*, 44(1), 460-472 (2020).
26. Sunil, Sinha, R., Chaitanya, B., Rajan, B. K., Agarwal, A., Thakur, A. D., and Raj, R. , Design, Fabrication, and Performance Evaluation of a Novel Biomass-Gasification-Based Hot Water Generation System , *Energy*, 185 (2019).
27. Kumar, N., Sinha, K. N. R., Raza, M. Q., Verma, A., Seth, D., Jasvanth, V. S., and Raj, R. , Design, Fabrication, and Performance Evaluation of a Novel Orientation Independent and Wickless Heat Spreader , *International Journal of Heat and Mass Transfer*, 153 (2020).
28. P. Sahoo, K. Patra, T. Szalay and A. A. Dyakonov , Determination of Minimum chip thickness and size effects in micro-milling of P-20 steel using surface quality and process signal parameters , *International Journal of Advanced Manufacturing Technology*, 106, pp 4675–4691. (2020).
29. Vinod Kumar, Tarun K Bera, Anirban Bhattacharya,"Development and performance analysis of semi-automatic movement setup for planar welding", *Materials and Manufacturing Processes*, Vol.24, pp 1251-1261 (2019).
30. Gunjan, M. R., Kumar, A., and Raj, R.,"Droplets on Lubricant-Infused Surfaces: Combination of Constant Mean Curvature Interfaces with Neumann Triangle Boundary Conditions", *Langmuir*, 36 (2020).
31. Deepak Kumar & Somnath Sarangi,"Dynamic modeling of a dielectric elastomeric spherical actuator: an energy-based approach", *Soft Materials*, 10.1080/1539445X.201 (2019).
32. Raj, A., and Thakur, A., ,"Dynamically feasible trajectory planning for Anguilliform-inspired robots in the presence of steady ambient flow", *Robotics and Autonomous Systems*, 118:144-158 (2019).
33. Ashutosh Rajput, Surajit Kumar Paul, "Effect of different tensile loading modes on deformation behavior of nanocrystalline copper: Atomistic simulations", *Results in Materials*, 4, 100042 (2019).
34. Raza, M. Q., Kumar, N., and Raj, R. ,"Effect of Foamability on Pool Boiling Critical Heat Flux with Nanofluids", *Soft Matter*, 15 (2019).
35. Amit Kumar Rana, Surajit Kumar Paul, PP Dey, , Effect of martensite volume fraction on cyclic plastic deformation behavior of dual phase steel: micromechanics simulation study. , *Journal of Materials Research and Technology*, 8(5), 3705-3712 (2019).
36. SK Paul , Effect of punch geometry on hole expansion ratio. , *Journal of Engineering Manufacture*, 234(3), 671–676. (2020).
37. Pankaj Kumar, Bimal Das and Akhilendra Singh , Effect of Ratcheting Fatigue on the Evolution of Tensile Properties of Aluminium Alloy AA 5754 , *Proceedings of Institution of Mechanical Engineers Part C:Journal of Mechanical Engineering Science*, 233(14),5033-5047 (2019).

38. A. Pratap and K. Patra , Effects of electric discharge dressing parameters on polycrystalline diamond micro-tool surface topography and their micro-grinding performances , *Refractory Metals and Hard Materials*, Vol. 82, pp. 297-309 (2019).
39. S. Raj, M. Pathak, M.K. Khan , Effects of flow loop components in suppressing flow boiling instabilities in microchannel heat sinks , *International Journal of Heat and Mass Transfer*, 141, 1238-1251. (2019).
40. S. Raj, M. Pathak and M.K. Khan , Effects of flow loop components in suppressing flow boiling instabilities in microchannel heat sinks , *International Journal of Heat and Mass Transfer*, 141, pp. 1238-1251 (2019).
41. Deepak Kumar and Somnath Sarangi, Electro-mechanical instability modelling in elastomeric actuators: A second law of thermodynamics-based approach, *Soft Materials*, VOL. 17, NO. 3, 308, (2019).
42. Krishnamurti Singh, Mayank Tiwari, Anirbn Mahato , Evolution of regimes of wear in zircaloy-4/inconel-600 contact subjected to fretting loading , *Tribology International*, Volume 147 (2020).
43. K Singh, M Tiwari, A Mahato , Evolution of regimes of wear in zircaloy-4/inconel-600 contact subjected to fretting loading , *Tribology International,* , Vol - 147 PP -106274 (2020).
44. D K Prajapati, Mayank Tiwari, Experimental analysis of contact fatigue damage using fractal methodologies, *Wear*, wear.2020.203262 (2020).
45. A. Pratap, K. Patra and A. A. Dyakonov , Experimental analysis of ductile-brittle transitions in micro-grinding of parallel and intersecting micro-slots in BK-7 glass , *Ceramics International*, 45, pp. 11013-11026 (2019).
46. Ashu Garg, Madhav Raturi, Anirban Bhattacharya, Experimental and finite element analysis of progressive failure in friction stir welded AA6061-AA7075 joints, *Procedia Structural Integrity*, Vol. 17, pp 456-463 (2019).
47. D. Ahmad and K. Patra , Experimental and Theoretical Analysis of Laterally Pre¬-stretched Pure Shear Deformation of Dielectric Elastomer , *Polymer Testing*, Vol. 75, pp. 291-297 (2019).
48. Raza, M. Q., Kumar, N., and Raj, R. , Experimental Characterization and Modeling of Critical Heat Flux with Subcooled Foaming Solution , *International Journal of Thermal Sciences*, 141 (2019).
49. D. Ahmad, K. Patra and M. Hossain, Experimental study and phenomenological modelling of flaw sensitivity of two dielectric elastomer, *Continuum Mechanics and Thermodynamics*, 32, 489–500 (2020).
50. D. Ahmad, S. K. Sahu and K. Patra , Fracture Toughness, Hysteresis and Stretchability of Dielectric Elastomers under Biaxial Loading , *Polymer Testing*, Vol. 79, pp. 106038 (2019).
51. SK Paul , Fundamental aspect of stretch-flangeability of sheet metals. , *Journal of Engineering Manufacture*, 233(10), 2115–2119 (2019).
52. Raj, A., and Thakur, A., , Hydrodynamic Parameter Estimation for an Anguilliform-inspired Robot. , *Journal of Intelligent & Robotic Systems*, (2020).
53. Sinha, K. N. R., Ranjan, D., Raza, M. Q., Kumar, N., Kaner, S., Thakur, A., and Raj, R., , In-situ acoustic detection of critical heat flux for controlling thermal runaway in boiling systems , *International Journal of Heat and Mass Transfer*, 138:35-149 (2019).
54. Sinha, K. N. R., Ranjan, D., Raza, M. Q., Kumar, N., Kaner, S., Thakur, A., and Raj, R. , In-situ acoustic detection of critical heat flux for controlling thermal runaway in boiling systems , *International Journal of Heat and Mass Transfer*, 138 (2019).

55. Ashu Garg, Madhav Raturi, Anirban Bhattacharya , Influence of additional heating in friction stir welding of dissimilar aluminum alloys with different tool pin profiles , *The International Journal of Advanced Manufacturing Technology*, Vol. 105, pp 155-175 (2019).
56. Ashu Garg, Anirban Bhattacharya , Influence of Cu powder on strength, failure and metallurgical characterization of single, double pass friction stir welded AA6061-AA7075 joints , *Materials Science & Engineering A*, Vol 759, pp 661-679 (2019).
57. Manish Thakur and Chiranjit Sarkar , Influence of graphite flakes on the strength of magnetorheological fluids at high temperature and its rheology , *IEEE Transactions on Magnetics*, DOI:10.1109/TMAG.202 (2020).
58. Puja Ghosal, Surajit Kumar Paul, , Influence of high cycle fatigue damage on uniaxial tensile and notch tensile behavior of C–Mn steel. , *Material Research Express* , 6, 126596 (2019).
59. Bimal Das, Akhilendra Singh , Influence of hydrogen on the low cycle fatigue performance of P91 steel , *Hydrogen Energy*, 45(11),7151-7168 (2020).
60. Bimal Das, Akhilendra Singh, Kanwer Singh Arora ,Mahadev Shome, Surajit Kumar Paul , Influence of pre-straining path on high cycle fatigue performance of DP 600 steel , *International Journal of Fatigue*, 126, 369-380 (2019).
61. B Das, A Singh, KS Arora, M Shome, SK Paul , Influence of pre-straining path on high cycle fatigue performance of DP 600 steel. , *International Journal of Fatigue*, 126, 369-380. (2019).
62. P. Sahoo, K. Patra, V. K. Singh, M. Mia, M. K. Gupta, Q. Song, D. Y. Pimenov , Influences of TiAlN Coating and Limiting Angles of Flutes on Prediction of Cutting Forces and Dynamic Stability in Micro Milling of Die Steel (P-20) , *Journal of Materials Processing Technology*, Vol. 278, 11650091 (2020).
63. Pankaj Kumar, Akhilendra Singh , Investigation of fatigue and fracture behaviour of sensitized marine grade aluminium alloy AA 5754 , *Fatigue and Fracture of Engineering Materials and Structure*, 42,2625-2643 (2019).
64. Harish Suthar, Anirban Bhattacharya, Surajit Kumar Paul , Local deformation response and failure behavior of AA6061-AA6061 and AA6061-AA7075 friction stir welds , *CIRP Journal of Manufacturing Science and Technology*, Accepted (2020).
65. Bimal Das, Akhilendra Singh, Surajit Paul , Low cycle fatigue performance of DP600 steel under various pre-straining paths , *International Journal of Fatigue*, 132,10531 (2019).
66. B Das, A Singh, SK Paul , Low cycle fatigue performance of DP600 steel under various pre-straining paths. , *International Journal of Fatigue*, 132, 105331. (2020).
67. Chandra Shekhar Maurya and Chiranjit Sarkar , Magnetic and Transient Temperature Field Simulation of Plate-Plate Magnetorheometer Using Finite Element Method , *IEEE Transactions on Magnetics*, 56 1-9 (2020).
68. Mukhopadhaya, Akash., Saha, Probir , Mechanical and microstructural characterization of aluminium powder deposit made by friction stir based additive manufacturing , *Journal of Material Processing Technology*, 281 (2020).
69. Ashu Garg, Madhav Raturi, Anirban Bhattacharya , Metallurgical behavior and variation of vibro-acoustic signal during preheating assisted friction stir welding between AA6061-T6 and AA7075-T651 alloys , *Transaction of Nonferrous Metals Society of China*, Vol.29, pp 1610-1620 (2019).
70. Ashutosh Rajput, Puja Ghosal, Anuranjan Kumar, Surajit Kumar Paul, , Monotonic and cyclic plastic deformation behavior of nanocrystalline gold: atomistic simulations. , *Journal of Molecular Modeling*, 25, 153. (2019).
71. Numerical prediction of solidified shell thicknesses obtained in continuous casting with different billet shapes , *Numerical Heat Transfer, Part A: Applications, 1-15*, (2019).

72. M. K. Gupta, M. Mia, C. L. Pruncu, W. Kaplonek, K. Nadolny, K. Patra, T.Mikolajczyk, D. Y. Pimenov, M. Sarikaya, V. S. Sharma , Parametric Optimization and Process Capability Analysis for Machining of Nickel Based Super Alloy , *International Journal of Advanced Manufacturing Technology*, 55, pp. 491-502 (2019).
73. A. Ranjan, A. Islam, M. Pathak, M.K. Khan and A. Keshr , Plasma Sprayed Copper Coatings for Improved Surface and Mechanical Properties , *Vacuum*, 168,108834, pp. 1-12 (2019).
74. S. Saha, A. Bhowmick, A. Kumar, K. Patra, P.J. Cottinet, K. Thetpraphi , PVDF based flexible electroactive polymer blend and its composites with improved actuated strain: Characterization and analysis of electrostrictive behavior , *Industrial & Engineering Chemistry Research*, 59 (8), 3413-3424 (2020).
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77. Sarode, A., Raj, R., and Bhargav, A. , Scalable Macroscale Wettability Patterns for Pool Boiling Heat Transfer Enhancement , *Heat and Mass Transfer*, 56 (2020).
78. Ahmed, S., Saha, Probir , Selection of Optimal Process Parameters and Assessment of its Effect in Micro-friction Stir Welding of AA6061-T6 Sheets , *International Journal of Advanced Manufacturing Technology*, 106, 3045-3061 (2020).
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81. Kumar, N., Raza, M. Q., Seth, D., and Raj, R. , Surface-Active Ionic Liquids as Potential Additive for Pool Boiling Based Energy Systems , *Journal of Molecular Liquids*, 287 (2019).
82. Madhav Raturi, Ashu Garg, Anirban Bhattacharya , Tensile strength and failure of dissimilar friction stir welded joints between 6061-T6 and 2014-T6 aluminum alloys , *Procedia Structural Integrity*, Vol. 17, pp 495-502 (2019).
83. SK Paul , The effect of deformation gradient on necking and failure in hole expansion test. , *Manufacturing Letters* , 21, 50-55 (2019).
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87. Kumar, A., Gunjan, M. R., Jakhar, K., Thakur, A., and Raj, R. , Unified Framework for Mapping Shape and Stability of Pendant Drops Including the Effect of Contact Angle Hysteresis , *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, 124619 (2020).

Papers Presented in Conferences

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2. Agrawal, D., Thakur, A., D., and Thakur, A., , A robotic tool for magnetic micromanipulation of cells in the presence of an ambient fluid flow , *13th International Conference on Micro- and Nanosystems (MNS) at 2019 ASME-IDETC* , Anaheim, CA, USA (2019)
3. Est Dev Patel and Subrata Kumar , An experimental investigation of pulsating motion in a two-loop pulsating heat pipe , *25th National and 3rd International ISHMT-ASTFE, Heat and Mass Transfer Conference (IHMTC-2019)* , IIT Roorkee (2019)
4. A. Pratap and K. Patra , Analysis of polycrystalline diamond micro-grinding tool topography using image processing , *ASME-MSEC 2019* , Behrend College, Penn state, USA (2019)
5. R. K. Gouda, M. Pathak, M.K. Khan , Combined Effects of Structured Surfaces and Surfactant in Pool Boiling Heat Transfer Enhancement , *25th National and 3rd International ISHMT-ASTFE Heat and Mass Transfer Conference (IHMTC-2019)* , IIT Roorkee (2019)
6. R. Gouda, M. Pathak and M.K. Khan , Combined Effects of Structured Surfaces and Surfactant in Pool Boiling Heat Transfer Enhancement , *25th National and 3rd International ISHMT-ASTFE Heat and Mass Transfer Conference (IHMTC-2019)* , IIT Roorkee (2019)
7. Rahul Kesharwani, Murshid Imam, Chiranjit Sarkar , Coupled Thermo-Mechanical Modelling on Dissimilar Metal Plates of Friction Stir Welding Process with Polygon Tool Pin Geometry , *Materials & WeldFab 2019* , Hotel Holiday Inn, New Delhi (2019)
8. D K Prajapati, Mayank Tiwari , Effect of Correlation Length and Roughness on Topography Parameters during Running-in Wear , *ECOTRIB 2019* , Vienna Austria (2019)
9. Manish Thakur and Chiranjit Sarkar , Effect of graphite on the sedimentation and strength of magnetorheological fluids , *International Conference on Magnetic Fluids – ICMF 2019* , Paris (France) (2019)
10. P. Kumar and M. Pathak , Effect of High Viscosity Ratio on Pressure Profile Evolution in Microfluidic T-Junction , *25th National and 3rd International ISHMT-ASTFE Heat and Mass Transfer Conference (IHMTC-2019)* , IIT Roorkee (2019)
11. Kamlesh Kumar and Deepu P , Effect of spatio-temporal variation of external pressure on the dynamics of a collapsible tube , *25th National and 3rd International ISHMT-ASME Heat and Mass Transfer Conference (IHMTC -2019)* , Roorkee (2019)
12. S. K. Sahu, A. S. Sadangi and K. Patra , Energy harvesting from knee motion using dielectric elastomer generator , *32nd International congress on Condition Monitoring and Diagnostic Engineering Management (COMADEM 2019)* , University of Huddersfield, UK (2019)
13. Pankaj Kumar,Himanshu Pathak,Akhilendra Singh,Indra Vir Singh , Failure analysis of orthotropic composite material under thermoelastic loading by XFEA , *10th ICMPC* , GLA Mathura (2020)
14. S. Bhattacharyya, R. Modi, K. Dey, M. A. Rahman and M. Pathak , Heat transfer and flow characteristics of circular channels with mixed ribs configuration , *25th National and 3rd International ISHMT-ASTFE Heat and Mass Transfer Conference (IHMTC-2019)* , IIT Roorkee (2019)
15. S. Das, N. Verma, M. Pathak, and S. Bhattacharyya , Heat Transfer Enhancement in Solar Receiver Tube Using Porous Media , *4th International Conference on Heat Transfer, Fluid Mechanics and Thermodynamics, 2019(HEFAT2019)* , Wicklow, Ireland (2019)
16. A. Mahato, N. Sundaram, K. Viswanathan, and M. Saei , In-situ study of delamination wear caused by surface folding in sliding , *Indian Conference on Applied Mechanics (INCAM 2019)* , Indian Institute of Science, Bangalore (2019)

17. Sweta Saroj, Murshid Imam , Investigation of directional anisotropy in friction stir welded/processed aluminum alloys , *Materials & WeldFab 2019* , Hotel Holiday Inn, New Delhi (2019)
18. Mukhopadhyay, Akash and Saha, Probir , Mechanical Characterization of Aluminium Alloy 6061 Powder Deposit Made by Friction Stir based Additive Manufacturing , *8th International Conference on Engineering and Innovative Materials* , Tokyo Denki University, Tokyo, Japan (2019)
19. Mukhopadhyay, Akash and Saha, Probir , Microstructural characterization of aluminium alloy 6061 powder deposit made by friction stir based additive manufacturing , *4th International Conference on Emerging Trends in Mechanical & Industrial Engineering* , The Northcap University, Gurugram, Harya (2019)
20. Gupta, Deepa., Saha, Probir and Roy, Somnath , Numerical investigation on heat transfer enhancement with perforated micro pin fins , *25th National and 3rd International ISHMT-ASTFE Heat and Mass Transfer Conference (IHMTC-2019)* , IIT Roorkee (201)
21. Gupta, Deepa., Saha, Probir and Roy, Somnath , Numerical Investigation on Heat Transfer Enhancement with Perforated Square Micro-Pin-Fin Heat Sink for Electronic Cooling Application , *IEEE RS/EPS/EDS Singapore Chapter, 21st Electronics Packaging Technology Conference (EPTC 2019)* , Singapore (2019)
22. Chiranjit Sarkar , Numerical Simulation of Transmiitable Torque in Rotating Magnetorheological Fluid Device with Different Surface Texture , *STLE Tribology Frontiers Conference* , Chicago (USA) (2019)
23. Abhishek, s s panda* , Numerical studies on effect of variations in laser spot diameter on the residual stress filed induced by laser shock peening on Ti-6Al-4V , *COPEN* , Indore (2019)
24. Krishan Sharma, Subrata Kumar and P Deepu , Numerical Study on Helical Pipe Filled with and without Porous Media , *25th National and 3rd International ISHMT-ASME Heat and Mass Transfer Conference (IHMTC -2019)* , Roorkee (2019)
25. Krishan Sharma, Subrata Kumar and P Deepu , Numerical Study on Helical Pipe Filled with and without Porous Media , *25th National and 3rd International ISHMT-ASTFE, Heat and Mass Transfer Conference (IHMTC-2019)* , IIT Roorkee (2019)
26. Abhishek, Sudhansu Sekhar Panda and Subrata Kumar , Numerical study on the effect of variation in laser spot diameter on the residual stress field induced by laser shock peening on Ti-6Al-4V , *International Conference on Precision, Meso, Micro and Nano Engineering (COPEN 2019)* , IIT Indore (2019)
27. Ahmed, S. and Saha, Probir , On increasing productivity of micro-friction stir welding with aid of tool shoulder micro-features , *ASME 2019 International Mechanical Engineering Congress & Exposition IMECE2019* , Salt Lake City, UT, USA (2019)
28. P. Sahoo and K. Patra , On Stability Analysis for Micro Milling of P-20 Steel: Enhancement through Application of TiAlN coated WC tool , *2nd International Conference on Recent Advances in Materials & Manufacturing Technologies (IMMT 2019)* , Dubai, UAE (2019)
29. SK Paul , Overview of Hole Expansion Ratio , *ICAME2020.* , Chennai, India (2020)
30. Md. Anwar Ali Anshari, Murshid Imam , Producing dual-phase microstructure in friction stir welding/processing of medium carbon low alloy steels , *Materials & WeldFab 2019* , Hotel Holiday Inn, New Delhi (2019)
31. D.S. Reddy, M.K. Khan, M.Z. Alam, H. Rashid , Scheffler reflector based solar water heater with Archimedean spiral coil absorber, , *25th National and 3rd International ISHMT-ASTFE Heat and Mass Transfer Conference (IHMTC-2019)* , IIT Roorkee (2019)
32. Shaw, H., and Thakur, A., , Shape Memory Alloy Based Caudal Fin for a Robotic Fish: Design, Fabrication, Control and Characterization , *Advances in Robotics 2019 (AIR 2019) at 4th International Conference of the Robotics Society of India* , Chennai, India (2019)

33. K. Awasthi, D.S. Reddy,M.K. Khan, S. Dubey, V. Rawat *,* Simplified design methodology for truncated compound parabolic concentrator , *25th National and 3rd International ISHMT-ASTFE Heat and Mass Transfer Conference (IHMTC-2019)* , IIT Roorkee, (2019)

Metallurgical and Materials Engineering
Head: Dr. Anup Kumar Keshri

1. Dr. Anirban Chowdhury
   Associate Professor
   Materials Chemistry - chemical synthesis - structural and spectroscopic characterisations - thin films & coatings - nanomaterials- sol gel – ceramics

2. Dr. Anup Kumar Keshri
   Assistant Professor
   Plasma spraying, Mechanical and Tribological property of coatings, Graphene Coating, Tailoring Wettability, Thermal Barrier Coatings, Nitride Coatings, Corrosion Resistant Coatings, Wear Resistant Coatings,

3. Dr. Dinesh Kumar Kotnees
   Assistant Professor
   Polymer Science and Technology with specialization in Adhesion, Blends, Composites, Fillers and Bulk/Surface properties of Polymers

4. Dr. Devinder Yadav
   Assistant Professor
   Flash sintering of ceramics, Thermomechanical processing, Electron microscopy, EBSD and texture, Friction stir processing, Structure-property correlation

5. Dr. Tamoghna Chakrabarti
   Assistant Professor
   Processing, sintering, characterization and mechanical behavior of ceramics, Ultra High Temperature Ceramics (UHTCs), Computational modelling of sintering and related phenomena, Phase field modelling study of microstructural evolution in phase transformations

6. Dr. Ajay Kumar Kalayni
   Assistant Professor
   Electroceramic materials- finds application in Actuators, Transducers, Optical, Memory and many energy conversion devices. Research includes: Structure- Property correlation of Dielectric, Ferroelectric, Piezoelectric, Relaxors, Multiferroic, Electrocaloric and other energy conversion Materials.

Member - Professional Bodies

1. Anup Kumar Keshri (2014) Indian Institute of Metals (IIM)

Sponsored Research Projects

1. Development and optimization of cost effective and scalable near net shape plasma sprayed membrane with graded porosity for microfiltration applicatio (IMPRINT II, Rs.69.00 Lakhs) (PI : Dr. Anup Kumar Keshri)

2. Development and optimization of cost effective and scalable near net shape plasmasprayed membrane with graded porosity for microfiltration application (IMPRINT, SERB-DST, Rs.68.00 Lakhs) (PI : Dr. Anup Kumar Keshri)
3. Environmental friendly high performance piezoelectric materials (DST-SERB-SRG, Rs.30.00 Lakhs) (PI : Ajay Kumar Kalyani)
4. Fire Retardant Materials: Investigation on Mechanistic & Thermo-physical props. & Synthesis process (BRNS, Rs.31.93 Lakhs) (PI : Dr. Anirban Chowdhury)
5. Flash sintering of oxide ceramics: Effect of electrical parameters on densification mechanism, microstructure and mechanical properties (SERB, Rs.3187890.00 Lakhs) (PI : Devinder Yadav)
6. High Temperature Materials for Thermal Protection Systems (IMPRINT II, Rs.45.00 Lakhs) (PI : Prof. Kantesh Balani, IIT Kanpur)
7. Structural origin to understand the mechanism of high-performance lead free piezoelectric materials (IIT Patna Director, Rs.20.00 Lakhs) (PI : Ajay Kumar Kalyani)
8. STUDY OF NOVEL CARBONACEOUS NANOFILLERS LIKE CARBON DOTS ON POLYURETHANE ELASTOMERS (Manali Petrochemicals Limited, Chennai, Tamilnadu, India, Rs.21.00 Lakhs) (PI : Dr. Dinesh Kumar Kotnees)
9. Study on the densification and fracture properties of piezoelectric ceramics produced by novel flash sintering technique (DST INSPIRE Award, Rs.35.00 Lakhs) (PI : Tamoghna Chakrabarti)

Consultancy Projects

1. Analysis of material compositions of investment casting powders (Maharashtra Jewelry Tools, Rs.1.00 Lakhs) Consultant Name: Dr. Anirban Chowdhury
2. FACTORS INFLUENZING THE TACK BEHAVIOUR OF RUBBERS USED IN TYRES (MRF Tyres, Chennai, Tamilnadu, India, Rs.23.00 Lakhs) Consultant Name: Dr. Dinesh Kumar Kotnees
3. Tuning wettability of Metal by Plasma spraying (Tata Steel Limted, Rs.12.50 Lakhs) Consultant Name: Anup Kumar Keshri

Patents (filed / granted)

1. Patent Name:A method for exfoliation of graphite under low shear ; Patent Owner: Dinesh Kumar Kotnees
2. Patent Name:A method of preparation of monoclinic phase free doped zirconia powders with low temperature sinterability; Patent Owner: Anirban Chowdhury
3. Patent Name:Chloroprene rubber having excellent cold resistance ; Patent Owner: Dinesh Kumar Kotnees
4. Patent Name:Cured elastomer (S) – Fuller's earth clay composite ; Patent Owner: Dinesh Kumar Kotnees
5. Patent Name:Rubber composition for tire bead insulation and pneumatic tire ; Patent Owner: Dinesh Kumar Kotnees

Visits Abroad by Faculty Members

1. Anup Kumar Keshri - Invited Talk in International Conference of the Asian Consortium on Computational Materials Science (University of Hong Kong, Hongkong,) July 22-27, 2019

Invited Lectures by Faculty Members

1. 1. One Step and Scalable Technique for Immediate Tuning of Superhydrophilic to Robust Super hydropho *by* Anup Kumar Keshri (University of Hong Kong)
2. Instant Tuning of Superhydrophilic to Robust Superhydrophobic and Self Cleaning Metallic Coating by *by* Anup Kumar Keshri (MNIT Jaipur)
3. Revolutionary Graphene Coating: Efficient and Scalable Approach towards Commercializati *by* Anup Kumar Keshri (Chennai (ISMANAM 2019))
4. Structure property correlation in FSPed materials *by* Devinder Yadav (IIT Patna)
5. Scanning electron microscopy and EBSD *by* Devinder Yadav (IIT Patna)
6. Sunrise Technology – Nano Materials *by* Dinesh Kumar Kotnees (CII Madurai)
7. Insights into the Remarkable Ionic Conductivity obtained for a Textured La2Ce2O7 Ceramic via Pressur *by* Anirban Chowdhury (IIT Kharagpur)
8. Pushing the Limits of Thermal Analyses Tools: Issues, Concerns and Possible Solutions *by* Anirban Chowdhury (BARC, Anushaktinagar, Mumbai)

Short-Term Courses, Training Programmes and Workshops organised

1. 1. CEP Course on "Failure Analysis of Engineering Products" (May 10 - 11, 2019)

Papers Published in Journals

1. Kundan Kumar, Anshu Priya, Aditya Arun, Subrata Hait, Anirban Chowdhury , Antibacterial and natural room-light driven photocatalytic activities of CuO nanorods , *Materials Chemistry and Physics*, (226) 106-112 (2019).
2. Bhanuchandara, S.P.,ArunkumarM.,Sribalaji Keshri, Anup Kumar K. Suresh Babu , Controlled growth of Ni/NiO composite nanoparticles and its influence on exchange anisotropy and spin glass features , *Journal of Alloys and Compounds*, 780,256-265 (2019).
3. Singh, Swarnima Pandey, Krishna Kant Islam, Aminul and Keshri, Anup Kumar , Corrosion behaviour of plasma sprayed graphene nanoplatelets reinforced hydroxyapatite composite coatings in simulated body fluid , *Ceramics International*, DOI: 10.1016/j.ceram (2020).
4. Mukherjee, Biswajyoti Rahman, OS AsiqIslam,AminulPandey, Krishna KantKeshri, Anup Kumar , Deposition of multi-scale thickness graphene coating by harnessing extreme heat and rapid quenching: Towards Commercialization , *ACS Applied Materials and Interfaces*, 11, 25500− 25507 (2019).
5. Tamoghna Chakrabarti, Rajdip Mukherjee , Effect of Heterogeneous Particle Size on Nanostructure Evolution: A Phase-field Study , *Computational Materials Science*, 169, 109115 (2019).
6. Swarnima Singh, Krishna Kant Pandey, Anup Kumar Keshri , Effect of Plasma Power on Corrosion Behaviour of Plasma Sprayed Hydroxyapatite Coatings , *Metals and Materials International*, DOI : 10.1007/s12540 (2020).
7. Aminul Islam, Kundan Kumar, Krishna Kant Pandey, Biswajyoti Mukherjee, O.S.Asiq Rahman, Anirban Chowdhury, Anup Kumar Keshri , Exceptionally high fracture toughness

of carbon nanotube reinforced plasma sprayed lanthanum zirconate coatings , *Journal of Alloys and Compounds*, (777) 1133-1144 (2019).

8. Kumar Rakesh, Kumari Puja, Singh Priyaragini, Kumar Dinesh K , Fabrication of poly lactic acid incorporated bacterial cellulose adhered flax fabric biocomposites , *Biocatalysis and Agricultural Biotechnology*, 21, 101277 (2019).
9. Saurabh Srivastava, Kundan Kumar, Kushal Singh, Prasanta Kumar Ojha, Anirban Chowdhury , Functional properties of LaxCe1−xO2−δ nanocrystals and their bulk ceramics , *Journal of Materials Science: Materials in Electronics*, (30) 2096–2106 (2019).
10. Kumar, RakeshPandey, Krishna Kant Islam,Aminul Keshri, Anup Kumar , Graphene nanoplatelets: A promising corrosion inhibitor and toughening inclusion in plasma sprayed cerium oxide coating , *Journal of Alloys and Compounds*, 809, 151819, 1-10 (2019).
11. Ammar Eqbal, Kumar Sadanand Arya and Tamoghna Chakrabarti , In-depth study of the evolving thermal runaway and thermal gradient in the dog bone sample during flash sintering using finite element analysis , *Ceramics International*, 46, 10370-10378 (2020).
12. Gupta, Rohit Islam,AminulPandey,Krishna KantRanjan,ShreshthaSingh,Ravi KumarMukherjee, BiswajyotiKeshri,Anup Kumar , In-situ oxide-free titanium nitride coating by conventional plasma spraying with improved properties , *Ceramics International*, 15, 12590-12593 (2019).
13. Rahman,O. S. AsiqMukherjee,BiswajyotiIslam,Aminul Keshri,Anup Kumar , Instant Tuning of Superhydrophilic to Robust Superhydrophobic and Self Cleaning Metallic Coating: Simple, Direct, One-Step and Scalable Technique. , *ACS Applied Materials and Interface*, 11 4616–4624 (2019).
14. Singh, SwarnimaPandey, Krishna Kant O S, Asiq Rahman Haldar, Swati Lahiri,Debrupa and Keshri, Anup Kumar , Investigation of crystallinity, mechanical properties, fracture toughness and cell proliferation in plasma sprayed graphene nano platelets reinforced hydroxyapatite coating , *Materials research express*, 7, 015415, 1-14 (2020).
15. Kumar Rakesh, Anjum Kahkashan Neyaz, Rani Shikha, Sharma K., Tiwary K. P., Kumar Dinesh K , Material properties of ZnS nanoparticles incorporated soy protein isolate biopolymeric film , *Plastics and Rubber Composites*, 48, 448 (2019).
16. Pathak, A M, SribalajiPandey,KKBijalwan,PDutta, M.Keshri, A. K , Microstructural Evolution and Fracture Toughness of Plasma Sprayed CNT Reinforced Yttria Stabilized Hafnia Coating , *International Journal of Applied Ceramic Technology*, 16, 2306–2315. (2019).
17. Ranjan, Shreshtha Mukherjee, Biswajyoti Islam, AminulPandey, Krishna Kant Gupta, RohitKeshri, Anup Kumar , Microstructure, Mechanical and High Temperature Tribological Behaviour of Graphene Nanoplatelets reinforced Plasma Sprayed Titanium Nitride Coating , *Journal of the European Ceramic Society*, 40, 660-671 (2020).
18. B. Yoon, Devinder Yadav, S. Ghose, P. Sarin, Rishi Raj , On the synchronicity of flash sintering and phase transformation , *Journal of the American Ceramic Society*, 102, 3110-3116 (2019).
19. Ranjan, AtulIslam AminulPathak,ManabendraKhan, Mohd. Kaleem Keshri,Anup Kumar, Plasma sprayed copper coatings for improved surface and mechanical properties, *Vacuum*, 168, 108834(1-10) (2019).
20. Aditya Arun, Anirban Chowdhury , Reaping the remarkable benefits of a 'burst nucleation' approach for a ceria doped zirconia system , *Journal of Alloys and Compounds*, (802) 318-325 (2019).
21. Sreenath P.R., Mandal Saptarshi, Singh Seema, Das Prolay, Bhowmick Anil K., Kumar Dinesh K. , Remarkable synergetic effect by in-situ covalent hybridization of carbon dots

with graphene oxide and carboxylated acrylonitrile butadiene rubber , *Polymer*, 175, 283 (2019).

22. Pandey, Krishna Kant Islam, Aminul Kumar, Rakesh Ghosh,Rahul Arjunan,Venugopal and Keshri, Anup Kumar , Role of the Hybrid Addition of Carbon Nanotubes and Graphene Nanoplatelets on the Corrosion Behavior of Plasma-Sprayed Aluminum Oxide Nanocomposite Coating , *Advanced Engineering Materials*, 1900763, 1-9 (2019).
23. Kundan Kumar, Saurabh Srivastava, Anirban Chowdhury , Role of various alcohol washing media in obtaining a remarkable texture for La2Ce2O7 powders and ceramics , *Journal of the American Ceramic Society*, (103) 1563-1574 (2020).
24. Rani Priya, Kumar Rakesh, Kumar Dinesh K., Soy protein isolate film by incorporating mandelic acid as well as through fermentation mediated by bacillus subtilis , *Journal of Renewable Materials*, 7, 103 (2019).
25. Kundan Kumar, Hema Dutta, Swapan Kumar Pradhan, Anirban Chowdhury , Stabilization of ZrO2 matrix: Revisiting the 'archaic' issue with a peculiar example , *Scripta Materialia*, (162) 408-411 (2019).
26. Karuna Kumari, Ashutosh Kumar, Dinesh K. Kotnees, Jayakumar Balakrishnan, Ajay D. Thakur, S.J. Ra , Structural and resistive switching behaviour in lanthanum strontium manganite - Reduced graphene oxide nanocomposite system , *J. Alloys Compd.*, 815, 152213 (2020).
27. Kushal Singh, Kundan Kumar, Prasanta Kumar Ojha, Anirban Chowdhury , Structure-property correlations for the surfactant-free faceted nanocrystals of Ce1−xZrxO2 and their bulk ceramics , *Materials Research Bulletin*, (112) 38-45 (2019).
28. Kundan,Nitika Parida, Biswajit Keshri, Anup Kumar Soni, Prathvi Raj, Synthesis and characterization of the nanostructured solid solution with extended solubility of graphite in nickel by mechanical alloying , *International Journal of Minerals, Metallurgy, and Materials*, 26, 1031–1037 (2019).
29. Bijalwan, Pavan Pandey, Krishna Kant Mukherjee, Biswajyoti Islam,Aminul Pathak, Abhishek Dutta,Monojit Keshri, Anup Kumar , Tailoring the Bimodal Zone in Plasma Sprayed CNT Reinforced YSZ Coating and its Impact on Mechanical and Tribological Properties , *Surface & Coatings Technology*, 377124870, 1-9 (2019).
30. Aarthi Uthayakumar, Arunkumar Pandiyan, Sribalaji Mathiyalagan, Anup Kumar Keshri, Suresh Babu Krishna Moorthy , The Effect of Space Charge on Blocking Grain Boundary Resistance in Yttrium Doped Barium Zirconate Electrolyte for Solid Oxide Fuel Cells , *The Journal of Physical Chemistry C*, 124, 10, 5591-5599 (2020).
31. Mazumder Subhrojyoti, Kumar Om Prakash, Kumar Dinesh K., Mandal Nilrudra , Tribological influences of cuo into 3y-tzp ceramic composite in conformal contact , *Journal of Tribology*, 141, 031606 (2019).
32. Sreenath P.R., Mandal Saptarshi, Singh Seema, Panigrahi Harekrishna, Das Prolay, Bhowmick Anil K., Kumar Dinesh K. , Unique approach to debundle carbon nanotubes in polymer matrix using carbon dots for enhanced properties , *European Polymer Journal*, 123, 109454 (2020).
33. Panigrahi Harekrishna, Sreenath P.R., Bhowmick Anil K., Kumar Dinesh K , Unique compatibilized thermoplastic elastomer from polypropylene and epichlorohydrin rubber , *Polymer*, 183, 121866 (2019).

Papers Presented in Conferences

1. Satyanarayana M. S. Sreenath, P.R., Bhowmick A. K., K. Dinesh Kumar *,* Catalyst driven preferential growth of in-situ generated nanosilica particles in the phases of incompatible polymer blend and its effect on physico-mechanical properties , *4th International Conference on Nanotechnology for Better Living* , IIT Kanpur (2019)
2. Rahman,O. S. AsiqMukherjee,BiswajyotiIslam,Aminul Keshri,Anup Kumar *,* One Step and Scalable Technique for Immediate Tuning of Superhydrophilic to Robust Super hydrophobic and Self Cleaning Metallic Coating , *10th Anniversary, International Conference of the Asian Consortium on Computational Materials Science (ACCMS-10* , University of Hong Kong, (2019)

Physics
Head: Dr. Venkata Ramanaiah Dantham

1.Dr. Ajay D. Thakur
Associate Professor
Condensed Matter Physics, advanced electronic materials for energy harvesting and sensing applications

2.Dr. Alpana Nayak
AssistantProfessor
Condensed matter physics (experimental), Nanoionic devices; atomic switches, Scanning probe microscopy, Organic thin films

3. Dr. Arghya Choudhury
AssistantProfessor
Particle Physics, Collider Physics, Physics beyond the Standard Model, Supersymmetry, Higgs Physics, Dark Matter.

4. Dr. Awalendra K. Thakur
Assistant Professor
Renewable Energy Resources, Composite Nano Structures, Solid State Ionics, Dielectrics and Ferroelectrics, Super Capacitors, E.M.I. Shielding.

5. Dr. Ayash Kanto Mukherjee
Asst. Professor
Transport in conjugated polymers, Organic electronic devices, Molecular electronics

6. Dr. Jobin Jose
AssistantProfessor
Computational atomic and molecular physics

7. Dr. Manas Kumar Sarangi
AssistantProfessor
Biophysics and Ultrafast Spectroscopy

8. Dr. Manoranjan Kar
Associate Professor
Magnetic materials, Nanostructured ferrites, Multiferroic Materials, Composites

9. 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)

10. Dr. Neha Kiritkumar Shah

Assistant Professor
Experimental High Energy Physic, Heavy-ion Collisions: Understanding strong interactions using two-particle correlation functions, Understanding QCD phase diagram with strangeness production, Hypernuclei and antimatter production, Exotics: Dibaryons, pentaquarks and Hadron spectroscopy

11. Dr. Prakash Parida
    Assistant Professor
    Condensed Matter Theory, Quantum Transport, Two-Dimensional Layered Materials, Topological Insulators, Charge-Spin-Heat Transport, Strong Correlated Electronic Systems, Light-Matter Interaction

12. Dr. Raghavan K Easwaran
    Assistant Professor
    Quantum Optics (Experiment and Theory)

13. Dr. Soumya Jyoti Ray
    Asst. Professor
    Two-dimensional Layered Materials, Nanoelectronics, Spintronics, Superconductivity, Magnetism

14. Dr. Utpal Roy
    Associate Professor
    Bose-Einstein condensate, Nonlinear Optics, Quantum Optics, Quantum Physics

15. Dr. Venkata R. Dantham
    Associate Professor
    Bio-Photonics, Nanophotonics, Ultrasensitive optical biosensors, Photonic atoms

16. 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

Fellow - Professional Bodies

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

Member - Professional Bodies

1. Ajay Thakur (0) Indian Physics Association
2. Ajay Thakur (0) Magnetics Society of India
3. Jobin Jose (2009) Indian society of Atomic and Molecular physics (ISAMP)
4. Naveen Kumar Nishchal (2010) Indian Science Congress Association
5. Naveen Kumar Nishchal (2015) OSA The Optical Society

6. Naveen Kumar Nishchal (2015) SPIE USA
7. Naveen Kumar Nishchal (2003) Lasers and Spectroscopy Society of India
8. Prashant Kumar (2011) SPIE
9. Prashant Kumar (2012) American Nano Society
10. Prashant Kumar (2011) American Physical Society

Member - Editorial Board

1. Naveen Kumar Nishchal (2020) *Associate Editor* - Optical Engineering
2. Naveen Kumar Nishchal (2019) *Member* - Asian Journal of Physics
3. Prashant Kumar (2012) *Member* - Advances in Natural Sciences

Awards & Honours

1. Ajay Thakur (2019) *Best UG Teacher in Physics*
2. Soumya Jyoti Ray (2019) *DST-Core Research Grant*
3. Naveen Kumar Nishchal (2019) *India Top Cited Author Award-2019*
4. Naveen Kumar Nishchal (2019) *Research paper included in the Top 20 Most Downloaded Articles from JOSA A over the past year*
5. Naveen Kumar Nishchal (2019) *Research paper included in the Top Downloaded Articles from JOSA A (August 2019)*
6. Utpal Roy (2019) *Work got best Oral presentation Award, SERB School on Nonlinear Dynamics, J. Bera & Utpal Roy, IITP December*

Sponsored Research Projects

1. 4. Study of Optical Image Fusion Techniques for Securing Multispectral Data (Council of Scientific & Industrial Research, Rs.21.24 Lakhs) (PI : Dr Naveen K Nishchal)
2. Design and Implementation of Orbital Angular Momentum (OAM) Assisted Spectrally Efficient Wavelength Division Multiplexed Communication System Using C (IMPRINT-II, Rs.73.00 Lakhs) (PI : Sumanta Gupta)
3. Development of an agricultural waste based off-the-grid climate control unit for storage and processing of agricultural produce (IMPRINT-II SERB, Rs.98.36 Lakhs) (PI : Rishi Raj)
4. Electromagnetically Induced Transparency and Slow Light in a Two dimensional Magneto Optical Trap (2D MOT) (SERB, Depart of Science and Technology (DST), Status is completed(August 2019), Rs.21.20 Lakhs) (PI : Raghavan K Easwaran)
5. Enhancement of Raman scattering signal of single molecules using photonic nanojet mediated surface enhanced Raman scattering (SERS) technique (CSIR, Rs.22.00 Lakhs) (PI : Venkata Ramanaiah Dantham)
6. Fluctuation in DNA dynamics (SERB, Rs.43.00 Lakhs) (PI : Manas Kumar Sarangi)
7. Generation, Imaging and Control of Novel Coherent Electronic States in Artificial Ferromagnetic-Superconducting Hybrid Structures and Devices (DST, Rs.50.00 Lakhs) (PI : Dr. S. J. Ray)
8. Investigations on thin films of discotic liquid crystal molecules for applications in organic electronics (SERB-DST, Rs.40.90 Lakhs) (PI : Dr. Alpana Nayak)

9. Novel Spin-triplet superconductivity using Ferromagnetic-Superconducting heterostructures (UGC-DAE, Rs.1.35 Lakhs) (PI : Dr. S. J. Ray)
10. Persistent Light Emitting Phosphors for Solid State Lighting Applications (SERB TEQIP-III, Rs.10.98 Lakhs) (PI :)
11. Photoionization and Electron Scattering Dynamics of Free and Confined Atomic Systems (DST-SERB, Rs.25.00 Lakhs) (PI : Jobin Jose)
12. Ramanujan Fellowship (SERB, Rs.130.00 Lakhs) (PI : Prashant Kumar)
13. Respect Bihar (Revitalization of Physics education through concept oriented teaching in Bihar (Bihar Education Project Council, Rs.239.00 Lakhs) (PI : Dr Manoranjan Kar)
14. SERB-NLD-School (SERB, Rs.27.00 Lakhs) (PI : Utpal Roy)
15. Setting up of an advanced multimode scanning probe microscopy facility for device applications (DST under FIST program, Government of India, Rs.269.00 Lakhs) (PI : Dr. Alpana Nayak)
16. Setting up of an advanced multimode scanning probe microscopy facility for device applications. (DST under FIST program, Rs.269.00 Lakhs) (PI : Dr. Alpana Nayak (project coordinator))
17. Studying Anisotropy and various observables in Xe-Xe Collisions at 5.44 TeV Using Simulation Tool (TEQIP Collaborative Research Scheme, Rs.9.03 Lakhs) (PI : Dr. SWATANTRA TIWARI)
18. Superconducting Spintronics using hybrid Superconducting-Ferromagnetic Metamaterials (DST, Rs.35.00 Lakhs) (PI : Dr. S. J. Ray)
19. Two-dimensional nanomaterial based hybrid structures for switching and memory applications (DST, Rs.50.00 Lakhs) (PI : Dr. S. J. Ray)
20. Valleytronics in Gapped Dirac Materials (DST-SERB, Rs.0.00 Lakhs) (PI : Prakash Parida)

Patents (filed / granted)

1. Patent Name:System and Method for Heat Recovery in Gasification Process; Patent Owner: Ajay Thakur

Visits Abroad by Faculty Members

1. Naveen Kumar Nishchal - Conference (Japan (Wakayama, Yokohama, Kobe),) April 23-30, 2019
2. Naveen Kumar Nishchal - Conference (Bordeaux France,) May 19-23
3. Neha Shah - Participation in experiment (Brookhavan National Laboratory, NY, USA,) 21 days

Invited Lectures by Faculty Members

1. Tuning of magnetic properties in composites & Polymer composite and its characterization *by* Manoranjan Kar (CV Raman College of Engineering)
2. Composite Functional Materials for Sustainable Energy Applications *by* Manoranjan Kar (IIT Dhanbad)
3. Magnetic Nanocomposite *by* Manoranjan Kar (G M University Sambalpur)
4. Surface interaction in magnetic nanomaterials *by* Manoranjan Kar (NISER Bhubaneswar)

5. Magnetic exchange interaction between bi-magnetic materials *by* Manoranjan Kar (NIT Durgapur)
6. Motivation for science and technology *by* Manoranjan Kar (Science centre Patna)
7. Value of project work on science education *by* Manoranjan Kar (G.D. Goenka public school)
8. Undergraduate physics teaching through project work *by* Manoranjan Kar (Ranchi university)
9. Electron Microscopy *by* Manoranjan Kar (IIT Dhanbad)
10. Polymer nanocomposite *by* Manoranjan Kar (NIT Durgapur)
11. Research methodology *by* Manoranjan Kar (Berhampur University)
12. Advanced Materials for Technological Application *by* Manoranjan Kar (IGIT Sarang)
13. Evidence of Magnetic Interaction in composite *by* Manoranjan Kar (CUB Gaya)
14. Rietveld Analysis of XRD patterns *by* Manoranjan Kar (Patna University)
15. Physics of Nanomaterials *by* Manoranjan Kar (Patna University)
16. Breaking of accidental degenercy: A demonstration using computational techhniques *by* Jobin Jose (Assumption College Changanachery)
17. Breaking of accidental degenercy: A demonstration using computational techhniques *by* Jobin Jose (CMS College Kottayam)
18. Quantum Scattering: A Computational Approach *by* Jobin Jose (IIT Patna)
19. Principle of Causality: Understanding Gyroscopic Motion to Christmas Being Celebrated in Summer!! *by* Jobin Jose (St. Thoas B. Ed. College Pala)
20. Principle of Causality: Understanding Gyroscopic Motion to Christmas Being Celebrated in Summer!! *by* Jobin Jose (UC College Aluva)
21. Self-consistent field of atoms *by* Jobin Jose (UC College Aluva)
22. Shannon Entropy in endohedrally confined atoms: Indicator of Avoided crossing and Correlation energ *by* Jobin Jose (IIT Roorkee)
23. Synergistic Approach to Functional Materials for Sustainable Future *by* Ajay Thakur (IIT Indore)
24. A Physicists Perspective on Energy Security and Role of Materials *by* Ajay Thakur (IIT-ISM Dhanbad)
25. Graphene: Bringing Revolution in Industry *by* Ajay Thakur (BIT Patna)
26. Graphene Oxide: Prospects and Challenges *by* Ajay Thakur (Tripura University)
27. Sustainability: Challenges and Opportunities *by* Ajay Thakur (IIT Patna (Induction Program))
28. Physics Driven Search and Development of Functional Materials for Sustainable Future *by* Ajay Thakur (DEI-Agra)
29. Statistical Physics *by* Ajay Thakur (Patna University (Refresher Course for University Teachers))
30. Various Facets of the Random Walk Problem *by* Ajay Thakur (IIT Patna (SERB School))
31. Illustration Lecture on Nobel Peace Prize 2019 *by* Ajay Thakur (IIT Patna (Nobel Colloquium))
32. Atomic Switch for Neuromorphic Systems *by* Alpana Nayak (Central University of South Bihar)
33. Applications of high quality factor optical microcavities toward Biosensing and Non-linear optics *by* Dr. Venkata Ramanaiah Dantham (SERB School on Nonlinear Dynamics held at IIT Patna)
34. Applications of high quality factor optical microcavities toward cavity QED *by* Dr. Venkata Ramanaiah Dantham (SERB School on Nonlinear Dynamics held at IIT Patna)
35. Light for information encoding *by* Naveen Kumar Nishchal (Indian Institute of Technology (Banaras Hindu University) Varanasi)

36. Vector beam based asymmetric image encryption *by* Naveen Kumar Nishchal (Faculty of Systems Engineering Wakayama University Wakayama JAPAN)
37. Light for information security *by* Naveen Kumar Nishchal (Department of Applied Optics and Photonics University of Calcutta Kolkata)
38. Complex Quantum System of Ultracold Atoms *by* Utpal Roy (International Conference on Complex Quantum System, IIT Bombay)
39. Coherent Wavepackets of Light & Matter *by* Utpal Roy (International School on Quantum Information & Quantum Technology, IISER Kolkata)
40. Advances of Quantum Technology *by* Utpal Roy (Refreshers course, Patna University)
41. Ultracold Atom Dynamics in Frustrated Optical Lattices *by* Utpal Roy (International Meet: Young Scientists Meet on Quantum Condensed Matter, S. N Bose Center, Kolkata)
42. *by* Soumya Jyoti Ray (Vizag)
43. *by* Soumya Jyoti Ray (Delhi)

Short-Term Courses, Training Programmes and Workshops organised

1. SERB School on Nonlinear Dynamics (December 03-31, 2019)

Papers Published in Journals

1. J. Adams, N. Shah, Longitudinal double-spin asymmetry for inclusive jet and dijet production in pp collisions at sqrt(s)=510 GeV *, Physical Review D*, 100 (2020).
2. D. Punetha, M. Kar and S. K. Pandey *,* A new type low-cost, flexible and wearable tertiary nanocomposite sensor for room temperature hydrogen gas sensing *, Scientific Reports*, 10, 2151 (2020).
3. K. Gaurav, B. Shantibhushan, S. J. Ray, A. Shrivastava *,* Acridinium based Organic Molecular Single Electron Transistor for High Performance Switching Applications *, IEEE Transactions on Nanotechnology*, 18, 1148-1155 (2019).
4. P. Kumari, S. Majumder, S. Rani, A. Nair, K. Kumari, M. V. Kamalakar, S. J. Ray *,* An all Phosphorene Lattice Nanometric Spin Valve *, Under Review*, (2020).
5. Maithilee Motlag, Prashant Kumar, Kevin Y. Hu, Shengyu Jin, Ji Li, Jiayi Shao, Xuan Yi, Yen□Hsiang Lin, Jenna C. Walrath, Lei Tong, Xinyu Huang, Rachel S. Goldman, Lei Ye, Gary J. Cheng *,* Asymmetric 3D Elastic–Plastic Strain□Modulated Electron Energy Structure in Monolayer Graphene by Laser Shocking *, Advanced Materials*, 31, 1900597 (2019).
6. J. Adams, N. Shah, Azimuthal harmonics in small and large collision systems at RHIC top energies *, Physical Review Letters*, 122 (2019).
7. J. Adams, N. Shah, Beam energy dependence of (anti-)deuteron production in Au+Au collisions at RHIC *, Physical Review C*, 99 (2019).
8. J. Adams, N. Shah, Beam-energy dependence of identified two-particle angular correlations in Au+Au collisions at RHIC *, Physical Review C*, 101 (2020).
9. A. Nair, S. Rani, M. V. Kamalakar, S. J. Ray*,* Bi-stimuli assisted engineering and control of magnetic phase in monolayer CrOCl *, Under Review*, (2020).
10. Sumit Bhushan, Vikas S.Chauhan and Raghavan K. Easwaran*,* Broadband Quantum Memory Using Electromagnetically Induced Transparency in Atomic Medium*, Journal of Modern Optics*, Volume 66, Pages 99 (2019).
11. J. Adams, N. Shah, Bulk Properties of the System Formed in Au+Au Collisions at sqrt(sNN) = 14.5 GeV *, Physical Review C*, 101 (2020).

12. CKR Namboodiri, PB Bisht, VR Dantham, Cascaded Forster Resonance Energy Transfer and Role of the Relay Dye , *arXiv* , 1907.04622 (2019).
13. S. Chauhan, M. Kar, J. Kumar, S. K. Jaiswal, Cerium induced Raman spectra of (Ba0.5Sr0.5)(Fe1-xCex)O3-δ (x=0 - 1), , *Materials Chemistry and Physics* , 241, 122378 (2020).
14. Karuna Kumari, Ashutosh Kumar, Ajay D. Thakur and S. J. Ray, Charge Transport and Resistive Switching in a 2D hybrid interface, *Under Review*, (2020).
15. J. Adams, N. Shah, Charge-dependent pair correlations relative to a third particle in p+Au and d+Au collisions at RHIC , *Physics Letters B*, 798 (2019).
16. S. Rani, S. J. Ray, CO detection on Graphene, *Nanomaterials and Energy*, 8, 1-4 (2019).
17. J. Adams, N. Shah, Collision Energy Dependence of pT Correlations in Au+Au Collisions at RHIC , *Physical Review C*, 99 (2019).
18. J. Adams, N. Shah, Collision energy dependence of second-order off-diagonal and diagonal cumulants of net-charge, net-proton and net-kaon multiplicity distributions in Au+Au collisions , *Physical Review C*, 100 (2019).
19. Atul Kumar and Ajay D. Thakur , Comprehensive Loss Modeling in Cu2SnZnS4 Solar Cells *, Current Applied Physics 19, 1111-1119 (2019)*, 19, 1111 (2019).
20. R. Pandey L. K. Pradhan, , S. Kumar, S. Supriya, R. Singh , M. Kar , Correlation between Lattice strain and Physical (Magnetic, Dielectric and Magnetodielectric) properties of Perovskite-Spinel (Bi0.85La0.15FeO3)(1-x)- (NiFe2O4)(x) Composites , *Journal of Applied Physics*, 125 (2019).
21. S. Guha, R. Kumar, S. Kumar, L. K. Pradhan, R. Pandey, M. Kar , Crystal structure and magnetic properties study on ferromagnet Fe2MnSi0.75Al0.25 Heusler alloy , *Physica B: Condensed Matter* , 579, 411805 (2020).
22. Rahool Kumar Barman, Biplob Bhattacherjee, Arghya Choudhury, Debtosh Chowdhury, Jayita Lahiri, Shamayita Ray , Current status of MSSM Higgs sector with LHC 13 TeV data , *EPJ Plus*, 134, 150 (2019).
23. Sunil, Rahul Sinha, Chaitanya Bathina, Birendra K. Rajan, Anurag Agarwal, Ajay D. Thakur, Rishi Raj, , Design, fabrication, and performance evaluation of a novel biomass-gasification-based hot water generation system , *Energy*, 185, 148 (2019).
24. S. Rani, S. J. Ray , Detection of gas molecule using C3N island single electron transistor , *Carbon*, 144, 235 (2019).
25. S. Rani, S. J. Ray , DNA sensing using graphene and hexagonal boron nitride island based nanosensor , *Under Review*, (2020).
26. A. Nair, P. Kumari, S. J. Ray , Dramatic magnetic phase designing in phosphorene , *Physical Chemistry Chemical Physics*, 21 (42), 23713-23719 (2019).
27. S. K. Srivastava1, R. Brahma, S. Datta, S. Guha, Aakansha, S. S. Baro, B. Narzary, D. R. Basumatary, M. Kar , Effect of (Ni-Ag) co-doping on Crystal Structure and Magnetic Property of SnO2 , *Mater. Res. Express* , 6, 126107 (2019).
28. P.Tiwari and V. R. Dantham , Effect of Different Plasmonic Nanoparticles on the Reactive Shift of Nanoplasmonic-Whispering Gallery Mode Hybrid Microresonator , *AIP Conf Proc.*, Accepted (2019).
29. K.Tanbir • M. P. Ghosh, R. K. Singh, M. Kar and S. Mukherjee , Effect of doping different rare earth ions on microstructural, optical, and magnetic properties of nickel–cobalt ferrite nanoparticles , *Journal of Materials Science: Materials in Electronics* , 31, 435–443 (2020).
30. S. P. Muduli, S Parida, S K Rout, S. Rajput , M. Kar , Effect of hot press temperature on β-phase, dielectric and ferroelectric properties of solvent casted Poly(vinyledene fluoride) films , *Mater. Res. Express* , 6, 095306 (2019).

31. Sumit Bhushan, Vikas S.Chauhan and Raghavan K. Easwaran , Effect of Magnetic Field on a Multi Window Ladder Type Electromagnetically Induced Transparency System of 87Rb Atoms in Vapour Cell , *Physics Letters A*, 31, 1258 (2019).
32. S. Mishra, S. Rani, S. J. Ray , Engineered Single Electron Transistor based Nanopore for the detection of various nucleobases , , (2020).
33. P. Kumar N. K. Nishchal , Enhanced exclusive-OR and quick response code-based image encryption through incoherent illumination , *Applied Optics*, 58 1408 (2019).
34. R. V. William, G. M. Das, V. R. Dantham, and R. Laha , Enhancement of single Molecule Raman scattering using sprouted potato shaped Bimetallic Nanoparticles , *Scientific Reports*, 9, 1 (2019).
35. Manas Kumar Sarangi, Viktoriya Zvoda, Molly Nelson Holte, Nicole A Becker, Justin P Peters, L James Maher III, Anjum Ansari , Evidence for a bind-then-bend mechanism for architectural DNA binding protein yNhp6A , *Nucleic acids research*, 47 (0).
36. L. K. Kumar, R. Pandey, S. Kumar, S. Kumari , M. Kar , Evidence of compositional fluctuation induced relaxor anti-ferroelectric to antiferroelectric ordering in Bi0.5Na0.5TiO3–Bi0.5K0.5TiO3 based lead free ferroelectric , *Journal of materials science:Materials in Electronics*, 30 (2019).
37. A Nath, S Ghosh, J Bera, and Utpal Roy , Exact Analytical Model for Bose-Einstein Condensate at Negative Temperature , *Nature Scientific Reports* , Accepted (In press) (0).
38. S. Gupta, R. K. Choubey, L. K. Sharma, M. P. Ghosh, M. Kar, S. Mukherjee , Exploring the magnetic ground state of vanadium doped zinc sulphide , *Semiconductor science technology*, 34 (2019).
39. J. Adams, N. Shah, First observation of the directed flow of D0 and D0bar in Au+Au collisions at sqrt(sNN) = 200 GeV , *Physical Review Letters*, 123 (2019).
40. Pranay Ranjan, Tumesh Kumar Sahu, Rebti Bhushan, Sharma SRKC Yamijala, Dattatray J. Late, Prashant Kumar*, Ajayan Vinu , Freestanding Borophene and Its Hybrids , *Advanced Materials*, 31, 1900353 (2019).
41. S. Kumar, S. Supriya, L. K Pradhan, R. Pandey and M. Kar , Grain size effect on magnetic and dielectric properties of barium hexaferrite (BHF)" , *Physica B: Condensed Matter* , 579, 411908 (2020).
42. P. Ranjan, A. Kumar, J. Balakrishnan, Ajay D. Thakur , Graphene Oxide Based PN Junctions , *Materials Today Proceedings*, 11, 830 (2019).
43. P. Kumari, S. Majumder, S. Rani, A. Nair, K. Kumari, M. V. Kamalakar, S. J. Ray , High efficiency spin filtering in magnetic phosphorene , *Physical Chemistry Chemical Physics*, 22, 5893-5901 (2020).
44. P. Kumar A. Fatima N. K. Nishchal , Image encryption using phase-encoded exclusive-OR operations with incoherent illumination , *Journal of Optics*, 21 065701 (2019).
45. Atul Kumar, Ajay D. Thakur , Improving the optoelectrical properties of Cu2ZnSnS4 using gold and graphene nano-fillers , *Journal of Materials Science: Materials in Electronics*, 20, 8546 (2019).
46. Prakhar Verma, Shakkira Erimban, Nishant Kumar, Snehasis Daschakraborty, Alpana Nayak, and Sandeep Kumar , Influence of Coulombic Interaction on the Interfacial Self-Assembly of Discotic Liquid Crystal Amphiphiles: A Combined Experimental and Computer Simulation Study , *J. Phys. Chem. C*, 123, 16681 (2019).
47. 18. S. Kumar, M. K. Manglam, S. Supriya, H. K. Satyapal, R. K Singh and M. Kar , Lattice strain mediated dielectric and magnetic properties in La doped barium hexaferrite , *Journal of Magnetism and Magnetic Materials*, 473, 312-319 (2019).

48. Vikas Singh Chauhan, Sumit Bhushan and Raghavan K Easwaran , Magnetic Coil Design for Two Dimensional Magneto Optical Trap to Realization of Efficient Quantum Memory , *AIP Proceedings*, Accepted (2020).
49. S. Kumar, L. K. Pradhan, M. K. Manglam and M. Kar, , Magnetic interaction between BHF (BaFe12O19) and BTO (BaTiO3) in BTO–BHF nanocomposite, , *Journal Magnetism and Magnetic material*, 498, 166100 (2020).
50. Vikas Singh Chauhan, Dixith M, Praveen Kumar, Rohit Kumar, Sumit Bhushan and Raghavan K Easwaran, , Measurement of Dispersive Properties of Multi Window Electromagnetically Induced Transparency in Rubidium Atomic Vapor Medium by Using Spatial Light Modulator , *Optik*, Under Review (2020).
51. J. Adams, N. Shah, Measurement of inclusive J/psi suppression in Au+Au collisions at sqrt(sNN) = 200 GeV through the dimuon channel at STAR , *Physics Letters B*, 797 (2019).
52. J. Adams, N. Shah, Measurements of the transverse-momentum-dependent cross sections of J/psi production at mid-rapidity in proton+proton collisions at $sqrt{s} =$ 510 and 500 GeV with the STAR detector, *Physical Review D*, 100 (2020).
53. S. Guha, S. Kumar, S. Datta, M. K. Manglam ,M. Kar , Metal to semimetal transition and magnetic critical behavior at room temperature in the full Heusler alloy Fe2MnSi. , *Journal of physics d:Applied physics*, 52 (2019).
54. Sandhya Mishra, Tumesh Kumar Sahu, Priyanshu Verma, Prashant Kumar, Sujoy Kumar Samanta , Microwave-Assisted Catalytic Degradation of Brilliant Green by Spinel Zinc Ferrite Sheets , *ACS Omega*, 4, 10411 (2019).
55. P. Kumar N. K. Nishchal , Modified Mach-Zehnder interferometer for determining high-order topological charge of Laguerre-Gaussian vortex beams , *Journal of Optical Society of America A*, 36 1447 (2020).
56. A. Arya, G. M. Das, R. Laha, and V. R. Dantham , Nanoplasmonic-whispering gallery mode hybrid microresonator for enhancing single molecule Raman scattering and fluorescence , *Journal of Optical Society of America B*, 36, 235 (2019).
57. V S Chauhan, R Kumar, D Manchaiah, P Kumar, R K Easwaran , Narrowing of Electromagnetically Induced Transparency by Using Structured Coupling Light in 85Rb Atomic Vapor Medium , *Laser Physics*, Accepted (2020).
58. G. M. Das and V. R. Dantham , Near- and Far-Field Plasmonic Properties of Different Types of Eccentric Core-Shell Nanodimers , *Plasmonics*, DOI : 10.1007/s114.. (2019).
59. L. K. Pradhan, R. Pandey and M. Kar , Nonstoichiometric charge defect induced relaxor antiferroelectric ordering in La modified Bi0.5 (Na0.80K0.20)0.5TiO3 relaxor ferroelectric , *J. Phys. Condensed matter,*, 32, 045404 (2020).
60. P. Tiwari, G. M. Das, and V. R. Dantham , Optical properties of Au-Ag bimetallic nanoparticles of different shapes for making efficient bimetallic-photonic whispering gallery mode hybrid microresonators , *Plasmonics*, DOI: 10.1007/s11468- (2020).
61. S. Supriya, L. Kumar , M. Kar , Optimization of dielectric properties of PVDF–CFO nanocomposites , *Polymer composites*, 40 (2019).
62. A. K. Gupta A. Fatima N. K. Nishchal T. Nomura , Phase imaging based on modified transport of intensity equation using liquid crystal variable retarder with partial incoherent illumination , *Optical Review*, 27 142 (2020).
63. S. Saha, A. Thuppilakkadan, H. R. Varma, J. Jose , Photoionization dynamics of endohedrally confined atomic H and Ar: acontrasting study between compact versus diffused model potential , *J. Phys. B. At. Mol. Opt. Phys*, 52 145001 (2019).

64. A. Mandal and V. R. Dantham , Photonic nanojets generated by single microspheres of various sizes illuminated by resonant and non-resonant focused Gaussian beams of different waists , *Journal of Optical Society of America B*, 37, 977 (2020).
65. A. Mandal and V. R. Dantham , Photonic Nanojets Generated by Spherical Shaped Single Dielectric Core-Shell Microparticles , *AIP Conf Proc.*, Accepted (2019).
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67. G. M. Das, V. R. Dantham, and A. Arya, Plasmonic Properties of Nano-and Microscale Dielectric Substrates-Supported Nanoshell Dimers: Effects of Type and Propagation Direction of Excitation Light , *IEEE Photonics* , 11,8 (2019).
68. J. Adams, N. Shah, Polarization of Lambda (anti-Lambda) hyperons along the beam direction in Au+Au collisions at sqrt(sNN) = 200 GeV , *Physical Review Letters*, 123 (2019).
69. J. Adams, N. Shah, Precise measurement of the mass difference and the binding energy of hypertriton and antihypertriton, *Nature Physics*, (2020).
70. A. Chaudhury, S. Majumdar, S. J. Ray, Proximity Induced Colossal Conductivity Modulation in Phosphorene, *Physical Review Applied,* 11, 024056 (2019).
71. A. Kumar N. K. Nishchal, Quick response code and interference-based optical asymmetric cryptosystem, *Journal of Information Security and Applications*, 45 35 (2019).
72. Ranjan Kumar Behera, Abhishek Sau, Leepsa Mishra, Kallol Bera, Samapika Mallik, Alpana Nayak, Samita Basu, and Manas Kumar Sarangi , Redox Modifications of Carbon Dots Shape Their Optoelectronics , *J. Phys. Chem. C*, 123, 27937 (2019).
73. Ranjan Kumar Behera, Abhishek Sau, Leepsa Mishra, Kallol Bera, Samapika Mallik, Alpana Nayak, Samita Basu, Manas Kumar Sarangi , Redox Modifications of Carbon Dots Shape Their Optoelectronics , *The Journal of Physical Chemistry C*, 123 (2019).
74. L. K. Pradhan, R. Pandey, S. Kumar , M. Kar , Role of tricritical triple point type morphotropic phase boundary (multiple crystalline phases) on energy storage density in Bi0.5Na0.5TiO3 based solid solution , *Materials Research Express*, 6 (2019).
75. Vikas S. Chauhan, Dixith M, Sumit Bhushan, Rohit Kumar and Raghavan K .Easwaran* , Rydberg Electromagnetically Induced Transparency using Blue light in Ultracold 87Rb atoms for Underwater Quantum Communication , *European Journal of Physics D*, Under Review (2020).
76. Rahool Kumar Barman, Biplob Bhattacherjee, Arindam Chatterjee, Arghya Choudhury, Aritra Gupta , Scope of strongly self-interacting thermal WIMPs in a minimal U(1)D extension and its future prospects , *Journal of High Energy Physics*, 05, 177 (2019).
77. P. Kumar N. K. Nishchal, Self-referenced interference of laterally displaced vortex beams for topological charge determination, *Optics Communications*, 459 125000 (2020).
78. P. Kumar N. K. Nishchal , Self-referenced spiral interferogram using modified lateral shearing Mach-Zehnder interferometer , *Applied Optics*, 58 6827 (2020).
79. 17. S. Chauhan, L. K. Pradhan, M. Kar, R. K. Singh, J. Kumar and S. K. Jaiswal, , Sol-gel synthesis, crystalline phase, optical absorption, and photo-luminescence behavior of cerium-doped (Ba0.5Sr0.5)FeO3−δ powders , *Materials Research Express*, 6 , 105520 (2019).
80. A Nath, J Bera, S Ghosh, P K. Panigrahi and Utpal Roy , Soliton dynamics for an ingenious trap combination in a Bose-Einstein condensate , *European Physics Journal D*, 74, 27 (2020).
81. S. Rani, A. Nair, M. V. Kamalakar, S. J. Ray, Spin-selective response tunability in two-dimensional nanomagnets, *Under Review*, (2020).
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Centralized Services, Programmes and Units

1. COMPUTER CENTRE

Faculty in-Charge:
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

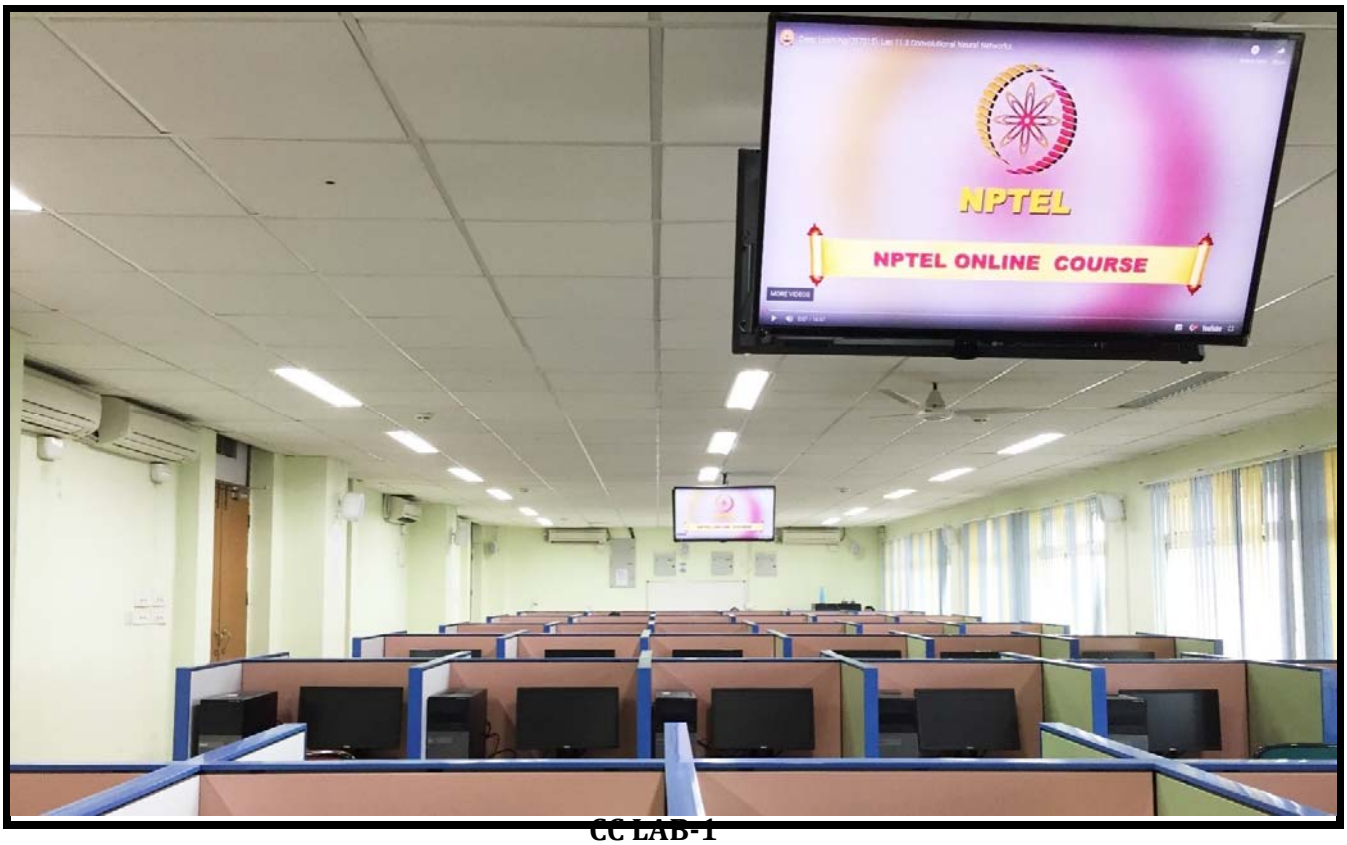
Mr. Arpit Ashok, JTS

Mr. Ranjeet Kumar, JT

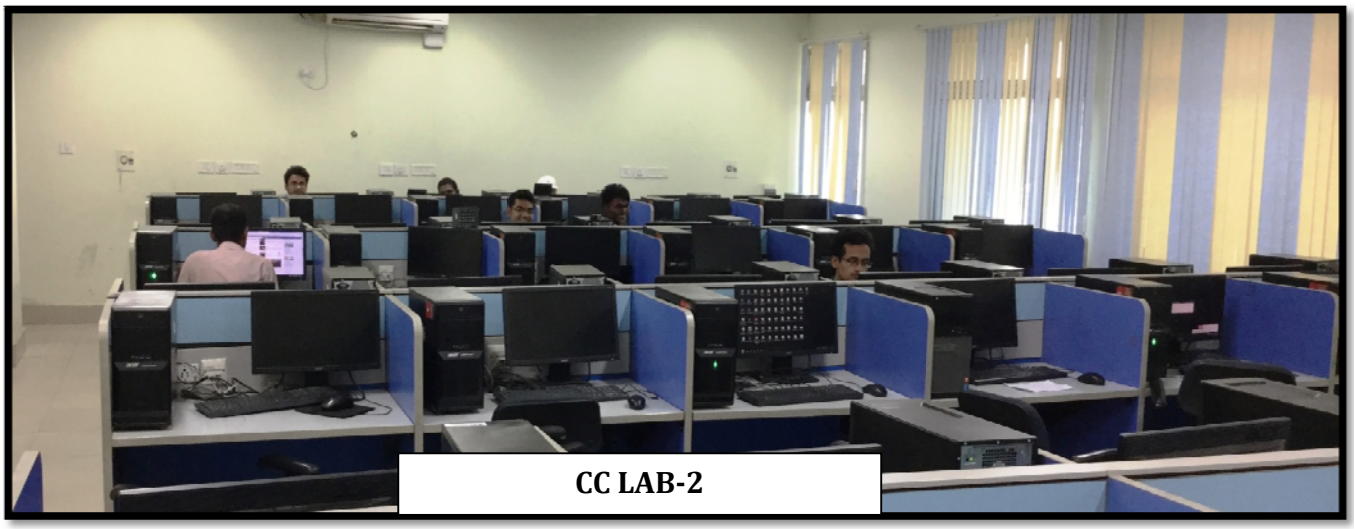
IIT Patna has a state of the art computer center. There are two computer center labs, CC-1 and CC-2. CC-1 Lab is equipped with 172 desktops having smart audio-video system and CC-2 Lab is equipped with 42 Desktops. These labs operate from 9:00 AM till midnight on all seven days. Additionaly, there are twelve UNIX/Linux/VMware based servers that caters to the institute IT services like Mail, Institute Webserver, Intranet, Online recruitment, admissions and students' academic requirements and research purpose. Availabilty 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

2. Hardware Resources

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 major hardware resources procured in addition to other:

Sl No.	Item	Unit	Price (INR)
1	Desktop Computer(Dell)	80	41,36,076
2	Audio-video System for CC Lab-1	01	23,66,748
3	HP Laserjet Printer	10	2,05,320
	Total		**67,08,144**

Overall, hardware resources of value **INR 67,08,144 only** were procured under major heads to cater for needs of computer Center.

3. Maintenance and Software Resources

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)
1	1 year maintainence contract of online UPS	4	1,41,600
3	Railtel ISP renewal	1	12,81,500
4	Matlab Campus wide License	1	9,02,700
6	Institute Website Upgradation (Under implementation)	-	4,82,620
7	Microsoft Campus Wide License-renewal	1	7,62,317
Total			**67,54,706**

Overall, Maintenance & Software resources of value **INR 67,54,706only** were procured through Computer Center to cater for needs of Institute.

4. Network

Network Services provide LAN, internet and telephone service access across the campus of 550 acres. The technical solution being maintained by IBM and CC jointly (CISCO as Original Equipment Manufacurer 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 on 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.

- 24X7 operation & maintenance with 1 site manager+ 3Engineers+1 reliever.

- There are around 5000+ end points for LAN/Internet and IP telephones

The above network is being extended to upcoming buildings.

Sl No.	Item	Unit	Price (INR)
1	Active components for Girl's Hostel	1	40,00,000
2	Active Components for Boy's Hostel, C-type building, Gym Khana- Under planning phase	Under Process	1,20,00,000 (projected)
3	Misc. Network extensions	1	5,00,000 (approx)
4	Renewal of campus Data and Telephone network maintenance	1	1,60,00,000
Total			**3,25,00,000**

5. Application Services:

Computer Center is actively involved in development of software applications, web portals and automated solutions to facilitate and support different sections of the institute. During this period, following activities in this area were undertaken:

Sl No.	Application developed	Description
1	File tracking system	For tracking the physical files circulating inside the institute
2	Stock Distribution system	For tracking laptop, desktop and printers in CC
3	Guest House Booking System	For Guest house booking and tracking
4	Online Complaint Portal for different sections like IWD, CC, Academics etc	For raising and tracking user complaints and issues
5	SAIF Web portal	Public Web portal for SAIF
6	GIAN web portal	Public Web portal for GIAN
7	CEP web prtal	Public Web portal for CEP

8	Intranet	Intranet services for IITP Community
9	Institute Public Website maintenance and updates	
10	Hospital patient record system	For IITP Hospital
11	Web portal and application hosting	Assistance to IITP community for hosting and publishing their web content, portals etc

6. Mailing System

Computer Center has implemented state-of-art mailing system which has been commissioned successfully on 24th Oct, 2018 by M/S Locuz Enterprises. It has following salient features:

A. Warranty, Operations and Maintenance for 3 years with SLA
B. Enterprise grade mail gateway.
C. Load balancing and failover.
D. Physical servers for mailing solution.
E. Unified Storage for mail.
F. Mailing and collaboration suite.
G. Administration, Security, management and monitoring.
H. Wide range accessibility and user friendliness – Mobile, Desktop, Laptop, tablet, web, thick client etc.
I. Backup and restore.
J. Handling crash, failures, disasters etc.
K. Networking, cabling and connectivity.
L. Directory Services.
M. Complete migration from existing mailing solution.
N. Training and handholding – End users and technical team of IIT Patna

Project Value: Rs 1,30,22,409.00

6. Services and Support

- 365 X 24 X 7 support services for Network
- Desktop/Laptop/Server support on all working days during office hours
- Institutte Website and e-mail support.
- VPN for remote access.
- Internet access.
- Wifi (Boy's Hostel).
- Intranet, Leave portal, online academic module.
- Exam related services (GATE, JEE etc).
- Support during Student Placement.

- Conference Site Maintainance.
- Support for training programs organization.
- Support for student Gymkhana website for events like anwesha, celesta, reverberanceand other extra cocurricularactivities.
- 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).
- Online Application services

7. National Knowledge Network (NKN)

The National Knowledge Network (NKN) is a revolutionary state-of-the-art multi-gigabit PAN-Indian resource-sharing network aimed at digitally connecting all national universities, colleges and research establishments to create 'country-wide virtual classrooms'.

Following facilities are available:

1. Virtual Classrooms:

There are three fully functional virtual classrooms which is being extensively used by campus community for academic purposes like Teaching, Conferences, Workshops and Seminars etc.

Sl No.	Virtual Classroom	Seating Capacity	Facilities
1	NKN 407	65	1. A rack equipped with Hardware for VC, DVI switcher, networking equipment and connectivity and IP VCR with PTZ cameras for recording of video streams and classes. 2. One projector, 4 LCDs, Audio system, Wireless mic, Document camera and interactive LCD panel. 3. Comfortable seating arrangement with air conditioning and stage with podium.
2	NKN 408	110	1. A rack equipped with Hardware for VC, DVI switcher, networking equipment and

			connectivity and IP VCR with PTZ cameras for recording of video streams and classes. 2. One projector, 4 LCDs, Audio system, Wireless mic, Document camera and interactive LCD panel. 3. Comfortable seating arrangement with air conditioning and stage with podium.
3	Senate Hall	143	1. A rack equipped with Hardware for VC, DVI switcher, networking equipment and connectivity and IP VCR with PTZ cameras for recording of video streams and classes. 2. One projector, 4 LCDs, Audio system, Wireless mic, Document camera and interactive LCD panel. 3. Comfortable seating arrangement with air conditioning and stage with podium.

Following hardware resources were procured during this period for enhancing the facilities of above mentioned classrooms:

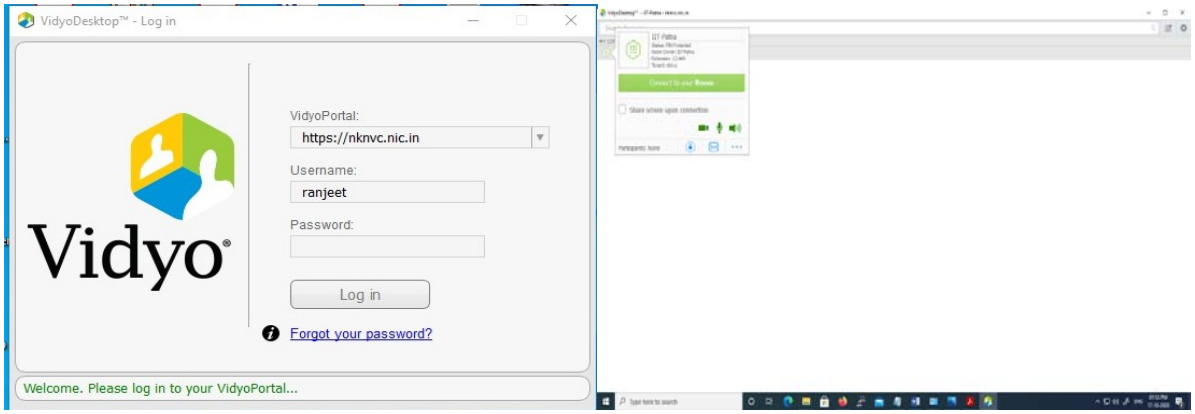
Sl No.	**Item**	**Unit**	**Price (INR)**
1.	Sony Projector VPL-EW575	2	1,40,000.00
2.	Biamp Nexia VC	1	2,30,100.00
3.	Godrej Storwel Plain with 4Sh	1	19,447.00
Total			3,89547.00

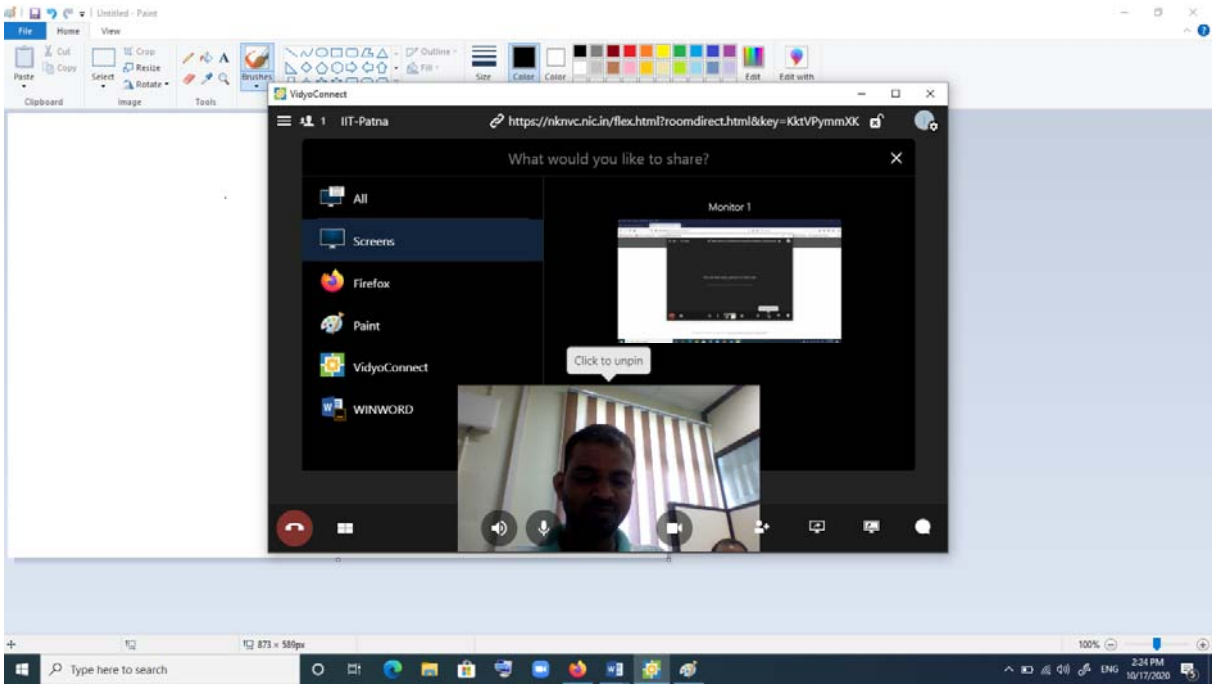
7.1 NKN Internet Connection

IIT Patna has high speed dedicated leased line of 1 Gbps from NKN. This service is provided over optical fiber links of Railtel and BSNL in High availability mode. This link is under close monitoring and supervision of NIC, Patna and IIT Patna Network Team.

7.2 Desktop HD VC System

For ease of use and portability of VC system, a Vidyo Desktop software has been provided by NKN. It can be installed and capable to provide virtual classroom facility on Desktop, Laptop and Mobile devices connected to internet.





7.3. Services and Support

- Virtual Classroom support services during classes, seminars and conferences.
- End user support to faculty, staff and students over phone, mail and web portal.
- Regular Maintenance, Monitoring and supervision of the NKN facilities
- Co-ordination with ISP providers, network services providers and NIC, Patna for technical and functional aspects.
- Procurement of equipment and services for enhancement and repair.

NKN Team

NKN 407 Virtual Classroom

NKN 408 Virtual Classroom

Senate Hall

2. SOPHISTICATED ANALYTICAL INSTRUMENT FACILITY (SAIF)

Sophisticated Analytical Instrument Facility (SAIF) at IIT Patna is established to provide analytical and data collection facility to scientific community using different sophisticated analytical equipments. The establishment of the centre at IITP was sponsored by Department of Science & Technology (DST), Govt. of India. This facility is open for internal (IIT Patna users) as well as external researchers from academia, research laboratories as well as industries. Presently, SAIF IIT Patna is equipped with two major analytical instruments (i) Single Crystal X-Ray Diffractometer (SC-XRD) and High Resolution - Liquid Chromatography Mass Spectrometry (HR-LCMS) having HPLC & UHR-TOF mass spectrometer.

SAIF website- **https://www.iitp.ac.in/saifiitp/**

Personnel

Dr. Subrata Chattopadhyay
Head
Assistant Professor,
Department of Chemistry,

Dr. Manas Kumar Sarangi,
Associate HEAD
Assistant Professor,
Department of Physics

Dr. Vidhi Chaudhary
Scientific Officer

Research vision*:*

- To provide the analytical facility for researchers and scientists.
- Train technicians/students in maintenance and operation of the equipments.
- To organize workshops on the use and application of above analytical instruments/techniques for students, teachers and personnel from other Laboratories, Universities and Industries

Recent activities:

Procurement of **500 MHz NMR** – PO released and instrument arrived at the centre- Installation is still due.

Number of short term courses conducted: 02

1. **Training on SC-XRD data Analysis for 2 days**
   Conducted on: 11-12 August 2017

   Total number of the participants in Training = 15

2. **National Workshop On "Theory And Applications Of Single Crystal X-Ray Diffraction" 21st -23rd March, 2018**
   Total number of the participants in workshop = 25

3. Training and Placement Cell

In the 2019-20 placement sessions, the Training and Placement Cell hosted a record of 106 companies for placement and internship processes on campus. 202 full-time-employment (FTE) offers were provided through the TPC in this year. These were accepted by 118 B.Tech. students, 43 M.Tech. students, and 3 M.Sc. students, thus achieving an 83.5% placement for all eligible students combined. Six students have bagged International offers from Software Rakuten, Topline Co. Ltd, Maxconnect and Weather News Ltd.

This year, the average CTC for the B.Tech.and M.Tech. students were 14.76 and 12.71 lakhs per annum, respectively. The values have risen by 13% and 28%, respectively, in comparison to the previous year. The highest package of 59 lakhs per annum has been offered by Rakuten Japan, followed by Microsoft, Goldman Sachs, and CodeNation, which has offered 40, 32, and 31 lakhs, respectively. Some of the major private companies that has visited the campus includes Samsung, Directi, Amazon India, Ola Cabs, Optum, SMS data, American express, Reliance Jio, Yodlee, ZS Associates, HSBC, LTI, Toppers, L&T ECC, L&T Heavy Engineering, ST Micro Electronics, Intel, and Mercedes Benz. IOCL and HPCL also extended several FTE offers.

In this session too, students received 31 PPO offers from internships in the previous year. The pre-final year B.Tech.and M.Tech. students have received summer internship offers both in India and abroad. Few of the major companies which offer internship are Google, Intel, STMicroelectronics, AMD, Mathworks, Optum, ezDI, TCS R&I, National Instrument, and Trell.

TPC conducted several online workshops training the students on resume preparation, interview preparation, aptitude trainings, etc. Additionally, TPC also organized eleven webinars with famous personalities from various walks of life, including corporate leaders, IAS officers, and entrepreneurs, during the pandemic period from March 2020 to July 2020. These sessions enabled the students to engage with corporate players and to prepare for the post-COVID scenario.

For the 2020-21 batch, the FTE and internship processes commenced from the first week of September. So far, we have completed FTE selection processes for 14 companies for this batch. More than a dozen processes are ongoing, and many more are scheduled in the upcoming weeks. Through the dedication and support of the coordinators and all eligible students, we hope to achieve good results even under these testing times.

4. Incubation Center

The journey of Incubation Centre IIT Patna began in 2014 when IIT Patna has proposed to establish a centre for promoting entrepreneurship by technology commercialization focused on electronics and medical electronics devices. Ministry of Electronics and Information Technology, Government of India and Government of Bihar has extended the hand of collaboration to IIT Patna to make the project a reality by allocating a total project outlay of INR 47.10 Cr.

Subsequent to the administrative approval and release of funds, Incubation Centre started the ground work by registering the centre as non-profit society and constituted the governing board by inviting experts in the ESDM and Medical devices area. The centre went on to establish policies and processes, recruited staff, set up sate of the art laboratories and on-boarded companies by mid 2016. ICIITP is recognised by DST as a technology business incubator**.**

The primary objective of IC is to promote innovation and entrepreneurship among students, faculty and other innovators with the aim to identify, nurture and translate technology ideas and innovation in the broad area of Electronics System Design and Manufacturing (ESDM) with a focus on Medical Electronics.

The centre is operating from 10,000 sq ft interim space provided in IIT Patna premises and is constructing a 30,000 sq ft permanent facility.

ICIITP aims for excellence in technology business incubation in the ESDM and Medical Electronics sector and is poised to act as a launching pad for many successful ventures while promoting the culture of innovation and entrepreneurship in Bihar and Eastern part of the country.

Major Achievements in 2019-20

4.1 Incubation Programs

Regular incubation program

This is a one year (extensible up-to 2 years based on performance and need) incubation program offered to registered start-up companies (or teams who will be willing to register a company). IC receives technical and business proposals from prospective incubatees through national level call for proposals and also through the startup portal of Bihar Udyog Vibhag (BUV). The proposals will be put through a preliminary scrutiny and the shortlisted proposals will be invited for a presentation before the Project Evaluation Team that comprises of experts from medical, technology, entrepreneurship and investment areas. This panel evaluates the proposals and selects companies to be admitted to these programs. In FY 19-20, IC has conducted 6 evaluation cycles and 16 companies have joined incubation, taking the total to 31 companies under incubation support.

4 More companies entered the market (making the total number of ICIITP supported companies who have entered the market to 7). One of the companies, 4Mirrortech Innovative, that entered the market the previous year has seen significant growth and have secured large industrial clients and multi crore orders. A few other IC supported companies have been able to generate significant

revenues. Many of the companies are progressing well in their product development and ICIITP will see more success stories in the year to come.

Progress made by some of the incubated companies at ICIITP

Fig 1 : Smart Washroom Product

1. 4Mirrortech Innovatives, a company that has already entered the market in previous year with 'Aura', its smart washroom and facility management suite of products (Figure 1), has made a major breakthrough and secured a pan India multi crore order from an industry leading telecom company.
2. Bionic Hope Private Ltd, a company developing active prosthesis (as shown in Figure 2) has received BIRAC grant of 43.40 lacs under IIPME scheme. The team is rapidly progressing with their product testing and have secured follow on investment from SINE IIT Bombay subsequent to completion of incubation at IC.

Fig 2 : Active Prosthetic hand

3. Techprolabz has entered the market with their robotics education kits and is working with schools and technical education institutions to set up robotics labs. The team has made excellent progress and have generated revenues near to a crore.
4. Amjad Ali Health Care has entered the market with an innovative telemedicine platform branded as OMED (as shown in Figure 3). This service integrated telemedicine platform along with its "Bike Doc" a portable telemedicine application kit, will provide a huge boost to the rural communities in accessing excellent healthcare facilities at a very affordable rate remotely but without losing quality.

Fig 3 : Telemedicine Platform

5. Covid Response initiatives by many incubated companies: Incubated companies have worked actively in solutions to deal with Covid pandemic and is working on face-shields, PPE kits, delivery robots, sanitization solutions. These products are expected to be in the market in FY 20-21.

Short Term pre-incubation program

This is a 3 month (extensible up-to 6 months) program aimed at supporting start-up teams to refine their business plans. This is offered to start--ups who applied to regular incubation program but are not fully ready for regular incubation. The teams are provided access to the amenities at ICIITP subject to availability and are also provided coaching on refining their business plan, so that they can subsequently apply for regular incubation. In the last FY, IC offered pre-incubation to 10+ teams. A few pre-incubated teams made excellent progress and were subsequently selected for regular Incubation program

4.2 New programs started in FY 2019 - 20

MSME supported capacity building training programs under NSSH scheme: Incubation centre has been selected by MSME NSSH to

Fig 4 : Winter School 2019

conduct capacity building training programs for entrepreneurial aspirants from SC/ST community. The flagship training program of Incubation Centre, the Wintereschool in Health Technology Innovation (Figure 4) was also recognized under this scheme. Incubation Centre conducted 5 such programs: two entrepreneurship development programs, two product development workshops and Wintershcool for health technology innovation. The programs received excellent reception and a total of 63 participants were benefitted through these programs.

4.3 Facilities Available At ICIITP

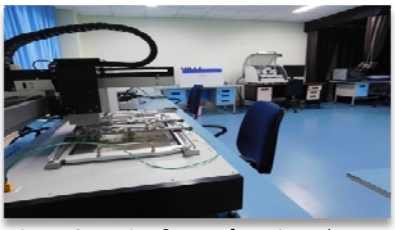


Fig 5 :PCB Design & Manufacturing Lab

ESDM Labs: ICIITP being focussed on ESDM and Medical Electronics has set up state of the art laboratories that will help the incubated companies to move from Concept to Product Prototype in house. IC has set up the following labs to achieve this:

- Electronic System Design and Prototype Lab with design software, electronic components, micro controller based rapid prototyping kits and electronic work bench set up for design and initial hardware prototyping.
- PCB Design and Manufacturing Lab (Figure 5) helps the incubated companies to implement their hardware at board level with the help of sophisticated machines for milling, drilling, routing, rubout, through hole plating, component pick and place, soldering, masking and lithography. The lab can support creation of PCBs up to 8 layers in house.
- Testing and Calibration Lab (Figure 6) enables the characterization of PCB prototypes using advanced oscilloscopes, Function Generator, RSA, Logic Analyser, source meter and the like.
- Mechanical Packaging and Product Prototype Lab (Figure 7) enables the prototyping of form factor, enclosure designs and parts. The lab is well equipped with many multi-material 3D printers and other tools.
- RF DC Sputtering unit was installed as part of micro nano fabrication facility, for those companies who would like to work on sensors and mems level fabrication (Figure 8).
-

Fig 6 :Testing & Calibration Lab

Fig 7 :Mechanical Packaging Lab

Fig 8 :RF DC Sputtering Machine

Office: The companies are provided access to work space that has professional grade furniture, computers, internet connectivity, ample storage, printers and housekeeping. A facility where 100 people is coming up rapidly.

Mentoring: Guidance is provided to incubatees by angels, successful CEOs, doctors, IIT Professors and IC administration on a variety of topics including technology, pricing, marketing, developing effective business process, IPR Strategy etc.IN the last FY, mentors have been invited on a regular basis (once in 4-6 weeks on an average) to mentor companies. In addition, IC has organized training programs on topics such as regulatory compliances, product design, marketing etc. In addition, a MoU is in place with AIIMS Patna for support on trials and for guidance of medical practitioners on device developments. New mentors from IIT Bombay, IIT Chennai and from IIT Patna faculty have been onboarded in the last FY.

Funding support: IC has DST recognition which enables it to take equity in supported companies by signing a share subscription agreement. IC has revised its policies to release seed funding in the form of soft loans, equity investments or as grants. Funding of more than Rs 250 lakhs to be provided to the incubated companies are under process.

4.4 Ecosystem Building Activities, Events and Training Programs

ICIITP works closely with Bio design school of AIIMS Delhi, Indian Angel Networks, CII Bihar, Department of IT and Department of Industries of Govt of Bihar and other incubators in the region. Work is in progress to forge more partnerships which will benefit the incubated companies and the ecosystem as a whole.

ICIITP actively takes part in the ecosystem development activities in the region and works closely with Govt. of Bihar in its implementation of Bihar Startup Policy. Members of IC management get invited frequently for interviews, presentations and seminars on entrepreneurship at various forums and educational institutions in and outside Bihar. ICIITP contributes to innovation councils in many technical education institutions in the state and is collaborating with Department of Science and Technology in entrepreneurship in technology institutions .

ICIITP organized various events and training programs for startups (Figure 9) and ESDM enthusiasts. IC Has actively participated in IISF 2019 that was held in Kolkata from 4th Nov to 7th Nov 2019 which had huge participation from research organizations from across the country. Hundreds of visitors has visited IIT Patna and IC booth to know more about research at institute level and also in the entrepreneurship field. Incubation Centre IIT Patna has also participated in the IEEE-iSES at NIT Rourkela to promote the research and development of IIT Patna andIncubation Centre IIT Patna.

Fig 9 : Training Programs

Media Coverage

ICIITP has received excellent coverage in national and state level print media (both English and Hindi) and visual media such as Hindustan Times, Times of India, Hindustan, Dainik Bhaskar, Dainik Jagaran etc. All events and programs are reported in the print media on a regular basis. Media houses also report on various incubated companies and their progress.

4. Progress of construction of permanent Building of Incubation Centre

Fig 10.: Construction Progress

The construction activity has commenced immediately after the ground breaking ceremony of the IC permanent facility by Honble Dy CM of Bihar Shri Sushil Kumar Modi on 24th November 2018. At present, the building is almost complete(Figure 10) and is expected to be handed over in year 2020. The building will host incubated companies and advanced technical labs including cleanroom, in addition to a library, recreation facilities, and guest rooms for visiting experts, meeting and conferencing facilities, class rooms and a cafeteria. The excellent design and well landscaped premises makes the facility a really attractive proposition for startup community.

Research & Development Activities at IIT Patna

MOUs with Other Institutions

Sl No	NAME OF ORIGINATOR/ PRINCIPAL INVESTIGATOR	DEPT	TYPE OF DOCUMENT- MOU/RESEARCH AGREEMENT/NDA	PURPOSE OF AGREEMENT/MOU	NAME OF PARTY
1	Dr Anup Kumar Keshri	MME	Agreement	To define the confidentiality conditions under which TML and IITP will exchange information for the purpose of the Project i.e to explore and engage in exchange of confidential information in relation to project.	Tata Motors Ltd.
2	Dr S K Parida	EE	MoU and NDA	For knowledge sharing and capacity building in the concern areas	Eastern Regional Load Despatch Centre(ERLDC) POSOCO
3	Dr Anup Kumar Keshri	MME	Research Agreement	To jointly carry out projects in the items: 1. Development and optimization of cost effective and scalable near net shape plasma sprayed membrane with graded porosity for microfilteration application	Carborundum universal Limited, Electrominerals Division, Kalamassery, Chennai
4	Dr Rishi Raj	ME	Agreement	Development of an agricultural waste based off-the-grid climate control unit for storage and agricultural produces	New Leaf Dynamic Technologies Pvt Ltd
5	Dr Subrata Hait	CEE	MOU	Technical Expertise	District Water and Sanitation Committee Bhojpur, Bihar
6	Dr Sriparna Saha	CSE	NDA	IoT based wireless wearable medical devices to monitor critical patients locally and remotely with the use of artificial intelligence	AtlaMedico TechSolutions Pvt Ltd, Sonbhadra, UP
7	Dr Surajit Kumar Paul	ME	Agreement	Determine hole expansion ratio (HER) from notch tensil rest	Tata Steel Limited
8	Dr Subrata Hait	CEE	MOU	IIT Patna as the Technical Partner under the National Clean Air Programme (NCAP) for the State of Bihar	Ministry of environment, Forest and Climate Change
9	Dr Dinesh Kotnees	MME	NDA	Study of novel carbonaceous nanofillers like carbon dots on polyurethane elastomers	Manali Petrochemicals Limited
10	Dr Asif Ekbal	CSE	Agreement	Sevak- an Intelligent Indian Language Chatbot.	Wipro Limited
11	Dr Sriparna Saha	CSE	NDA	LG-Soft Restaurent Recommendatuin Project	LG-Soft India Pvt Ltd

12	Dr Jawar Singh	EE	NDA	The NXP has agreed to take 2-3 M.Tech 2nd year students for 11 months followed by employment The NXP has also agreed to share their data and libraries for research purpose	NXP Semiconductors
13	Dr Neha Kiritkumar Shah	Physics	Agreement	The Department of Energy has approved user agreement for its designated user facilities at all national laboratories. These master agreements cover liability, indemnification, intellectual property and financial issues and they are a prerequisite for experimental work at BNL	Brookhaven Science Associates LLC
14	Dr Karali Patra	ME	NDA	Development of cryogenic micromachining for fabrication of soft and structure polymer based artificial skin with multi-dodal sensing capability	Mind Tree

List of Research Projects during 2019-2020

Sl No	Name of Investigators	Department	Project Title	Funding Agency
1	Dr Nitin Dutt Chaturvedi	CBE	Planning of process industries production to minimize carbon emission and energy consumption.	SERB
2	HoD - Dept of ME All faculty members Department of ME	ME	fist-2018 under DST	DST
3	HoD - Dept of Physics All faculty members Department of Physics	Physics	Fist-2018 under DST	DST
4	Dr. Probir Saha	ME	Mechanical and micro-structural characterization of additive friction strred (AFS) 3D structures made of AI 6061 t6 aluminium powder.	SERB
5	Dr Sanjoy Kumar Parida Dr Jimson Mathew	EE	Development and implementation of AI Driven Adaptive Microgrid Control and Protation Schemes.	MHRD
6	Dr Arijit Mondal Dr Sumanta Gupta Dr Jimson Mathew	CSE	Deep Learned Detecation and Classification of Multiple Instrusions Using WDM Intensity and Phase-Sensitive OTDR in Underwater Environment .	DRDO
7	Dr Sudhir Kumar Prof. A K Singh MNNIT Allahabad	EE	Geospatial location estimation and navigation in autonomous sensor networks/smart city	DST

8	Dr Joydeep Chandra Dr Sourav Kumar Dandapat Dr. Niloy Ganguly Dr. Maria Galvao Dias	CSE	Improving regional transporation services using GPS data.	MHRD
9	Dr S K Parida	EE	Multi-node Wide Area Distributed control to Improve the Power System Stability in indian Context.	SERB
10	Dr Raju Halder Dr Atul Thakur-IIT Patna Dr G Banda - IIT Indore Dr Anshuman - IIT Dhanbad Dr Rajarshi - IACS	CSE	Development of Lizard-like Robotic Spy Surveillance System.	SERB
11	Dr Papia Raj	HSS	mHealth Technologies for Gender empowerment in Bihar.	ICSSR
12	Dr Karali Patra	ME	Development of cryogenic micromachining for fabrication of soft and structure polymer based artificial skin with multi-dodal sensing capability	DST
13	Dr Anirban Chowdhury	MME	Fire Retardent Materials : Investigation on Mechanistic & Thermo-physical props & synthesis process	Board of Research in Nuclear Sciences(BRNS)
14	Dr Subrata Chattopadhyay	Chemistry	Functional polymers and materials from chitosan using click inspired reactions.	CSIR
15	Dr Rajiv Misra Prof Ing Axel, Germany	CSE	Distributed EV charge scheduling and consensus based control for EV charging network.	DST
16	Dr Sweta Sinha Dr Smriti Singh Dr Vaibhav Singhal	HSS	Designing Disaster Preparedness Training Modules using Indigenous Knowledge and Increasing Community Awareness through Contextualized Teachinques in Bihar	ICSSR-IMPRESS
17	Dr Richa Chaudhary	HSS	The diffusion of environmental sustainability innovation in hospitals of Bihar state of India.	ICSSR-IMPRESS
18	Dr Vaibhav Singhal Dr Hemant(IIT Guwahati)	CEE	Seismic strengthning of unreinforced masonary building using ferrocement bands	CSIR
19	Dr Surajit Kumar Paul	ME	Effect of cyclic creep in rolling contact fatigue of railways.	AISTDF
20	Dr Mayank Tiwari Dr Surajit K Paul	ME	Development of low friction rolling element bearings for enhanced reliability and efficiency	SERB
21	Dr. Sushant Kumar Dr R Ganeshan (IGCAR)	CBE	Development of Bi/Tri-metallic pasmonic nanoparticles decorated metal Oxide semiconductor as Photoc	BRNS(DAE)

22	Dr Rajiv Misra	CSE	Conduct of AICTE-ATAL programme Augment Reality(AR)/Virtual Reality(VR) Dec 2-6, 2019	AICTE Training and Learning(ATAL) Academy, GoI
23	Dr Dinesh Kotnees Dr Prolay Das	MME	Study of novel carbonaceous nanofillers like carbon dots on polyurethane elastomers	Manali Petrochemicals Limited
24	Dr Mohd kaleem Khan Dr Manabendra pathak	ME	Effect of burnup on ballooning and burst behaviour of Zircaloy-4 cladding tubes under stimulated LOCA	MEDepartment of Atomic Energy, GoI
25	Dr Vikash Kumar (DBT-Research Associate) Dr Subrata Hait (Mentor)	CEE	Bio-electrochemical analysis and systemic enhancements in microbial fuel cells for bioelectricity generation	Department of Biotechnology, GoI
26	Dr Raju Halder Dr Jimson Mathew	CSE	Introduction to Blockchain Technology: Cryptocurrency and Beyond	AICTE
27	Prof. Pushpak Bhattacharya Dr. Sriparna Saha Dr. Asif Ekbal	CSE	Multi-Modal Input Text Summerization(MMITS)	LG Soft India Pvt Ltd
28	Dr Sudhir Varma Dr Subrata Hait	CEE	Performance Assessment of Roads Constructed using waste plastics	NRIDA
29	Dr Preetam Kumar Dr Sudhan Majhi	EE	Efficient Multicarrier waveform design for next generation non-orthogonal multiple access for wireless mobile communication by IIT Patna	MeiTy
30	Dr Rishi Raj	ME	Surface Active Additives for Enhanced Flow Boiling	DST-RFBR
31	Dr. Devinder Yadav	MME	Flash sintering of oxide ceramic: Effect of e;ectrical parameters on densification mechanism, microstructute and mechanical properties	SERB
32	Dr Amit Kumar	CHEMISTRY	Glycodiverdification: Design and and Synthesis of Biologically Important Conformationally Constrained Non Classical Bicyclic Sugers Via Activation of C(sp3)-H Bonds.	SERB
33	Prof Pushpak Bhattacharyya	CSE	Abdul Kalam Technology Innovation Fellowship	Indian National Academy of Engineering
34	Dr Vishal Deshpande	CEE	Study of variation in the flow hydrodynamics around a circular bridge pier in a sand mined stream channel	SERB

35	Dr. Murshid Imam Dr. Viswanath Chinthapenta	ME	Hybrid 3D printing with GMAW-twin wire based additive layer enhanced by friction stir processing.	MHRD
36	Dr. Somanath Tripathy	CSE	Privacy preserving Smart contract based tecnique to perform Secure computation in cloud Storage: Design Analysis.	SERB
37	Dr Jimson Mathew	CSE	Application of Blockchain and Machine Learning for financial transanctions and end user fintech applications	Immergro Technologi es Pvt Ltd, Bangalore
38	Dr. Subhabrata Paul	ME	Algorithmic study of upper domatic Number.	SERB
39	Dr. Nutan Kumar Tomar	Math	Systems Discribed by Differential and algbraic Equations Together Analysis and Design.	SERB
40	Dr S K Parida	EE	Application of Non-Convex Game in Demand Side management of Electric Utility.	SERB
41	Dr. Rishi Raj	ME	Development of an Ionic Liquid Based Ultra-High Heat Dissiption Module for Energy Efficient Boiling Systems.	SERB
42	Dr Sudhan Majhi Dr Preetam Kumar	EE	Design and Implementation of Intellegent Receiver Over Randomized Environment by Stastical and Machine Learning	MeiTy

43	Prof. Pushpak Bhattacharyya Dr Sriparna Saha Dr Jawar Singh Dr Joydeep Chandra Dr Abhayananda Maiti Dr Sourav Kr Dandapat Dr Raju Halder Dr Asif Ekbal Dr Atul Thakur Dr Ajay D Thakur Dr Sudhan Majhi Dr Preetam Kumar Dr Sudhir Kumar Dr Vaibhav Singhal Dr Subrata Hait Dr Sanjoy Kumar Parida Dr Somnath Sarangi Dr Rajiv Misra Dr Mayank Agarwal Dr Vishal Deshpande Dr Shovan Bhaumik Dr Jimson Mathew Dr Karali Patra Dr Sweta Sinha Dr Pramod Kumar Tiwari Dr Somanath Tripathy Dr Sourabh Kr Pandey Dr Koushik Roy Dr Rajib Kr Jha		National Mission on Inderdisciplinary cyber physical systems(NM-ICPS)-implementation mechanism - Technology Innovation Hubs (TIHs) - reg	DST
44	Soumya Jyoti Ray	Physics	Two-dimensional nanomaterial based hybrid structures for switching and memory applications	DST-SERB
45	Dr Pushpak Bhattacharyya Dr Asif Ekbal Dr Sriparna Saha	CSE	Autonomous Goal-Oriented and Knowledge Driven Neural Conversational Agents	Accenture Solutions Pvt Ltd
46	Prof. Pushpak Bhattacharyy Dr Sriparna Saha Dr Asif Ekbal Dr Jimson Mathew Dr Somanath Tripathy Dr Joydeep Chandra Dr. Sourav Dandapat Dr. Abyayananda Maiti Dr Arijit Mondal	CSE	IIT Patna centre of Excellence in cyber crime prevention against women and children : Al-based rools for women and child Safety by IIT Patna	Ministry of Home Affairs

List of Consultancies undertaken

Sl No	Name of Consultants	Department	Consultancy title	Funding Agency
1	Dr Vaibhav Singhal Dr Ramkrishna Bag	CEE	Study of Tilt and Shift of well Bangra Ghat	Bihar Rajya Pul Nirman Nigam Ltd
2	Dr Pritam Kumar	EE	Impact Assessment of Smrt Gram(4G/LTE-A) deployment in villages	Uvaca Digital Systems Pvt Ltd Bangalore
3	Dr Jimsion Mathew Dr Somnath Tripathy Dr Rajiv Misra Dr Arijit Mondal Dr Samrat Mondal Dr Joydeep Chandra Dr Aggarwal Dr A Maity	CSE	ICCC-Bihar Sharif Smart City Mission-DPR	BiharSharif Smart City Limited, Bihar
4	Dr Trishikhi Raychoudhury Dr Vishal Deshpande Dr Ramkrishna Bag	CEE	Vetting of design and drawing of 12 numbers	Techno Care Engineer and consultant, Lucknow
5	Dr Manabendra Pathak Dr M K Khan	ME	Inspection of 06 Units(Super Sucker Machine) to be delivered to Patna Municipal Corporation	Ensol Multiclean Equipment Pvt Ltd
6	Dr Manabendra Pathak Dr M K Khan	ME	Inspection of 06 Units(Truck mounted suction cum jetting machine) to be delivered to Patna Municipal Corporation	Ensol Multiclean Equipment Pvt Ltd
7	Dr Manabendra Pathak Dr M K Khan	ME	Inspection of 03 units (sweeping machine 5 cu. M) to be delivered to patna Municipal Corporation	Lion Services Ltd Delhi
8	Dr Manabendra Pathak Dr M K Khan	ME	Inspection of 405 Units of Wheelbarrow(110 ltrs) to be delivered to Patna Municipal Corporation	
9	Dr Trishikhi Raychoudhury Dr Jose Parambil Dr Ashwini Kumar Sharma	CEE	Evaluation of Arsenic and Iron Removal technology and process	H2OMantra Pvt Ltd Gaziabad
10	Dr S Sivasubramani Mr Anil Verma Mr Biswajit Som	EE	Energy Audit at Ruban Hospital, Patna	Ruban Memorial Hospital, Patna
11	Dr Pradipta Chakraborty Dr Amarnath Hedge Dr Ramakrishna	CEE	Liquefaction Analysis for NIT Patna Bihta Campus	NIT Patna

	Bag			
12	Dr Pradipta Chakraborty Dr Amarnath Hedge Dr Ramakrishna Bag	CEE	Soil Investigation for NIT Patna Bihta Campus	NIT Patna
13	Mohd Kaleem Khan Dr Manabendra Pathak Dr Anirban Mahato	ME	Inspection of 75 units (Tata ACE ZIP Cab & Load body BS-IV) to be delivered to Patna Municaipal Corporation	Tata Motors
14	Dr Manebendra pathak Dr M K Khan Dr Anirban Bhattacharya Dr Anirban Mahato	ME	Inspection of 06 Units(Dewatering pump, Kirloskar & APM300-34) to be delivered to patna Municipal Corporation	Debson Pumps Pvt Ltd
15	Dr Manabendra Pathak Dr Kaleem Khan	ME	Inspection of 75 Units pf Fogging Machine RPF-10-Spe_2) to be delivered to Patna Municipal Corporation	Royal Tradelinks Private Limited, New Delhi
16	Dr Manabendra Pathak Dr Kaleem Khan Dr Anirban Bhattacharya Dr Anirban Mahato	ME	Inspection of 75 units of Fogging Machine (Suraksha model) to be delivered to Patna Municipal Corporation	Sulabh Infrastructure Private Limited Muzaffarpur, Bihar-16
17	Dr Vaibhav Singhal	CEE	Vetting of structural design of Pre-stressed Precast Concrete Bleachers	Shapoorji Pallonji And Company Pvt. Ltd.
18	Dr M Pathak Dr Kaleem Khan Dr Anirban Bhattacharya Dr Anirban Mahato	ME	Inspection of 1 Unit of Volvo truck Tree Transplanter (Volvo FMX 460) to be delivered to Patna Municipal Coproration	Volvo Trucks India Bangalore-93
19	Dr Jimson Mathew Dr Rajiv Misra Dr Sriparna Saha Dr Joydeep Chandra Dr Asif Ekbal Dr Somnath Tripathy Dr Arijit Mondal Dr Mayank Agarwal Mr Sandip Kishore	CSE	Third party quality assurance inspection under Patna Smart City Limited - DCSE Projects	Patna Smart City Limited

20	Dr Sudhir Verma Dr Ramakrishna Bag Dr Pradipta Chakraborty Dr Koushik Roy Dr Amarnath Hedge Dr Vishal Deshpande	CEE	Third party quality assurance inspection under Patna Smart City Limited - DCEE Projects	Patna Smart City Limited
21	Dr Subrata Hait	CEE	Technical Appraisal of DPRs for Setting up CETPs at Barari, Bhagalpur, Fatuha, Patna, Hajipur, Vaishali, Bela and Muzaffarpur	Bihar industrial Area Development Authority, patna, Bihar
22	Dr Jimson Mathew Dr Somnath Tripathy Dr Arijit Mondal Dr Samrat Mondal Dr Joydeep Chandra Dr Aggarwal Dr A Maity Mr Sandip kishore	CSE	Technical vetting of the DPR on integrated Control and Command Centre: Muzaffarpur Smart City	Municipal Corporation Muzaffarpur
23	Dr Jimson Mathew Dr Somnath Tripathy Dr Arijit Mondal Dr Joydeep Chandra Mr Sandip kishore	CSE	Technical Vetting of the DPR on Integrated Control and Command Centre : Patna Smart City Project	The Managing Director, Patna Smart City Project, patna
24	Dr Anup Kumar Keshri	MME	To synthesisize the Fe-based robust superhydrophobic coating by one-step and scalable technique	Tata Steel limited
25	Dr Jimson Mathew Dr Somnath Tripathy Dr Rajiv Misra Dr Arijit Mondal Dr Samrat Mondal Dr Joydeep Chandra Dr Mayank Agarwal Mr Sandip Kishore	CSE	Review ICCC - Project at Bhagalpur	Bhagalpur Smart City Limited
26	Dr Subrata Hait	CEE	Technical Vetting of DPR for Integrated Solid waste management (ISWM) for Bhagalpur Smart City	Bhagalpur Smart City Limited, Bhagalpur
27	Dr Sudhir Varma	CEE	Technical Vetting of DPR of Smart Road Network of Bhagalpur Smart City Limited	Bhagalpur Smart City Limited, Bhagalpur

28	Dr Akhilendra Singh Dr Surajit Kumar Paul	ME	Fatigue S-N curves for welds at 10Hz frequency	Tata Steel
29	Dr Surajit Kumar Paul	ME	Determine hole expansion ratio (HER) from notch tensil rest	Tata Steel
30	Dr Koushik Roy Dr Vaibhav Singhal	CEE	Performance of destructive/nondestructive tests on a well cap in connection with Hajipur-Sagauli New BG Rail line project	Eastern Central Railway, Hajipur
31	Dr S K Parida	EE	Advice regarding the DC current injection by PCU to the system by 200 kW solar plant installed at Air Force Station, Bihta	Amit Associates, Patiala
32	Dr Trishikhi Raychoudhury Dr Vishal Deshpande	CEE	Vetting of design and drawing of 8 numbers hydraulic structures	Techno Care Engineer and consultant, Lucknow
33	Prof Pushpak Bhattacharyya	CSE	Consultancy work on information & communication technology	Huawei Technologies India Pvt Ltd
34	Dr Manabendra Pathak Dr Kaleem Khan Dr Anirban Bhattacharya Dr Anirban Mahato	ME	Inspection of 02 units (5 cu.m) and one unit (3 cu.m)sweeping Machines to be delivered to Ranchi Municipal Corporation	Lion Services Ltd Delhi
35	Dr Trishikhiray Choudhury Dr Vishal Deshpande Dr Ramkrishna Bag	CEE	Vetting of design and drawing of 4 numbers hydraulic structures	Techno Care Engineer and consultant, Lucknow
36	Dr Arvind Kumar Jha Dr Subrata Hait Dr Vaibhav Singhal	CEE	Design Vetting of Sewerage Network and Allied Structures at Chhapra, Bihar under Namami Ganga Program	Chvrox Constructions Private Limited
37	Dr Jimson Mathew	CSE	Auditing Ripplenet Integration on Premise System	IT Centre Federal Bank Bangalore
38	Dr Ranjan Kumar Behera	EE	Sustain and Enhance Technical Knowledge in Solar Energy Systems	Centre for Environmental Energy and Climate Change (CEECC)

Various Activities at IIT Patna

Academic Events

1. New Website Launch

IIT Patna had decided to launch its new official website in the presence of the honourable Director, Prof. Pushpak Bhattacharyya, on 4th February 2020. The focus was mainly given on providing a more user friendly arrangement and attractive design which would not only be easy to use but would be secure as well. Blue is considered as a theme colour in website as it is associated with depth and stability. It symbolizes trust, loyalty, wisdom, confidence, faith and truth. With the launch of this new website everyone is now looking forward to have more colourful feathers in the cap of IIT Patna's achievements.

2. CEP Courses

The Continuing Education Programme (CEP) activity has been set up to meet the manpower training and knowledge upgradation needs of the industry, academia, and research organizations. The CEP office has organized many courses with emerging tools and techniques during the year 2019-20.





1. **Failure Analysis of Engineering Products (10th-11th May 2019) -**The prime objective of this course was to introduce various analytical tools for characterizing such failures in engineering products. The analysis primarily involved structural, micro-structural and thermal techniques to reach a meaningful solution.

2. **Mediation, Moderation and Conditional Process Analysis (17th-18th May 2019)** - This course introduced the latest advances in testing the direct, indirect and conditional indirect effects using bootstrapping procedures with the help of SPSS Process macro as proposed by Hayes (2013). This help the researchers to understand when and how to conduct mediation, moderation and moderated mediation.
3. **Effective Communication and Presentation Skills (21st-24th May 2019)** -The purpose of this course was to empower students (under graduates) and fresh entrants in the professional world by helping them to develop their speaking and presentation skills
4. **Principles and Practices in Social Research (22nd -25th July 2019)** - This course was meant to engage social science researchers and practitioners in the required principles and practices for rigorous critical research to avoid academic receipt of any kind.
5. **Interplay of Machine Learning and IoT(30th Aug-1st Sept)** - This course familiarizes the participants to the basic concept and need of IoT, introduce and present the signal processing and machine learning techniques for IoT, describe various applications of IoT and demonstrate the applications with real smart experimental set-ups.
6. **Time Series Econometrics with STATA (07th -8th Dec 2019)** - The purpose of the course was to equip participants with technical knowledge so that they can use time series data scientifically and can use its findings to corroborate or correct existing theories of varied field of economics and other social science subjects.
7. **Recent Trends in Friction Stir Processing Technique (RTFSP2019) (18th -20th Dec 2019)** - The course was about the processing of advanced materials, development of smart materials/structures and solid state processing based hybrid additive (3D printing) manufacturing.
8. **Computer Forensic (16th – 20th Dec 2019)** - This course aimed to introduce various computer forensics related topics through a "learning by doing" approach. Computer forensics involved the examination of information contained in digital media with the aim of recovering and analysing latent evidences. The ubiquitous nature of digital devices and their integration into our day-to-day activities make them one of the richest sources of information in today's criminal and civil investigations.
9. **Health Informatics (9th -10th Jan 2020)** - This course introduced various health informatics tools which are being used by public health practitioners and researchers. Emphasis was given to understand such technological interventions in different social contexts.
10. **Deep Learning for Natural Language Processing (10th-23rd Jan 2020)** - This course covered various fundamental concepts of NLP, recent research directions and hands-on on various machine learning and deep learning approaches to NLP. The following topics in NLP was discussed in details: N-gram models, Word sense disambiguation, Parsing, Part-of-speech tagging, Sentiment Analysis, Machine Translation, Question Answering, Natural Language Understanding, Natural Language Generation etc.

11. **Nonlinear Estimation for Engineers (01st-05th Feb, 2020)-** The purpose of this course is to expose the participants to the state of art knowledge on nonlinear estimation and providing exposure to practical estimation problems in engineering. To build confidence in designing filters for real-life problems through hands-on simulation sessions and to enhance capabilities of the participants in identifying estimation problem and implementing suitable estimators to achieve the chosen objectives.

12. **Solid and liquid Waste Management in Rural Areas (13th-14th March 2020) -**The course on Solid and Liquid Waste Management in Rural Areas was sponsored by the District Water and Sanitation Committee (DWSC), Bhojpur and has been organized in association with the UNICEF, Bihar.

13. **Educational Technology and Language Classes (01st-02nd June, 2020)**- This course has been designed keeping in mind the current pandemic and how technology can be made a part of language teachers' current and future career. The course covered theoretical and practical issues in language teaching and the use of technology to enhance the learning process.

14. **Exploring Frontiers in Applied Linguistics (29th June - 01st July, 2020)**- The objective of this course is to introduce and open research avenues in related field among scholars and academicians. The course helps the participants understand the vitality of language in crime detection and crime control motivating them to take up more studies in the crucial field of forensic linguistics. The course also endeavors to bring forth new dimensions in language education which can benefit the participants in understanding the significance of ongoing researches in this area helping them to develop a positive outlook about the language education politics.

15. **Interplay of IOT and Machine Learning in Smart Healthcare System (06th-08th July 2020)** – The exponential growth of "Internet of Things" changing the way we interact with the world around us. This short course will introduce you to the components of typical IOT devices, design constraints and considerations, and interface with physical world.

16. **Modern Trends and Development in Semiconductor Microelectronics (09th-11th Oct, 2020)**-The main objective of this course is to provide exposure to the current status and next-generation innovations of various semiconductor devices. The topics focused on basics, advances, and applications to benefit different people from academic & research communities associated with the disciplines of Electrical, Electronics, Computer Science, Chemistry, Physics, Nanotechnology, etc.

17. **Neuronal Dynamic and Neuromorphic Computing (19th- 23rd Oct, 2020) -** This course aims to provide theoretical and computational aspects of neuroscience and how the same can be extended for modern digital computing which can be highly energy efficient.





Convocation 2019

The 7th Convocation of IIT Patna was held on 6th August 2019 at IIT Patna campus in Bihta. Shri Harivansh, Deputy Chairman of the Rajya Sabha, was the Chief Guest for the convocation. The Guest of Honour on this occasion was Prof. Devang Khakhhar, former Director of IIT Bombay and a well-known Chemical Engineer. In this convocation, 191 B.Tech.students, 26 M.Sc. students, 78 M.Tech. students and 40 students from Ph.D. were awarded their degrees.

While Ashish Raj, B. Tech. from the Department of Computer Science and Engineering, got the President of India Gold Medal for being the best student in academics, the Director's Gold Medal was awarded to Tarun Garg from the Department of Computer Science and Engineering. The Institute Silver Medals for securing highest CPI in each B.Tech. programme went to Ashish Raj, Shivam Tiwari, Abhishek Singh, Nipoon Gupta, and Divyanshu Khandelwal. The Kedar Nath Das Memorial Award was given to Ashish Raj from the Department of Computer Science and Engineering. The Aryabhatta Gold Medal in M.Sc. was awarded to Mansi from the Department of Mathematics. The Institute Silver Medals in M.Sc. were awarded to Sonali Jana, Mansi and Alok Mahanta from the departments of Physics, Mathematics, and Chemistry respectively. The Chairman's Gold Medal for being the best student in academics in M.Tech. programme was awarded to Zufishan Haque from Communication System Engineering and the Institute Silver Medals for securing highest CPI in each of the M.Tech. programmes were awarded to Kumar

Anjneyal, Zufishan Haque, Aakash, Suyash, Vishnu R. Nair, Anurag Kumar, Shubham Pathak, Raju Kumar Sharma and Abhilash Srivastava. Apart from these medals, "Proficiency in Project Work Prize" were awarded to the students of B.Tech. and M.Tech. for the best project works in their departments.

As the Chief Guest, Shri Harivansh, whose speech was read out in absentia, exhorted the students to be enthusiastic about the future and make an effort to face challenges thrown to them by the outside world. He laid stress on encouraging the culture of innovation and industry – academia collaborative research. The Chairperson in-charge of the Board of Governors as well as the honourable Director of the institute, Prof. Pushpak Bhattacharyya dwelt at length over the growth of the institute during the last year. He congratulated the students on their success. In his lecture he focussed on entrepreneurial activities having a lot of support from the Government of Bihar. Faculty members were highly praised for getting accolades at various academic forums, and the students were also praised for showing their mettle in various competitions at the national level. He reminded that as per the NIRF rankings, IIT Patna has been placed at the 22nd position among engineering institutions in the country and it has also secured the 141st rank in QS BRICS University Rankings 2019. In 2019, IIT Patna has succeeded to place 80% of its B.Tech. (2015-19) and 50% of the M.Tech (2017-19) students with 210 offers, which is about 10% higher than the previous year, he added.

Cultural Events

Foundation Day

IIT Patna celebrated the day it was established in 2008. This edition of foundation day was celebrated in the newly constructed Gymkhana of the Institute, followed by various cultural activities and competitions. The program began with the lamp lightning by our Honourable Director, which was followed by the institute song. The Director described his journey of IIT Patna along with its achievements in the past years. The day concluded with the speeches of our two Chief Guest - Professor D.V. Khakhar, Director IIT Bombay and Dr. Mangesh Joshi and vote of thanks by our anchors.

Nebula '19

This edition of the freshers' party proved to be the most successful Nebula in the history of IITP welcoming more than 350 freshers this year. The party began with a lamp lighting ceremony shortly followed by a formal introductory speech by the Chief Guest. Beginning with a plethora of events, first performance to be showcased was a musical performance by B.Tech. and then an instrumental by both UG and PG freshmen. After this, IIT Patna witnessed the awesome Mime performance, aptly acted by the freshers, depicting the varied mind-sets of a person in his love story, and a short comical play. The excitement augmented to a joyful high when the fashion show embarked on. Beginning the charismatic show, the fresh batch put up an attractive fashion show in which gorgeous looking girls and smartly dressed boys walked the ramp for the coveted Mr and Miss Fresher's title. The contest, held in a number of rounds, keenly contested and judged the students on different parameters. Ms. Ishita Singh and Mr. Omkar Deshpanday were adjudged as Ms Fresher & Mr Fresher respectively. As the mercury began to rise, the dance floor was left open for some unbridled energy and the night concluded with a DJ-Night.

Independence Day '19

The function started with the flag hoisting ceremony by honourable Director of IIT Patna, Prof. Pushpak Bhattacharyya. Lined up next were the jingoistic events organized by the students of IIT Patna. The intellectual minds presented a mélange of cultural activities which created an atmosphere of national pride on the premises of the institute's campus. House of Socio-Cultural Affairs, IIT Patna organized a street play which imparted a very inspiring social message. Other events encompassed the patriotic songs sung by the students. The entire atmosphere was filled with songs full of nationalism highlighting India's flight to progress in spite of its diversity.

Flip-Toe

This year Exousia (The Dance Club IIT Patna) organized its second edition of Intra-College Dance Competition. This time the dance club also released its official logo and name of the club. The participants competed in two major genres that were solo and duet dance. The performances were judged by Mrs. Aparna Bhattacharyya. All the dance boosters from all over the college participated in it and the event concluded successfully.

Janmashtami

The students of the Indian Institute of Technology, Patna celebrated Janmashtami with a great vivaciousness and spiritual fervour. Bhakti Vedanta Club of IIT Patna put up a festive environment by organizing the birthday of Krishna with full vigour. House of Socio-Cultural Affairs, HoSCA, IIT Patna, brought the mass of the institute for many cultural events. The events were filled with fun, excitement, and exhilaration. This time we also organized a stage play that was performed by the freshers.

Aabhar

Like every year this time as well the Cultural Council organized Aabhar, the teachers' day celebration. This time all the cultural activities for the faculty members were organized by the UG students. Many of the professors joined the cultural evening and enjoyed the various informal events organised by the students. The programme was concluded by giving the best teacher award to Dr Vaibhav Singhal.

Gandhi Jayanti

On the auspicious occasion of Gandhi Jayanti, a classical evening was organized by the House of Socio-Cultural Affairs. A multitude of melodious performances was the part of the event which made the night a memorable one.

Acoustic Night

Aria (the music club of IIT Patna), organized its first edition of acoustic night this year. The informal musical events succeeded to release all the mid-sem examination stresses. Creating an aura with beautiful lights in front of the new hostel with people enjoying it a lot made this event a successful one.

Reverberance

Diwali is one among those festivals which is most awaited at IIT Patna. To mark and celebrate the festive spirit of Diwali, House of Socio-Cultural Affairs presents Reverberance, the Inter-Hall Cultural Tournament every year. This time the college was divided into four major teams and as the days of events were nearby everyone started preparing for their performances. Events were planned

out for three days. The evenings started with Spic-Macay on the first day and ended by the college band's performances and DJ-Night.


Inter IIT Cult Meet

In the Inter IIT Cultural meet held at IIT Bombay in December 2019, the cultural contingent of IIT Patna comprised of 70 enthusiastic students. The series of events started with the monoact event which had IIT Patna's participation and the performances were really breath-taking. Street play, mime and solo singing stand-up comedy, group dance, street battle, band competition, art of Photoshop, stage play, Hindi poetry, 51 hour film making and parliamentary debate were some of the events which drew everyone's attention to IIT Patna's great performances. At the end of the day IIT Patna got 4th position in short film making event which was a remarkable achievement that set the spirits high of the whole contingent. With all the hard work and consistent efforts, IIT Patna contingent was successful in bagging 4 prizes, namely 3rd prize in western solo singing, 3rd place in canvas painting, 3rd in Stand-up comedy and also a 3rd position in the art of Photoshop.

Anwesha 2020

With the theme 'Reflection of fond remembrances', Anwesha 2020 was celebrated at IIT Patna from 7th, to 9th of February. The opening ceremony of Anwesha'20 was marked by the presence of our Chief Guests Gupteshwar Pandey IPS, DGP, Govt. of Bihar and Guest of Honour Sunil Kumar IPS, AIG (inspection), Govt. of Bihar, in presence of the Honourable Director of IIT Patna, Prof Pushpak Bhattacharya, Associate Dean, student affairs, Dr. Manoranjan Kar and Dr. Trishiki Raychoudhary, PIC-Cultural Affairs.

The Pronite of 7th February brought to the audience of Anwesha, a Rajasthani group of hereditary professional musicians known as the Langas and the Manganiars who performed in the SPICMACAY program followed by the act of stand-up comedian Mr. Vipul Goyal and DJ Rhea who spread the beats in the air. On the second day, the Guest for the cultural night was Elite Miss India Asia, Miss Akshata Sonawane. The closing ceremony of Anwesha was just the beginning of the real celebration because it was followed by the most awaited Pronite of Anwesha'20, a concert by the famous Bollywood singer KK. It was for the first time that KK performed live not only in Bihar but also in the North Eastern part of India.

CELESTA'19: A Stellar Trek

Celesta'19, the annual techno-management fest of IIT Patna was conducted on 8th -10th November. Major addition to this year's Celesta was the Robowars. Conducted in an arena made out of heavy metal and 6mm polycarbonate sheets, the event saw participation from all over India as well as the neighbouring countries. Other Robotics Events like Drone Tussle and Roborace received similar response. Our 'Online Treasure Hunt' saw over 5 international participations, one of them even managed to secure a position.

Other big addition to this Year's Celesta was Guest Lecture Series. With dignitaries like Abhi & Niyu (Abhiraj and Niyati, Travel Blogger, #100ReasonsToLoveIndia), Mr. Ajit Balakrishnan (CEO, Rediff.com) and Mr. Sandeep Jain (CEO, Geeks for Geeks) sharing the dais physically, while Mr. Gabe Gabriel (NASA) and C.N.R. Rao (Bharat Ratna, FRS), shared it virtually. Apart from various technical events and guest lectures, Celesta also witnessed the showcasing of Indra 3.0, the tallest humanoid Robot of India. Workshops were also organised on various topics such as Machine Learning, IOT, Android Development, etc. There were other robotics events organised for school students as well, promoting techno-culture.

With all the technical events getting wrapped up, the pro nights in Celesta were blessed by renowned stand-up comedians like Kumar Varun and Anubhav Singh Bassi on Day 1, and this was followed by DJ Base Guns on Day 2.

Ted Talk

The theme of our TEDx event this year, "Metamorphosis" was to reflect the process of change. We live in a time where 'change is the only constant'. Changes in transportation, technology, warfare and most importantly in people and society are happening at pace that we can't catch up! So the idea of TEDx IIT Patna was to hear from experts, their experiences and how the industry evolved and how they had to evolve with it.

Our speakers by their life changing experiences inspired the audience to think bigger, brighter and better.

1. Kaushlendra Kumar: He shared his journey of life, from being an IIMA topper to working for the farmers in Bihar.
2. Tanvi Bharadwaj: She, being a successful female entrepreneur, talked about how she overcame all the hurdles and became the person who she is now.
3. Sudha Varghese: Being a Padma Shree herself, her presence made us feel like working for the society and to see it grow. She talked about how she began her journey with a motive to improve the poor girls' condition in the Bihar state.
4. Shams Alam: His talk motivated us to improve the technology and deliver better ideas for improving the society in every aspect, his emphasis being on the wheelchair.

Sports Events

Infinito 2019

Infinito is the annual sports fest of IIT Patna. The third edition of Infinito was successfully conducted from 18th to 20th October 2019. The teams competed fiercely for trophies in athletics, cricket, table tennis, volleyball, basketball and football. It was a proud moment to watch IIT Patna lift the coveted trophy as the overall champion of Infinito 2019. This year's Infinito concluded on a note of commitment to take the fest to greater heights in the coming years. Pre-Infinito events like PUBG-Mobile were organized which saw participation in a large number.The closing ceremony was held on the third day. The Chief Guest of Infinito Ms. Madhu Priya Jha, the first professional body-building athlete from Bihar and a Swabhiman Khel Ratna award holder, made the event all the more enthralling with her inspirational word.



Prarambh-2019

Prarambh is the annual sports fest of IIT Patna organized by Employee Sports Club. It has proved to be one of the most awaited sports tournaments around. The second edition of Prarambh was successfully conducted from 8th to 10th Nov-2019. The teams competed for trophies in Athletics, Cricket, Table Tennis, Tennis, Volleyball, Badminton (Men & Women) and Football. The closing ceremony was held on the third day. The Chief Guest of Prarambh was Dr. Manoranjan Kar, Associate Dean (Student Affairs).



Statistical Information

8.1 (A) Admission to Undergraduate Students

Admissions to B.Tech.at IIT Patna were made through Joint Entrance Examination held in May, 2019. A department wise and category wise breakup of the students admitted to IIT Patna for the academic session 2019-20 is given below:

Students admitted through JEE 2019 in IIT Patna:

Course	Gen	OBC	SC	ST	PD	EWS	Grand Total
Computer Science & Engineering	34	18	10	5	1	2	**70**
Electrical Engineering	34	18	10	4	0	1	**67**
Mechanical Engineering	33	17	11	5	0	1	**67**
Chemical & Biochemical Engineering (Chemical Engineering)	25	14	6	3	0	1	**49**
Civil& Environmental Engineering (Civil Engineering)	24	15	8	5	0	1	**53**
Metallurgical and Materials Engineering	15	7	6	2	0	0	**30**
Total	**165**	**89**	**51**	**24**	**1**	**6**	**336**

Branch-wise list of students who enrolled for B.Tech at IIT Patna for the academic session 2019-20 is given below:

(I) Computer Science & Engineering:

S.No	Roll No.	Candidate Name	Category	Gender
1	1901CS01	ABHAY RAJENDRA PATIL	GEN	Male
2	1901CS02	ABHINAV DUTTA	GEN	Male
3	1901CS03	ABHISHEK KUMAR	OBC	Male
4	1901CS04	ADITI GOEL	GEN	Female
5	1901CS05	AMAN RASTOGI	OBC	Male
6	1901CS06	AMAR RAM DEV	SC	Male

7	1901CS07	ANANT KUMAR	OBC	Male
8	1901CS08	ARAVIND AJAY	OBC	Male
9	1901CS09	ARIHANT K R	GEN	Male
10	1901CS10	AYANG BORI	ST	Male
11	1901CS11	AYUSH RANJAN	OBC	Male
12	1901CS12	AYUSH TOMAR	ST	Male
13	1901CS13	BATTURI JASWANTH	OBC	Male
14	1901CS14	BHAVAN DONDAPATI	GEN	Male
15	1901CS15	CHARUDUTT GIRISH KATKAR	OBC	Male
16	1901CS16	CHETNA PAINKRA	ST	Female
17	1901CS17	CHINTIMI APPAJI	OBC	Male
18	1901CS18	DEEPAK KUMAR	ST	Male
19	1901CS19	DEEPSHIKHA KUMARI	SC	Female
20	1901CS20	DOLESH	GEN	Male
21	1901CS21	GAJJE SREELEKHA	OBC	Female
22	1901CS22	GUL JAIN	GEN	Female
23	1901CS23	HARSH BHARADWAJ	GEN	Male
24	1901CS24	HARSH SRIVASTAVA	EWS	Male
25	1901CS25	HIMANSHU GARG	GEN	Male
26	1901CS26	HRISHIKESH BAJIRAO	GEN	Male
27	1901CS27	ISHITA SINGH	GEN	Female
28	1901CS28	JENISH MONPARA	GEN	Male
29	1901CS29	KAMBLE ADITYA BHIMRAO	SC	Male
30	1901CS30	KAVYA GOYAL	GEN	Female
31	1901CS31	MADHUR MALPANI	GEN	Male
32	1901CS32	MANJUL BAMRARA	GEN	Male
33	1901CS33	MANTU KUMAR	ST	Male

34	1901CS34	MAYANK KUMAR	GEN	Male
35	1901CS35	MAYANK RAJ	OBC	Male
36	1901CS36	MAYANK SHEKHAR	GEN	Male
37	1901CS37	MOTHE ROHITH	SC	Male
38	1901CS38	MUHAMMED SINAN C K	OBC	Male
39	1901CS39	NIRANSHU KUMAR BEHERA	SC	Male
40	1901CS40	PAWAN KUMAR AGRAWAL	GEN	Male
41	1901CS41	PRANALI SHINDE	SC	Female
42	1901CS42	PRINCEKUMAR KRISHNA JHA	GEN	Male
43	1901CS43	PRIYANKA SACHAN	OBC	Female
44	1901CS44	PUSHPENDRA NAGLE	SC	Male
45	1901CS45	RANJEET KHICHAR	OBC	Male
46	1901CS46	RISHAV RAJ	OBC	Male
47	1901CS48	SABYASACHI SARKAR	SC	Male
48	1901CS49	SAHIL GUPTA	OBC	Male
49	1901CS50	SAHIL JAIN	GEN	Male
50	1901CS51	SAQIB PERWAIZ	GEN	Male
51	1901CS52	SAURABH SINGH	GEN	Male
52	1901CS53	SHEIK KAMITEEDAR TOUHEED	GEN	Male
53	1901CS54	SHEKHAR RAJ SURYAVANSHI	SC	Male
54	1901CS55	SHIVAM SAHU	OBC	Male
55	1901CS56	SHIVANSHU SANJEEV	GEN	Male
56	1901CS57	SHRUTI RAMESHRAO NALEGAONKAR	OBC	Female
57	1901CS58	SHUBHAJEET DEY	GEN	Male
58	1901CS59	SHUBHAM GUPTA	OBC	Male
59	1901CS60	SIDHARTHA KUMAR PASWAN	SC	Male

60	1901CS61	SRAJAN KHANDELWAL	GEN	Male
61	1901CS62	SUSHANT SINHA	GEN	Male
62	1901CS63	TANISHQ MALU	GEN	Male
63	1901CS64	TANUSHREE	EWS	Female
64	1901CS65	TARUSI MITTAL	GEN	Female
65	1901CS66	UNIQUE KAUSHIK	GEN	Male
66	1901CS67	UTKARSH SINGH	OBC	Male
67	1901CS68	VAISHAKH SREEKANTH MENON	GEN	Male
68	1901CS69	VARSHA TUMBURU	GEN	Female
69	1901CS70	VENKATADRI ARAVA	GEN	Male
70	1901CS71	VISHESH JAIN	GEN	Male

(II) Electrical Engineering

Sl. No.	Roll No.	Candidate Name	Category	Gender
1	1901EE01	AAKANKSHA	GEN	Female
2	1901EE02	ABHIRAJ KUMAR	GEN	Male
3	1901EE03	ABHISHEK GUPTA	GEN	Male
4	1901EE04	ABHISHEK TRIVEDI	GEN	Male
5	1901EE05	ADARSH SRIVASTAV	GEN	Male
6	1901EE06	ADITYA GOYAL	GEN	Male
7	1901EE07	ADITYA SAMANTAROY	GEN	Male
8	1901EE08	AKARSH YADAV	OBC	Male
9	1901EE09	AKSHAT PORWAL	GEN	Male
10	1901EE10	AMAN MADAME	SC	Male
11	1901EE11	AMIT SINGH	OBC	Male
12	1901EE12	ANKIT ANURAG	OBC	Male

13	1901EE13	ARADHYA GUPTA	GEN	Male
14	1901EE14	ARUTLA. ASHRITHA NANDINI	GEN	Female
15	1901EE15	ASHUTOSH KUMAR	OBC	Male
16	1901EE16	BONTHALA VENKATA SAI ROHITH	GEN	Male
17	1901EE17	BUKKE PRABHAS NAIK	ST	Male
18	1901EE18	DANTHALA ABHINAV	OBC	Male
19	1901EE19	DEEPIKA RAJWAR	SC	Female
20	1901EE20	DHUSHYANTH S	GEN	Male
21	1901EE21	DIKSHA R SINGH	SC	Female
22	1901EE22	DUNDANGI PAVAN SAI	SC	Male
23	1901EE23	GANGIREDDY GANGADHARA REDDY	GEN	Male
24	1901EE24	GAURAV RAI	OBC	Male
25	1901EE25	HRISHITA MISHRA	GEN	Female
26	1901EE26	HRITIK KUMAR	OBC	Male
27	1901EE27	JAGADEESH PADAMUTTAM	SC	Male
28	1901EE28	JAINA SHAILESH JAGAD	GEN	Female
29	1901EE29	JIGYASHA	OBC	Female
30	1901EE30	JONNAKUTI ROOPESHWAR	GEN	Male
31	1901EE31	KANAKALA DURGA PRASANTH	OBC	Male
32	1901EE32	KUNAMALLA JOEL RATHNAM	SC	Male
33	1901EE33	LINUX PATEL	OBC	Female
34	1901EE34	M D MIDHUN REDDY	EWS	Male
35	1901EE35	MADHUR JAIN	GEN	Male
36	1901EE36	MAHARSHKUMAR K PATEL	GEN	Male
37	1901EE37	MALOTHU SRIKAR NAYAK	ST	Male
38	1901EE39	MD ARSALAN SIDDIQUI	GEN	Male

39	1901EE40	MOHAMMAD ZEESHAN	GEN	Male
40	1901EE41	NARENDRA TEJASVI	GEN	Male
41	1901EE42	NISHAN BISWAS	SC	Male
42	1901EE43	OMKAR VIVEK DESHPANDE	GEN	Male
43	1901EE44	PANKAJ SINGH	OBC	Male
44	1901EE45	PATIL ANISH SHRIKANT	GEN	Male
45	1901EE46	PITTAM NAGA SAI PRANAVI	GEN	Female
46	1901EE47	RAHUL RAJ	OBC	Male
47	1901EE48	ROHAN KUMAR	OBC	Male
48	1901EE49	S MEGHANA REDDY	GEN	Female
49	1901EE50	S N KRISHNAN	GEN	Male
50	1901EE51	SAPTARSHI MANDAL	SC	Male
51	1901EE52	SATYAM KUMAR	SC	Male
52	1901EE53	SAURABH CHETAN SHAH	GEN	Male
53	1901EE54	SAURAV KUMAR	OBC	Male
54	1901EE55	SHIVAM SINGH KUSHWAH	GEN	Male
55	1901EE56	SHREYA KUMARI GUPTA	OBC	Female
56	1901EE57	SHREYA ROY	GEN	Female
57	1901EE58	SHUBHAM KUMAR DIWAKAR	GEN	Male
58	1901EE59	SHYAM JEE GUPTA	OBC	Male
59	1901EE60	SIDDHARTH PRASAD	SC	Male
60	1901EE61	SOURABH MEENA	ST	Male
61	1901EE62	SUMIT KUMAR NAYAK	GEN	Male
62	1901EE63	TUSHAR AGARWAL	GEN	Male
63	1901EE64	U GANAPATHY KALYAN SRIVATSAV	GEN	Male
64	1901EE65	VAGHASIYA SAHIL HARESHBHAI	GEN	Male

65	1901EE66	VENKATAYOGI SRIVARDHAN	OBC	Male
66	1901EE67	VIKASH KUMAR MEENA	ST	Male
67	1901EE68	VISHAL	OBC	Male

(III) Mechanical Engineering:

S.No	Roll No.	Candidate Name	Category	Gender
1	1901ME01	AATHIRA SARATH CHANDRAN	GEN	Female
2	1901ME02	ABHAY RATHOUR	GEN	Male
3	1901ME03	ABHISHEK KUMAR JHA	GEN	Male
4	1901ME04	ADITYA	GEN	Male
5	1901ME06	AKASH AGRAWAL	GEN	Male
6	1901ME07	ALLAGADDA DIKSHITA REDDY	GEN	Female
7	1901ME08	ANAND TRIPATHI	EWS	Male
8	1901ME09	ANKIT DAS	GEN	Male
9	1901ME10	ARYAMAN RYAN RANJIT	SC	Male
10	1901ME11	ASHISH MOHAN	SC	Male
11	1901ME12	AVINASH KUMAR	OBC	Male
12	1901ME13	AYUSH GUPTA	GEN	Male
13	1901ME14	BANAVATH AJAY NAIK	ST	Male
14	1901ME15	BATCHU MADHU SRI KIRAN	OBC	Male
15	1901ME16	BATTU SAMHITH	SC	Male
16	1901ME17	CHARANTHU MEENAKSHI	OBC	Female
17	1901ME18	DARSHIL BHAVESH PATEL	GEN	Male
18	1901ME19	DEBARGHYA MAITY	GEN	Male
19	1901ME20	DEVANSH CHOUDHARY	SC	Male
20	1901ME21	DEVENDRA KUMAR MEENA	ST	Male
21	1901ME22	DIVYANSH BHARDWAJ	GEN	Male

22	1901ME23	GANESH KUMAR	OBC	Male
23	1901ME24	GARLAPATI DHRUTHIMA	GEN	Female
24	1901ME25	GOGINENI CHARISHMA	GEN	Female
25	1901ME26	HEMANT SURARIYA	SC	Male
26	1901ME27	INGOLE GATHA RAJU	SC	Female
27	1901ME28	JAL SINGH MALI	OBC	Male
28	1901ME29	JIBANJYOTI KALITA	GEN	Male
29	1901ME30	JNANDEEP TALUKDAR	GEN	Male
30	1901ME31	KANDUKURI RAHUL PREETHAM	OBC	Male
31	1901ME32	KARAMVEER SINGH	GEN	Male
32	1901ME33	KARTIKEY TYAGI	GEN	Male
33	1901ME35	KOTTE SOMANADHA BHAGAVATHI	OBC	Female
34	1901ME36	KRITADHI MAITY	GEN	Male
35	1901ME37	KUSH RAKESH GOSALIA	GEN	Male
36	1901ME38	LANKA KUMAR SRINIVAS	OBC	Male
37	1901ME39	MADUGULA MANOJ KUMAR	SC	Male
38	1901ME40	MAKINENI AJAY KESAVA CHOWDARY	GEN	Male
39	1901ME41	MANNOTH SANJAY RATHOD	ST	Male
40	1901ME42	MAYANK VERMA	SC	Male
41	1901ME43	MOHAMMED NOUMAAN	OBC	Male
42	1901ME44	MRUDUL AGRAWAL	GEN	Male
43	1901ME45	MUDAVATH VIJAY	ST	Male
44	1901ME46	OTTIKUNTA SANTHOSH	GEN	Male
45	1901ME48	PROTIK HALDER	SC	Male
46	1901ME49	PUSHKAR MOURYA	OBC	Male
47	1901ME50	RAJ KUMAR	OBC	Male
48	1901ME51	RAYAVARAPU SAI VINEETHA	OBC	Female

49	1901ME52	RITWICK SINGH BAGHEL	GEN	Male
50	1901ME53	SACHIN CHOUDHARY	GEN	Male
51	1901ME54	SAKSHI SINGH	GEN	Female
52	1901ME55	SAUMITRA GUPTA	GEN	Male
53	1901ME56	SAURABH SHANKAR	OBC	Male
54	1901ME57	SEPHALI SHRADHA KHAMARI	GEN	Female
55	1901ME58	SHOBHIT MISHRA	GEN	Male
56	1901ME59	SHUBHAM RAJENDRA BHAGAT	OBC	Male
57	1901ME60	SIDDHARTH SANSKRITAYAN	GEN	Male
58	1901ME61	SUGANTH R	OBC	Male
59	1901ME62	SUSHANT SINGH	SC	Male
60	1901ME63	THUMMA SWEEJA	SC	Female
61	1901ME65	VADDINENI VENNELA CHOWDARY	GEN	Female
62	1901ME66	VIDHYAPRAKASH MEENA	ST	Male
63	1901ME67	VIKASH BEARAR	OBC	Male
64	1901ME68	VIKASH MANDIL	GEN	Male
65	1901ME69	VISHAL KUMAR	OBC	Male
66	1901ME70	VISHWAJEET DESHMUKH	GEN	Male
67	1901ME71	YASH SHARMA	GEN	Male

(IV) Civil Engineering:

S.No	Roll No.	Candidate Name	Category	Gender
1	1901CE01	ADITYA AROHAN	SC	Male
2	1901CE03	AMAAN HUSSAIN	OBC	Male
3	1901CE04	AMISHA RAY	OBC	Female
4	1901CE05	AMIT KUMAR MEENA	ST	Male
5	1901CE06	ANKIT KUMAR	SC	Male

6	1901CE07	ANSHU ANAND	GEN	Female
7	1901CE08	ANUJ KUMAR SAH	ST	Male
8	1901CE09	BAGISHA KUMARI	ST	Female
9	1901CE10	DILRAJ MEENA	ST	Male
10	1901CE11	DIVYANSHU DEEPAM	GEN	Male
11	1901CE12	FARAZ AHMAD SIDDIQUI	GEN	Male
12	1901CE13	GAURAV CHAUDHARY	SC	Male
13	1901CE14	GAURAV KESHAV	OBC	Male
14	1901CE15	HARDIK ARORA	GEN	Male
15	1901CE16	KARTIK TANAJI SHINDE	GEN	Male
16	1901CE17	KAUSTUBH TIWARI	GEN	Male
17	1901CE18	KSHITIJ J PANDEY	GEN	Male
18	1901CE19	KUMAR PRAGYAN	GEN	Male
19	1901CE20	KUMARI KRITIKA	SC	Female
20	1901CE21	LOKESH KUMAR SINGH	GEN	Male
21	1901CE22	MADAKA SHIVA DURGA PRASAD	SC	Male
22	1901CE23	MAHIMA RAI	GEN	Female
23	1901CE24	MANDAVYAPURAM HARIKA	GEN	Female
24	1901CE25	MAYANK	OBC	Male
25	1901CE26	MOHAMMAD SHAQUIB	OBC	Male
26	1901CE27	MUKUND KUMAR	GEN	Male
27	1901CE28	NANDIKA GIRISH	GEN	Female
28	1901CE29	NIKHIL ANAND	GEN	Male
29	1901CE30	NIKHIL KUMAR AGRAWAL	GEN	Male
30	1901CE31	PARISHI SURANA	GEN	Female
31	1901CE32	PRAKHAR SHENDGE	OBC	Male
32	1901CE34	PRIYA SINGH	OBC	Female

33	1901CE35	PULIGA CHAKRI	OBC	Male
34	1901CE36	RAHUL KUMAR	OBC	Male
35	1901CE37	RAHUL KUMAR SINGH	SC	Male
36	1901CE38	RAJEEV RANJAN	OBC	Male
37	1901CE39	RAKESH KUMAR	OBC	Male
38	1901CE40	RAVI SHANKAR SINGH	EWS	Male
39	1901CE41	ROHIT KUMAR	ST	Male
40	1901CE42	SACHIN TIWARI	GEN	Male
41	1901CE43	SAKSHAM SINGH SENGAR	GEN	Male
42	1901CE44	SHIVAM KUMAR	SC	Male
43	1901CE45	SHIVAM SHEKHAR	GEN	Male
44	1901CE48	SHYAM SUNDAR	GEN	Male
45	1901CE49	SNEHA ROY	OBC	Female
46	1901CE50	SUDHANSHU CHAURASIA	OBC	Male
47	1901CE51	SURAJ SINGH	OBC	Male
48	1901CE52	SURESH SAHU	OBC	Male
49	1901CE53	SURYA PRAKASH	SC	Male
50	1901CE54	UTKARSH DUBEY	GEN	Male
51	1901CE55	UTKARSH PATHAK	GEN	Male
52	1901CE56	VENKATREDDOLLA ABHILASH REDDY	GEN	Male
53	1901CE57	VIBHUM PANDEY	GEN	Male

(IV) Chemical Engineering:

S.No	Roll No.	Candidate Name	Category	Gender
1	1901CB01	ABHIJEET SINGH	GEN	Male
2	1901CB02	ADITYA RAJ	OBC-NCL	Male

3	1901CB03	AITHAGANI LOKESH	OBC-NCL	Male
4	1901CB04	AKANKSHA BEN	SC	Female
5	1901CB06	AKSHAY NAGLE	SC	Male
6	1901CB07	ANANTHAJIT A	GEN	Male
7	1901CB08	ANKIT YADAV	OBC-NCL	Male
8	1901CB09	ANUSHKA CHAKRABORTY	GEN	Female
9	1901CB10	APOORVA DWIVEDI	GEN	Female
10	1901CB11	ASHISH KUMAR GAUTAM	SC	Male
11	1901CB13	AYUSH SAHU	OBC-NCL	Male
12	1901CB14	AYUSH SHRIVASTAVA	GEN	Male
13	1901CB16	DAMODAR MURMU	ST	Male
14	1901CB17	HARSH JAIN	GEN	Male
15	1901CB18	IMAM HUSSAIN AZAM	OBC-NCL	Male
16	1901CB19	ISHU RAJ	SC	Male
17	1901CB20	JANJIRALA ABHIRAM	OBC-NCL	Male
18	1901CB22	KASHISH	GEN	Male
19	1901CB23	MANISH KUSHWAH	OBC-NCL	Male
20	1901CB24	MAYANK KUMAR	GEN	Male
21	1901CB25	MD AAROOJ YASHIN ALI	GEN	Male
22	1901CB27	MEHULI PAL	GEN	Female
23	1901CB28	PARTH AMISH KANANI	GEN	Male
24	1901CB30	PRAJJWAL KUMAR	EWS	Male
25	1901CB31	PRAZZWAL MEENA	ST	Male
26	1901CB32	PRITHVI RAJ	OBC-NCL	Male
27	1901CB33	PRIYAANSI SINGH	GEN	Female
28	1901CB34	RAJNEESH PATEL	OBC-NCL	Male
29	1901CB35	RISHIKA MANDHYAN	GEN	Female

30	1901CB36	RITIK KUMAR GAUTAM	SC	Male
31	1901CB37	ROHIT KUMAR	GEN	Male
32	1901CB39	SAJAL KUMAR	GEN	Male
33	1901CB40	SAKSHI SINGH	GEN	Female
34	1901CB41	SAMYAK JAIN	GEN	Male
35	1901CB42	SANJAY KUMAR JEENGAR	SC	Male
36	1901CB43	SANKET CHOUDHARY	OBC-NCL	Male
37	1901CB45	SATYAM KUMAR THAKUR	GEN	Male
38	1901CB46	SHARTHI ABHINAY	OBC-NCL	Male
39	1901CB47	SHASHIKALA YADAV	OBC-NCL	Female
40	1901CB48	SHREYA DIMRI	GEN	Female
41	1901CB49	SIDDHANT SOYMON	GEN	Male
42	1901CB50	SUBHASH CHANDRA MEENA	ST	Male
43	1901CB51	SUDHANSHU RAI	GEN	Male
44	1901CB52	SUMIT KUMAR	GEN	Male
45	1901CB53	SURAJ SHASHI CHETTIAR	OBC-NCL	Male
46	1901CB54	VENNAMPALLY RAMMURTHY	OBC-NCL	Male
47	1901CB55	VISHWARANJAN KUMAR JHA	GEN	Male
48	1901CB56	YASH AGARWAL	GEN	Male
49	1901CB57	YASH KHOKHAR	GEN	Male

(IV) Metallurgical and Materials Engineering

S.No	Roll No.	Candidate Name	Category	Gender
1	1901MM01	ABHAY TIWARI	GEN	Male
2	1901MM02	ABHIJEET SINGH	GEN	Male
3	1901MM03	ACHYUT	GEN	Male
4	1901MM04	ADITYA KUMAR	GEN	Male

5	1901MM05	ADITYA RAJ	SC	Male
6	1901MM06	ANSHUMAN AZAD	OBC	Male
7	1901MM07	ANURAG VICTOR RATRE	SC	Male
8	1901MM08	ANUSHKHA SINGH	GEN	Female
9	1901MM09	ARCHIT ANAND	GEN	Male
10	1901MM10	AYUSH GUPTA	GEN	Male
11	1901MM11	BADRI SAI PRASAD	OBC	Male
12	1901MM13	GANTHI SREEKANTH	GEN	Male
13	1901MM14	HARSHVARDHAN SINGH	GEN	Male
14	1901MM15	JAGANA KAUSHIK	OBC	Male
15	1901MM17	K SUJATHA	GEN	Female
16	1901MM18	KESHAV KUMAR JHA	GEN	Male
17	1901MM20	KUTEMATE ABHIMANYU SUNILRAO	OBC	Male
18	1901MM22	MAHANTHY DHANAVATH	ST	Male
19	1901MM23	MANISH	SC	Male
20	1901MM25	POLEPALLE CHUR CHANDRA SAI ASWIN KUMAR	GEN	Male
21	1901MM26	PRATHAM GOEL	GEN	Male
22	1901MM27	RUBA VANI P	SC	Female
23	1901MM28	SAHIL MASOOM	OBC	Male
24	1901MM30	SAURAV SONU	OBC	Male
25	1901MM31	SHREEYANS JAIN	GEN	Male
26	1901MM32	SHUBHAM KUMAR	OBC	Male
27	1901MM33	SUBHADEEP MANDAL	SC	Male
28	1901MM35	TUSHAR SINGH KANWAR	ST	Male
29	1901MM36	VEDANT VINOD WAGH	GEN	Male
30	1901MM37	VUNDRAJAVARAPU VINESH	SC	Male

8.1 (B) Admissions 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, 2019. A department / specialization wise and category wise breakup of the students admitted to IIT Patna for the academic session 2019-20 is given below:

Students admitted in M.Tech in 2019-20 in IIT Patna:

Course/Specialization	Category						Grand Total
	GEN	OBC	PD	SC	ST	EWS	
CIVIL ENGINEERING	9	5	0	2	0	0	16
COMMUNICATION SYSTEM ENGINEERING	7	3	0	2	0	0	12
COMPUTER SCIENCE & ENGINEERING	6	3	0	3	1	0	13
MATERIALS SCIENCE & ENGINEERING	7	4	0	3	0	0	14
MATHEMATICS & COMPUTING	5	5	0	2	1	1	14
MECHANICAL ENGINEERING	7	5	0	3	1	0	16
MECHATRONICS	6	4	0	1	0	1	12
NANOSCIENCE AND TECHNOLOGY	0	0	0	0	0	0	0
VLSI & EMBEDDED SYSTEMS	6	3	0	1	0	0	10
Grand Total	**53**	**32**	**0**	**17**	**3**	**2**	**107**

Branch-wise list of students who enrolled for M.Tech at IIT Patna for the academic session 2019-20 is given below:

(I) Civil Engineering:

Sl No.	Roll No	Name of Candidate	Gender	Category
1	1911CE01	AKANKSHA SINGH	Female	General
2	1911CE02	ASHISH RAJ	Male	SC
3	1911CE03	AVINASH RAJ	Male	SC
4	1911CE04	BRAJESH KUMAR DUBEY	Male	General

5	1911CE05	CHANDAN KUMAR	Male	OBC NCL
6	1911CE06	CHIRAG VIKAS PEDE	Male	General
7	1911CE07	DHANANJAY LAL KARNA	Male	General
8	1911CE08	HARSHIT BARANWAL	Male	General
9	1911CE09	MAYANK VERMA	Male	OBC NCL
10	1911CE10	MD ARSHAD	Male	OBC NCL
11	1911CE11	NEERAJ KUMAR MAHESH	Male	OBC NCL
12	1911CE13	PRANAY SINGH	Male	OBC NCL
13	1911CE14	RAJIV NAYANAM	Male	General
14	1911CE15	RANJAN KUMAR LAL	Male	General
15	1911CE16	VANDANA KUMARI	Female	General
16	1911CE17	VIKRAM KUMAR	Male	General

(II) Communication System & Engineering:

Sl No.	Roll No	Name of Candidate	Gender	Category
1	1911EE01	AJET VIKRAM MISHRA	Male	General
2	1911EE02	AMRUTENDRINI DEVI CHINAMNA	Female	General
3	1911EE03	HARSHA	Female	OBC NCL
4	1911EE04	KOTA NIKHILESWAR	Male	General
5	1911EE05	KUMAR SAURAV	Male	OBC NCL
6	1911EE06	KUNCHAKARA ALEKHYA	Female	SC
7	1911EE07	PALLAV KUMAR	Male	General
8	1911EE08	POONAM KUMARI	Female	OBC NCL
9	1911EE09	PRIYA KUMARI	Female	SC
10	1911EE10	SAKET KUMAR KARN	Male	General

11	1911EE11	SANJEEV KUMAR	Male	General
12	1911EE13	VIPUL KUMAR SINGH	Male	General

(III) Computer Science & Engineering:

Sl No.	Roll No	Name of Candidate	Gender	Category
1	1911CS01	AMIT KUMAR	Male	SC
2	1911CS02	AMIT SAHA	Male	SC
3	1911CS03	ANKIT BHARGAVA	Male	General
4	1911CS04	ANMOL SHUBHAM	Male	General
5	1911CS05	ARPAN MANNA	Male	General
6	1911CS06	ASHWANI KUMAR	Male	ST
7	1911CS07	DEBANSHU LALWANI	Male	General
8	1911CS09	KARANJIT SINGH GILL	Male	General
9	1911CS10	NEETI PRIYA	Female	OBC NCL
10	1911CS11	PRERNA PREM	Female	General
11	1911CS12	SHANTANUJ SHARMA	Male	OBC NCL
12	1911CS13	SHASHI KUMAR	Male	SC
13	1911CS14	VIVEK PATEL	Male	OBC NCL

(IV) Materials Science & Engineering:

Sl No.	Roll No	Name of Candidate	Gender	Category
1	1911MM01	AJEET KUMAR	Male	OBC NCL
2	1911MM02	AKASH KUMAR	Male	OBC NCL
3	1911MM03	BRIJESH BISHAL SAHOO	Male	OBC NCL
4	1911MM04	GEORGE VARGHESE P J	Male	General

5	1911MM06	NITISH KUMAR	Male	SC
6	1911MM07	PAPPU KUMAR	Male	General
7	1911MM08	RAHUL KUMAR	Male	SC
8	1911MM09	RAHUL SINGH	Male	OBC NCL
9	1911MM10	RAVI RANJAN	Male	SC
10	1911MM11	RISHAV RAJ	Male	General
11	1911MM13	SAURABH SHARMA	Male	General
12	1911MM14	SHUBHAM KUMAR VISHWAKARMA	Male	General
13	1911MM15	SUBHADIP BHANDARI	Male	General
14	1911MM16	SURAJ KUMAR	Male	General

(V) Mathematics & Computing:

Sl No.	Roll No	Name of Candidate	Gender	Category
1	1911MC01	ABHISHEK KUMAR	Male	OBC NCL
2	1911MC02	ASEEM ARORA	Male	EWS
3	1911MC03	AVINASH SINGH CHAUHAN	Male	General
4	1911MC04	BISHAL SHAW	Male	General
5	1911MC05	DEEPAK SAROJ	Male	SC
6	1911MC06	HARSHIT AGGARWAL	Male	General
7	1911MC07	INDRESH KUMAR	Male	General
8	1911MC08	MOLKAM RAKESH	Male	ST
9	1911MC09	NISHCHAL PRASAD	Male	OBC NCL
10	1911MC10	RAJAN SINGH	Male	SC
11	1911MC11	RANU MAURYA	Female	OBC NCL

12	1911MC12	SANDEEP KUMAR	Male	General
13	1911MC13	SHIKHAR SINGH LODHI	Male	OBC NCL
14	1911MC14	VIKAS RAI	Male	OBC NCL

(VI) Mechanical Engineering:

Sl No.	Roll No	Name of Candidate	Gender	Category
1	1911ME02	ANKIT SINGH	Male	SC
2	1911ME03	ANUPAM KUMAR	Male	OBC NCL
3	1911ME04	AVINASH UPADHYAY	Male	General
4	1911ME05	DEEPAK KUMAR	Male	OBC NCL
5	1911ME06	DEEPAK KUMAR GUPTA	Male	OBC NCL
6	1911ME07	KUMAR KARTIK	Male	SC
7	1911ME08	MD EHTESHAM	Male	OBC NCL
8	1911ME10	NAMAN KUMAR	Male	General
9	1911ME11	NIRAJ KUMAR	Male	General
10	1911ME12	OJAS PRAVIN RAHATE	Male	SC
11	1911ME13	PRABHAT KUMAR TIWARI	Male	General
12	1911ME14	PRAMOD PRAKASH DUBEY	Male	General
13	1911ME15	SHARMA VINAYKUMAR VISHWESHVAR	Male	ST
14	1911ME16	SHIVAM DWIVEDI	Male	General
15	1911ME17	TONMOY SHARMA	Male	General
16	1911ME18	VIVEK KUMAR	Male	OBC NCL

(VII) Mechatronics:

Sl No.	Roll No	Name of Candidate	Gender	Category
1	1911MT01	ABHISHEK KUMAR	Male	SC
2	1911MT02	AISHWARYA ARCHIT PANDEY	Male	General
3	1911MT03	ARCHANA KUMARI	Female	EWS
4	1911MT04	CHANDAN P U	Male	General
5	1911MT05	DAREKAR AKSHAY YUVRAJ	Male	General
6	1911MT06	FARAZ HAIDER	Male	OBC NCL
7	1911MT07	JYOTI KUMARI	Female	OBC NCL
8	1911MT08	PEDAPUDI BHARATH RAJA BHOOPAL	Male	OBC NCL
9	1911MT09	PRAKASH KUMAR	Male	General
10	1911MT10	PRAMOD KUMAR MODI	Male	OBC NCL
11	1911MT11	RAHUL KUMAR	Male	General
12	1911MT12	SURAJ SINGH PATWAL	Male	General

(VIII) VLSI & Embedded Systems:

Sl. No.	Roll No	Name of Candidate	Gender	Category
1	1911EE14	ABHIGYAN DEY	Male	General
2	1911EE15	EJAZ PARVEZ	Male	OBC NCL
3	1911EE16	NAVIN KANT	Male	General
4	1911EE17	NEHA KASHYAP	Female	General
5	1911EE18	PRERNA	Female	SC
6	1911EE19	PUNYESH KUMAR JHA	Male	General

7	1911EE20	RASHMI KUMARI	Female	OBC NCL
8	1911EE21	SHANI RANJAN	Male	OBC NCL
9	1911EE22	SUBHAJIT BASAK	Male	General
10	1911EE23	SWARNAPRAVA MOHANTY	Female	General

8.2Statement of Results (Post Graduate)

(A) Following table shows the summary of the results of the Post Graduate students (M.Tech.) at IITPatna in the FY 2019-20 (up to end semester examination Nov 2019):

Year		Civil & Infrastructure Engineering	Computer Science & Engineering	Communication System Engineering	Mathematics & Computing	Mechanical Engineering	Materials Science & Engineering	Mechatronics	Nanoscience& Technology	VLSI & Embedded Systems	All Dept.
1st Year	Total	16	13	12	14	16	14	12	0	10	107
	Pass	13	13	12	14	14	13	12	0	10	101
	Fail/ Incomplete	03	0	0	0	02	1	0	0	0	06
2nd Year	Total	13	16	12	13	11	10	14	11	08	108
	Pass	09	16	12	12	09	10	11	10	7	96
	Fail/ Incomplete	04	0	0	1	02	0	03	1	1	12
All Years (Registered)	Total	29	29	24	27	27	24	26	11	18	215
	Pass	22	29	24	26	23	23	23	10	17	197
	Fail/ Incomplete	07	0	0	1	04	1	03	1	1	18
On Leave/Not Regi		00	00	00	00	00	00	00	00	00	00

Fail means one or more subject failure or CPI less than 6.0

b) Following table shows the summary of the results of the Post graduate students (M.Sc.) at IIT Patna in the FY2019-20 (up to end semester examination Nov, 2019):

Years		Mathematics	Physics	Chemistry	All Dept.
1st Year	Total	18	17	17	52
	Pass	18	17	14	49
	Fail/ Incomplete	0	0	3	3
2nd Year	Total	12	8	10	30
	Pass	12	8	10	30
	Fail/ Incomplete	0	0	0	0
On Leave/Not Registered		0	0	0	0
Grand Total		**30**	**25**	**24**	**79**

8.1 (C) Admission to Postgraduate Students (M.Sc.)

Admission to M.Sc. Courses at IIT Patna was made through JAM score in June/July, 2019. A department wise and category wise breakup of the students admitted to IIT Patna for the academic session 2019-20 is given below:

Students admitted in M.Sc. in 2019-20 in IIT Patna:

Course/Specialization	Category					Grand Total
	GEN	OBC	PD	SC	ST	
MATHEMATICS	8	5	0	4	1	18
PHYSICS	9	5	0	2	1	17
CHEMISTRY	6	6	0	2	3	17
Grand Total	**23**	**16**	**0**	**8**	**5**	**52**

Branch-wise list of students who enrolled for M.Sc. at IIT Patna for the academic session 2019-20 is given below:

(I) MATHEMATICS:

Sl No.	Roll No	Name of Candidate	Gender	Category
1	1912MA01	AJITH J	Male	GEN
2	1912MA02	ANKITA YADAV	Female	GEN
3	1912MA03	BISHAL BISWAS	Male	SC
4	1912MA04	CHANDAN KUMAR	Male	SC
5	1912MA05	DOLAN SAMANTA	Female	GEN
6	1912MA06	IVIN BABU	Male	GEN
7	1912MA07	KM DEEPANSHI SINGH	Female	GEN
8	1912MA08	KUNZANG TOPGYAL BHUTIA	Male	ST
9	1912MA09	MOUNDEKAR ROHIT RAJU	Male	OBC
10	1912MA10	NAVEEN KUMAR MANDAL	Male	OBC
11	1912MA11	NISHANT RANWAN	Male	OBC
12	1912MA13	PRIYA SIDDHARTH	Female	SC
13	1912MA14	RAJA RAMAN	Male	GEN
14	1912MA16	SAMARTH UMRAO	Male	OBC
15	1912MA17	SASWATA JANA	Male	GEN
16	1912MA19	SHIVANI SAIN	Female	OBC
17	1912MA21	VIKAS KUMAR JAGRIYA	Male	SC
18	1912MA22	VIKAS VAIBHAV	Male	GEN

(II) PHYSICS:

Sl No.	Roll No	Name of Candidate	Gender	Category
1	1912PH01	ABDUL ALIM	Male	OBC
2	1912PH06	HOTU RAM	Male	SC

3	1912PH09	MOULI MAZUMDAR	Female	GEN
4	1912PH10	PAWAN SINGH KUSHWAHA	Male	OBC
5	1912PH11	PRAGATI VERMA	Female	OBC
6	1912PH12	PRATEEK KUMAR SINGH	Male	OBC
7	1912PH13	RAJAT AGGARWAL	Male	GEN
8	1912PH14	RAJENDRA KUMAR MEENA	Male	ST
9	1912PH15	RAVEENA GAMBHIR	Female	GEN
10	1912PH16	RITESH YADAV	Male	OBC
11	1912PH18	SAURABH UPADHYAY	Male	GEN
12	1912PH19	SAURAV SACHIN	Male	GEN
13	1912PH20	SHAILASH KUMAR VERMA	Male	SC
14	1912PH21	SHIVAM SINGH	Male	GEN
15	1912PH23	SHRUTI SARSWAT	Female	GEN
16	1912PH24	SRAMANA DAS	Female	GEN
17	1912PH26	TANIA MUKHERJEE	Female	GEN

(III) CHEMISTRY:

Sl No.	Roll No	Name of Candidate	Gender	Category
1	1912CH02	ANANT KUMAR SINGH	Male	OBC
2	1912CH03	ANKUR YADAV	Male	OBC
3	1912CH05	ASHISH KUMAR	Male	OBC
4	1912CH06	ATUL KUMAR DUBEY	Male	GEN
5	1912CH07	DURGESH KUMAR SINGH	Male	GEN
6	1912CH08	KIRTI CHUGH	Female	GEN
7	1912CH10	MUSKAN	Female	OBC

8	1912CH11	NIRAJ KUMAR	Male	OBC
9	1912CH12	RAVEENA M	Female	SC
10	1912CH13	RITURAJ VERMA	Male	OBC
11	1912CH14	ROMICA JAIN	Female	GEN
12	1912CH15	RUTENDRA SING	Male	ST
13	1912CH16	SHRADDHA SATYAVAN DAMSE	Female	ST
14	1912CH17	SHUBHAM SINHA	Female	GEN
15	1912CH21	SUMAN MEENA	Female	ST
16	1912CH22	SWASRITA KUNDU	Female	GEN
17	1912CH23	UDAYRAJ BHARATI	Male	SC

8.3 Students Enrolled in Undergraduate Courses

The Table below gives the total number of students in B.Tech. courses (Upto 31.3.2020):

Batch	Gen	OBC	ST	SC	PD	EWS	Total
2014	1	1	0	2	0	0	**4**
2015	1	0	0	0	0	0	**1**
2016	96	53	14	29	1	0	**193**
2017	107	58	15	33	6	0	**219**
2018	134	63	13	32	2	0	**244**
2019	165	89	24	51	1	6	**336**

8.3 Statement of Results (Undergraduate)

Following table shows the summary of the results of the undergraduate students at IIT Patna in the year April 2019 to March 2020 (upto end semester examination Nov, 2019):

Years		CSE	EE	ME	CE	CB	MME	All Dept.

4th Year	Total	55	49	46	23	20	0	**193**
	Pass	55	46	45	21	20	0	**187**
	Fail	0	3	1	2	0	0	**6**
3rd Year	Total	61	59	50	25	24	0	**219**
	Pass	60	56	48	24	24	0	**212**
	Fail	1	3	2	1	0	0	**7**
2ndYear	Total	63	60	62	32	27	0	**244**
	Pass	61	59	56	31	27	0	**234**
	Fail	2	1	6	1	0	0	**10**
1st Year	Total	70	67	67	53	49	30	**336**
	Pass	69	67	63	50	48	28	**325**
	Fail	1	0	4	3	1	2	**11**
All Years (Registered)	Total	249	235	225	133	120	30	**992**
	Pass	245	228	212	126	119	28	**958**
	Fail	4	7	13	7	1	2	**34**
On Leave/ Not Registered		0	0	0	0	0		0

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

8.4 List of Research Scholars Enrolled for the PhD Degree

The table below represents the number of research scholars in various departments as on 31.03.2019

Year of	**SCHOOLS**	**TOTAL**

admission	SCHOOL OF ENGINEERING						SCHOOL OF BASIC SCIENCES			SCHOOL OF HUMANITIES AND SOCIAL SCIENCES	
	CBE	CEE	CSE	EE	ME	MSE	CHE	MA	PHY	HSS	
2011-12	0	0	2	0	0	0	0	0	0	0	2
2012-13	0	0	0	0	0	0	0	0	0	1	1
2013-14	0	0	4	3	0	0	0	0	0	2	9
2014-15	0	1	2	10	5	0	0	4	2	0	24
2015-16	3	3	14	7	9	2	7	8	4	6	63
2016-17	2	5	12	17	21	0	7	5	16	10	95
2017-18	3	5	9	10	10	3	8	8	9	8	73
2018-19	3	9	23	20	17	4	12	5	16	15	124
2019-20	3	8	26	15	10	5	12	9	10	8	106
TOTAL	**14**	**31**	**92**	**82**	**72**	**14**	**46**	**39**	**57**	**50**	**497**

List of Research Scholars Enrolled in Academic Year 2020-21

SI NO	Name of Student	Roll No.
1	Devargya Chakraborty	2021CB02
2	MEMON AZIM BABU VALI	2021CB03
3	SUNNY SHIVAM	1921CB03
4	Bhagirath Mahto	2021CH01
5	BIRKISHORE MAHTO	2021CH02
6	AKASH BISOYI	1921CH04
7	ARCHITA MAITI	1921CH05
8	ARNAB CHAKRABORTY	1921CH06
9	RAJESH PATRA	1921CH07
10	RISHABH KUMAR PANDEY	1921CH08
11	ROHIIT KUMAR	1921CH09
12	Sanyukta Bhattacharjee	1921CH10
13	SOUMEN GHOSH	1921CH11
14	SUMIT MONDAL	1921CH12
15	Swadhin Swaraj Acharya	1921CH13
16	DEEPANSH YADAV	2021CE01
17	Bhavini	1921CE08
18	NEHA KUMARI	1921CE10
19	Preetam Kumar Shukla	1921CE11
20	Sanjana Sarkar	1921CE12

21	Saranika Das	1921CE13
22	VIKAS KUMAR	1921CE14
23	Akshay Gupta	1921CE15
24	APPICHARLA RAMAKRISHNA	2021CS01
25	Arindam Chatterjee	2021CS02
26	Gitanjali Kumari	2021CS03
27	md shahbaz nazami	2021CS04
28	Piyush Kumar Garg	2021CS05
29	Rajeshwar Yadav	2021CS06
30	SANJIT KUMAR	2021CS07
31	SHIVENDU MISHRA	2021CS08
32	SONIYA ROHHILA	2021CS09
33	Abhisek Tiwari	1921CS16
34	Aizan Zafar	1921CS17
35	Amit Ranjan	1921CS18
36	APOORVA	1921CS19
37	Arun Vikram	1921CS20
38	Divya Singh	1921CS21
39	JYOTI KUMARI	1921CS22
40	KSHITIJ MISHRA	1921CS23
41	Nikhilanand Arya	1921CS24
42	PARTHA SARATHI CHAKRABORTY	1921CS26
43	QUMAR IBRAHIM	1921CS27

44	Ratnesh Kumar Joshi	1921CS28
45	Ritam Sarkar	1921CS29
46	Srilekha Panda	1921CS30
47	SUPRIYA SHAKYA	1921CS31
48	Prabhat Kumar Bharti	1921CS32
49	Obsa Gilo Wakuma	1921CS33
50	ADARSH RAVI	2021EE01
51	DIVYA RASHMI	2021EE02
52	DOLLY KUMARI	2021EE03
53	kundan kumar	2021EE04
54	MOHIT KUMAR SAXENA	2021EE06
55	Shubham Anand	2021EE07
56	SUJEET KUMAR	2021EE08
57	Ajit kumar	1921EE12
58	AMRESH KUMAR RAY	1921EE14
59	ANAND KUMAR	1921EE15
60	GOPAL KRISHNA	1921EE16
61	Priya Singh	1921EE17
62	ROHIT KUMAR SINGH	1921EE19
63	Sagar Deep Deb	1921EE20
64	SHRUTI VERMA	1921EE21
65	DEBARATI GHOSH	2021HS01
66	Febin Vijay	2021HS02

67	SOUMYA KASHYAP	2021HS04
68	Sridipa Dandapat	2021HS05
69	Chhaya Rana	1921HS15
70	Monalisa Bhattacherjee	1921HS16
71	Nidhi Jha	1921HS17
72	ZEESHAN NEZAMI ANSARI	1921HS19
73	Dipak Kumar Bhunia	2021MA01
74	NAVNEET KAUR	2021MA02
75	Praveen kumar	2021MA03
76	Rajen Kumar	2021MA04
77	Ashutosh Singh	1921MA05
78	GOBINDA GHOSH	1921MA06
79	Indibar Debnath	1921MA07
80	NISHANT KUMAR	1921MA08
81	surya prakash	1921MA09
82	Parth Sarthi Mallick	2021ME02
83	VIKAS KUMAR	2021ME03
84	AJIT KUMAR	1921ME09
85	Akshay Saxena	1921ME10
86	MUKESH KUMAR SINGH	1921ME13
87	prabhakar kumar singh	1921ME14
88	RAHUL SINHA	1921ME15
89	SANJEEV KUMAR	1921ME16

90	UTTAM KUMAR	1921ME18
91	KISHOR KUMAR JHA	1921ME19
92	BOKKA SRAVAN	2021MM01
93	PUSHPENDER SINGH	2021MM02
94	chandan singh	1921MM03
95	Krishna Kant Pandey	1921MM04
96	Arun Kumar	1921MM07
97	ARADHANA PANIGRAHI	2021PH01
98	RAHUL MOHANTY	2021PH04
99	Ajay Kumar	1921PH10
100	ANANT SHUKLA	1921PH12
101	ARPITA MONDAL	1921PH15
102	INDRANIL MAITY	1921PH16
103	PARBATI SENAPATI	1921PH18
104	SAUMYASHREE BARAL	1921PH19
105	Shashikant kumar	1921PH20
106	SUBHADEEP SARKAR	1921PH21

8.5 Merit-Cum-Means (MCM) Scholarship

The Institute provided MCM scholarships as per the following details

YEAR	General + OBC	SC	ST
2016-17	147	19	10
2017-18	159	17	6
2018-19	115	14	6

2019-20	110	12	4

The following students were selected for the award of the Merit-Cum-Means (MCM) scholarship in the academic year 2019-20 by the Institute:

S.No.	Name	Roll No.
1	Mayank Wadhwani	1601CS51
2	Ashutosh Kumar Singh	1601CE09
3	Prakash Kumar	1601CS33
4	Suraj Kumar Singh	1601CE24
5	Bankey Bihari Jha	1601CE10
6	Abhinav Gyan	1601CE01
7	Amit Singh	1601CE07
8	Rahul Kumar	1601ME26
9	G. Sahi Darsini	1601CE11
10	Raj Mani	1601CS36
11	Gaurav Kataria	1601EE17
12	Viswak Hanumanth Gk.	1601CS48
13	Roushan Kumar Gupta	1601ME33
14	Nilendu Shubham	1601EE27
15	Suraj Kumar Jha	1601ME41
16	Ankit Rai	1601CE08
17	Mayank Kumar Singhal	1601CE13
18	Deepak Kumar	1601CS10
19	Yash Palriwal	1601CS50
20	Abhishek Nautiyal	1601CS02
21	Amar Samira	1601CE06
22	Abhishek Bharti	1601CE03
23	Sandeep Tripathi	1601ME36
24	Rakesh Bairwa	1601ME28
25	Umang Jain	1701CS56
26	Sheetal Gupta	1701CS45
27	Rahul Pandey	1701CS38
28	Aman Mishra	1701ME05
29	Shashank Shreyaskar	1701ME41
30	R. Yaswant	1701EE34
31	Sachin Pandey	1701CS61
32	Vijigiri. Vrushank Varma	1701CS53
33	Himanshu Gupta	1701EE61

34	Vivek Garg	1701CB27
35	Aniket Kumar	1701EE08
36	Madhav Manish	1701EE19
37	Amit Priyankar	1701CS04
38	Vatsal Singhal	1701CS52
39	Patil Vaibhav Rajaram	1701ME27
40	Rakshit Maheshwari	1701CE21
41	Kaushal Kumar Jangir	1701CE11
42	Saif Ahmad	1701ME39
43	Tejas Goyal	1701ME49
44	Saurabh Gupta	1701EE59
45	Ritu Raj	1701CS40
46	Diksha Bansal	1701CS19
47	Yash Rawal	1701CE28
48	Rahul Kumar	1701CS37
49	Kapil Gupta	1701CS25
50	Shashi Ranjan	1701CS44
51	Chandan Kumar	1701CS16
52	Gopugari Badrinath Reddy	1701CS22
53	Sudhir Yadav	1701ME47
54	Shreyas Sanjay Taware	1701ME43
55	Priyansh Singh Rao	1701CB21
56	Pranshu Chandani	1701CB19
57	Sunny Singh	1701CS50
58	Abhishek Kumar	1701ME02
59	Nikhil Bharati	1701EE28
60	Satyam Kumar	1801EE48
61	Ashutosh Maurya	1801ME16
62	Balbeer Yadav	1801CS13
63	Rishabh Agrawal	1801EE40
64	Durgesh Singh	1801ME22
65	Akshat Jain	1801ME05
66	Basa Sai Rohan	1801CS14
67	Harshavardhan K	1801CS29
68	Abdul Wahid	1801ME01
69	Abhishek Kr Singh	1801ME03
70	Nemalikanti V M Dheeraj	1801ME39
71	Pappu Siva Kumar	1801EE30
72	Shashank Kumar	1801CE29

73	M Nitesh Reddy	1801CS32
74	Saksham Jha	1801CS64
75	Pandranki Kiran	1801EE29
76	Abhay Singh	1801CS66
77	Ayush Pandey	1801CS11
78	Dacharla Venkata Rao	1801CS18
79	Roshan Kumar	1801CS40
80	Arohan Panda	1801ME41
81	Roshan Kumar	1801EE38
82	Rakesh Kumar	1801CB19
83	Swati Kumari	1801EE56
84	Jay Kabra	1801EE20
85	Ketan Kumar Sinha	1801CE14
86	Roopesh Pal	1801CE28
87	Aryan Kothari	1801CS10
88	Aviral Agrawal	1801EE16
89	M. Jagan Mohan Chowdary	1801ME34
90	Neeraj Kumar Gond	1801ME38
91	Subrata Hazra	1812CH13
92	Rajesh Kumar	1812PH08
93	Bhupesh Kumar Sharma	1812PH04
94	Adri Bhattacharya	1812MA04
95	Santanu Kandar	1812PH10
96	Arnab Patla	1812CH06
97	Aakash	1812MA01
98	Abhishek Kanaujiya	1812MA02
99	Rahul Kumar	1812PH07
100	Shivraj Meena	1812MA14
101	G. Gangadhara Reddy	1901EE23
102	Ganesh Kumar	1901ME23
103	Akshat Porwal	1901EE09
104	Abhay Tiwari	1901MM01
105	Sanket Choudhary	1901CB43
106	Vishal	1901EE68
107	Vishwaranjan Kr. Jha	1901CB55
108	Satyam Kumar Thakur	1901CB45
109	Shyam Sunder	1901CE48
110	Rohan Kumar	1901EE48
111	Harshvardhan Singh	1901MM14
112	Suganth R`	1901ME61
113	M.D. Midhun Reddy	1901EE34
114	Madhur Jain	1901EE35
115	Protik Halder	1901ME48
116	Mouli Mazumdar	1912PH09
117	Prateek Kumar Singh	1912PH12
118	Shubham Sinha	1912CH17

119	Romica Jain	1912CH14
120	Km Deepanshi Singh	1912MA07
121	Shivani Sain	1912MA19
122	Rajendra Kr Meena	1912PH14
123	Kunzang T Bhutia	1912MA08
124	Vikash Kumar Jagriya	1912MA21
125	Bishal Biswas	1912MA03
126	Priya Siddharth	1912MA13

Infrastructure Development at IIT Patna

Phase-II:

Phase-II construction includes library, students activity center, auditorium and academic and residential buildings for students, faculty and staff. The projects are being constructed under CPWD. The detailed list of ongoing projects in Phase-II is as follows:

1) Academic Buildings, G+5, 2 numbers
2) Workshops, 3 numbers.
3) Central Lecture hall
4) Central Library
5) Guest House, G+2
6) Girls Hostel for 232 students capacity
7) Boys Hostel for 950 students capacity
8) Auditorium, 1000 siting capacity
9) A type Quarters, G+8, 27 units
10) B type Quarters, G+8, 36 units
11) C Type Quarters, G+6, 56 units
12) D type Quarters, G+3, 48units
13) Married Accommodations, G+5, 36 Numbers
14) Students activity center balance part
15) Services like substation, street lighting, WTP, STP, Firefighting system, water supply distribution network etc.

All the projects are under construction, RC work is completed in most of the building and finishing is progress. The overall progress in Phase-II construction work up to March 2020 is 38%.

Phase-I Part-2:

Boys Hostel of 450 capacities, 56 units of C-type quarter and Student Gymkhana building with badminton courts, squash courts, dance room, and table tennis room etc. are completed and made functional during the year.

Boys Hostel
G+7 Building: 11,130 sqm
Double seater rooms for 450 students

C-Type Quarter
G+6 Building: 6,496 sqm
56 units of 2BHK Flats

Student Gymkhana
G+1 Building: 3,800 sqm
Badminton & Squash court, Table tennis, Dance, Exhibition room etc.

Badminton Court inStudent Gymkhana Building