

| Name of the Project/ Endowments, Chairs | Name of the Principal Investigator/ Co Investigator | Department of Principal Investigator/ Co Investigator | Year of Award | Funds provided (in Lakhs INR) | Duration of the project | Agency |
|---|---|---|------------------|----------------------------------|----------------------------|----------|
| On Developing Reliable Scale-up Procedures and Design Optimization for Pneumatic Fly Ash Conveying Systems for 500/800/1000 MW Units | Dr. S.S.Mallick (PI), Dr. Anu Mittal (Co- PI) Dr. Gautam Setia (Co-PI) Atul Sharma (Co-PI) | Mechanical Engineering | 2017 | 115.00 | 2 years | NTPC |
| Design and Development of a Three-Link Rigid- Flexible Manipulator for High Speed Operations | Dr. A. Singla, Dr. T. K. Bera Dr. SK Saha Dr. SP Singh | Mechanical Engineering | 2017 | 45.30 | 3 years | SERB EMR |
| Development of electron beam cured carbon fiber/epoxy laminate filled with carbon nano tubes for mechanical joints | Dr. J S Saini, Dr. H. Bhunia | Mechanical Engineering | 2017 | 29.11 | 3 years | DAE-BRNS |
| Development of Microwave Processed Cavitation Erosion Resistant Cladding | Dr. Dheeraj Gupta (PI) Dr. Vivek Jain (Co-PI) | Mechanical Engineering | 2017 | 17.16 | 3 years | SERB EMR |
| Computational and experimental study of flow-induced vibration of a plate with piezoelectric material to improve | Dr. Ashish Purohit | Mechanical Engineering | 2017 | 24.00 | 3 years | DST-SERB |



| performance of wind vibration energy harvester | | | | | | |
|---|---|------------------------|------|-------|---------|----------|
| Experimental Investigation and CFD modelling of slurry pipeline for flow of multiparticulate slurry at higher concentrations | Dr. Satish Kumar / Dr. S K Mohapatra | Mechanical Engineering | 2016 | 37.09 | 3 years | DST-SERB |
| Theoretical Modelling and Experimental Investigation of Nanofluid-Based Volumetric Absorption Concentrating Solar Collector | Dr. Vikrant Khullar | Mechanical Engineering | 2016 | 24.91 | 3 years | DST-SERB |
| Structural response characteristics of CNT reinforced multilayered composite and sandwich plates in hygro-thermal environment | Dr. Neeraj Grover | Mechanical Engineering | 2016 | 19.04 | 3 years | DST-SERB |
| Design and Development of a Novel Honing Type Magnetorheological Finishing Process | Dr. Anant Kumar Singh | Mechanical Engineering | 2015 | 29.69 | 3 years | DST-SERB |



| Floating wick basin type vertical multiple effect diffusion solar still with waste heat recovery | Dr. Madhup K Mittal | Mechanical Engineering | 2014 | 13.36 | 3 years | DST |
|---|--|--------------------------------|------|-------|---------|------------|
| Multi response optimization of process parameters for the improved part accuracy in FDP process | Dr. Ajay Batish | Mechanical Engineering | 2013 | 9.75 | 3 years | AICTE |
| Design and Control of Intelligent Autonomous Vehicle for Indian Sea Ports | Dr.T.K. Bera | Mechanical Engineering | 2013 | 6.00 | 2 years | UGC |
| Biocalcification process of photoautotrophic bacteria in concrete environments | Dr MS Reddy (PI) | Department of Biotechnology | 2017 | 15.60 | 2 years | DBT |
| Biomediated cementation for concrete problems | Dr. Shweta Goyal, Dr MS Reddy (Co PI) | Department of Biotechnology | 2017 | 42.12 | 3 years | DST (SEED) |
| Host mediated silencing of cellulose synthase genes of Phytopathora infestans for late blight resistance in Indian potato cultivar(s | Anil Kumar | Department of Biotechnology | 2017 | 25.00 | 3 years | CSIR |



| Development of self- healing concrete using bacteria | Dr. Shweta Goyal, Dr MS Reddy (Co PI) | Department of Biotechnology | 2017 | 52.60 | 3 years | NBCC (India) Limited |
|---|---|--------------------------------|------|-------|---------|--|
| DST-SERB under Extramural Scheme, "Nano-bioremediation of butachlor herbicide" | Dinesh Goyal (PI)/Shekhar Agnihotri (Co-PI) | Department of Biotechnology | 2017 | 34.80 | 3 years | DST-SERB |
| Novel gene pool from copper polluted soil ecosystem using metatranscriptomic approach | Dr. MS Reddy | Department of Biotechnology | 2016 | 15.00 | 3 years | CSIR |
| Utilization of banana stem juice for renewable energy and value added products | Dr. MS Reddy | Department of Biotechnology | 2016 | 25.00 | 3 years | Network project: ACIRD, Yamunanagar and FRI Dehradun |
| DST-SERB, under Young Scientist Scheme, "Production of high fructose syrup from cellulosic agro-waste using dual enzyme immobilization on nano- | Shekhar Agnihotri | Department of Biotechnology | 2016 | 27.30 | 3 years | DST-SERB |



| template as recyclable biocatalysts" | | | | | | |
|---|---------------|--------------------------------|------|-------|---------|--|
| Isolation and Characterization of Xanthine oxidase inhibitors from endophytic fungi for treatment of Hyperuricemia and Gout | Sanjai Saxena | Department of Biotechnology | 2015 | 29.85 | 3 years | National Biodiversity Board , Department of Biotechnology, Govt. of India |
| Cloning and characterization of genes of Glutathione biosynthesis in ectomycorrhizal fungi | Dr. MS Reddy | Department of Biotechnology | 2014 | 29.50 | 3 years | DBT |
| Green polymers for water treatment | Dr M Ghosh | Department of Biotechnology | 2014 | 23.57 | 2 years | DST-UKIERI |
| Development of treatment and regeneration technology for phytoesterogens from waste water streams | Dr M Ghosh | Department of Biotechnology | 2014 | 14.30 | 3 years | CSIR |



| Durability enhancement and prevention of damages in RC structures using bacteria | Dr. MS Reddy CoPI: Dr. Shweta Goyal | Department of Biotechnology | 2014 | 53.90 | 3 years | DST-SERB |
|---|---|---|------|-------|-------------|--|
| In Silico and In vitro approach to identify immunogenic peptideso H1N1 Virus as a target for Vaccine design | Dr. M. Baranwal | Department of Biotechnology | 2013 | 23.60 | 3 years | DST-SERB |
| Association of Single Nucleotide Polymorphisms and Methylation status in the Wnt and AhR signaling pathways with risk for occurrence of Lung Cancer in a North Indian Population. | Siddharth Sharma- PI/Dr Navneet Singh- Co-PI Associate Professor- Biotechnology | Department of Biotech and dept of Pulmonary medicine PGIMER | 2012 | 27.00 | Three years | I.C.M.R |
| Detection of Corrosion by Ultrasonic and Acoustic Emission Techniques/Department of Science and Technology | Shruti Sharma, Sandeep Kumar Sharma | Department of Civil Engineering (CED)/ Department of Mechanical Engineering (MED) | 2013 | 42.00 | 3 years | Science and Engineering Research Board (SERB) |
| Investigation of corrosion and its progression in ship hulls/Naval Research Board | Shruti Sharma, Sandeep Kumar Sharma | Department of Civil Engineering (CED)/ Department of Mechanical Engineering (MED) | 2013 | 24.60 | 3 years | Naval Research Board (NRB) |



| Behavior of Corroded and Corrosion Repaired RC Beams using Advanced Non-Destructive Techniques of Infrared Thermography (IRT) and Digital Image Correlation (DIC) | Shruti Sharma | Department of Civil Engineering | 2017 | 32.88 | 3 years | SERB |
|--|----------------------------|--|------|-------|---------|--|
| Analysis of Virus Transport through SubSurface Media | Dwarika Nath Ratha | Department of Civil Engineering | 2017 | 23.46 | 3 years | CSIR |
| Behaviour of External Beam Column Joint Retrofitted using UHP- HFRC | Prem Pal Bansal | Department of Civil Engineering | 2017 | 87.47 | 3 years | Science and Engineering Research Board (SERB) |
| Frequency Support Oriented E-client Scheduling Mechanism for Data Centres and Electric vehicles in Smart City | Dr. Neeraj Kumar | Department of Computer Science and Engineering | 2016 | 18.70 | 3 years | TCS Innovations Lab |
| Design a Distributed Network for Production Company using Facility Allocation Algorithms | § Dr. Vijay Kumar (PI) | Department of Computer Science and Engineering | 2016 | 7.00 | 1 year | Thapar University |
| Mortage App Stack | Dr. Maninder Singh (PI) | Department of Computer Science and Engineering | 2017 | 5.50 | 1 year | AVANTHA Business |



| An Unsupervised Language Independent Text Stemmer for Information Retrieval | Dr. Jasmeet Singh | Department of Computer Science and Engineering | 2017 | 2.25 | 1 year | King Abdulaziz University (KAU), Jeddah, Saudi Arabia |
|--|---|--|------|-------|---------|--|
| Development of Novel Network Traffic Dataset Abridging Technique for Intrusion Detection System | Dr. Raman Singh | Department of Computer Science and Engineering | 2017 | 4.00 | 1 year | Thapar University |
| Framework for Enabling Data portability between Heterogeneous Cloud Storage | Dr. Rinkle Rani (PI) Dr. Karamjeet Kaur (Co-PI) | Department of Computer Science and Engineering | 2013 | 8.60 | 3 years | UGC |
| Autonomic Scheduling for Cloud based Scientific Applications | Dr. Inderveer Chana (PI) Dr. Anju Bala | Department of Computer Science and Engineering | 2015 | 6.90 | 3 years | CSIR |
| Automatic Generation of Sign Language from Hindi Text for Communication and Education of Hearing Impaired People | Dr. Parteek Bhatia & Dr. Sanmeet Bhatia | Department of Computer Science and Engineering | 2016 | 17.26 | 3 years | DST |
| Distributed Data Deduplication Technique for Efficient Cloud Storage System | Dr. Inderveer Chana (Co-PI) | Department of Computer Science and Engineering | 2017 | 24.80 | 3 years | DST |
| An Efficient Software Defined Network (SDN) based Framework for Big | Dr. Neeraj Kumar (PI) &Dr. Raman Singh (Co-PI) | Department of Computer Science and Engineering | 2017 | 15.12 | 3 years | DST |



| Data Processing in Cloud Data Center | | | | | | |
|---|---|--|------|-------|---------|-------|
| QoS aware Energy Management Scheme for Self-Sustainable Data Centres using Renewable Energy Sources | Dr. Neeraj Kumar | Department of Computer Science and Engineering | 2017 | 14.95 | 3 years | DST |
| Tox2020: Toxicity Prediction of Pre-clinical Trial Drug using Physicochemical Properties and Machine Learning Approaches | Dr. Prashant Singh Rana & Dr. Vijay Kumar | Department of Computer Science and Engineering | 2016 | 25.87 | 2 years | DST |
| Smart Demand-Response Framework for Load Optimization in an Electric Grid | Dr. Shalini Batra | Department of Computer Science and Engineering | 2017 | 7.28 | 1 year | HSCST |
| SmartGlucoBinder: Design and Synthesis of Small Glucose Binder Molecule using Computational Intelligence Approach | Dr. Vijay Kumar &Dr. Prashant Singh Rana | Department of Computer Science and Engineering | 2017 | 27.19 | 3 years | DST |
| Smart Irrigation and Fertilization System for Precision Agriculture using Internet of Things and Cloud Infrastructure | Dr. Sanmeet Kaur & Dr. Parteek Bhatia | Department of Computer Science and Engineering | 2017 | 20.96 | 3 years | CSIR |



| An Adaptive Security System for Optimum Inter-domain Virtual Machines (VM) Migration | Dr. Maninder Singh (PI) | Department of Computer Science and Engineering | 2017 | 22.00 | 1 year | DST |
|---|----------------------------|--|------|-------|---------|--------------|
| Design and Development of High Isolated MIMO Antennas for Mobile Handset | Dr.Hari Shankar Singh | Electronics and Communication Engineering Department | 2017 | 4.70 | 2 Years | TIET,Patiala |
| Development of an Efficient Blind Source Separation Scheme for Natural Images in Soft Computing Network | Dr.Amit Mishra | Electronics and Communication Engineering Department | 2017 | 4.90 | 2 Years | TIET,Patiala |
| Design of Nature Inspired Algorithm for Antenna Array Optimization | Dr.Urvinder Singh | Electronics and Communication Engineering Department | 2017 | 4.40 | 2 Years | TIET,Patiala |
| Analysis of Electroencephalogram Signals for Implementation of P300 Based Brain Computer Interface | Dr.Rahul Upadhyay | Electronics and Communication Engineering Department | 2017 | 5.00 | 2 Years | TIET,Patiala |
| Digital Image Copy-Move Forgery Detection-A Passive Approach | Dr. Neeru JIndal | Electronics and Communication Engineering Department | 2015 | 4.00 | 2 Years | TIET,Patiala |
| SDR Implementation of Window based OFDM System for various Wireless Applications | Dr.Hemdutt Joshi | Electronics and Communication Engineering Department | 2014 | 5.00 | 2 Years | TIET,Patiala |



| with Improved Performance | | | | | | |
|--|--|---|------|-------|---------|---|
| Fabrication of Integrated Micro-heater and IDT's for Soil-gel deposited Zinc Oxide (ZnO) based gas Sensor application | Dr.Anil Arora | Electronics and Communication Engineering Department | 2014 | 5.00 | 2 Years | TIET,Patiala |
| Development and Realization of Accurate Temperature-Dependent Equivalent Circuit models for Multi Layer Graphene Nano Ribbon (MLGNR) Based VLSI Interconnects at Deep Submicron Technology Nodes | Dr.Mayank Kumar/Dr.Rajesh Khanna | Electronics and Communication Engineering Department | 2017 | 29.46 | 3 Years | Council of Scientific and Industrial Research(CSIR) |
| Study of Antenna Parameters | Dr. Rajesh Khanna/Dr.V P Singh | Electronics and Communication Engineering Department/Computer Science and Engineering Department | 2017 | 32.90 | 2years | DRDO |



| Low-Complexity Power- Efficient Reconfigurable Implementation of Fractional Order Filters for Weak ECG Nonstationary Biomedical Signal Processing Applications | (Dr.Sanjay Kumar/Dr. Alpana Agarwal) / Dr. Ravinder Agarwal. | Electronics and Communication Engineering Department/Electrical and Instrumentation Engineering Department | 2016 | 53.95 | 3 years | DST-SERB |
|---|---|---|------|--------|---------|---|
| Special Manpower Development Programme for Chips to System Design | Dr.Alpana Agarwal/Ms.Manu Bansal | Electronics and Communication Engineering Department | 2016 | 166.00 | 5 years | MoCIT, DIT |
| Design and development of the plasma column for the study plasma antenna and switches | Dr. RanaPratapYadav | Electronics and Communication Engineering Department | 2015 | 15.00 | 3 years | TU+IPR |
| Design and development of the Reconfigurable Plasma Antenna | Dr. RanaPratapYadav | Electronics and Communication Engineering Department | 2015 | 28.00 | 3 years | DST |
| Design and Development of load resilient mock-up ICRH system of Tokamak with variable load | Dr. RanaPratapYadav | Electronics and Communication Engineering Department | 2015 | 35.00 | 3 years | Board of research in nuclear sciences (BRNS) |
| Development of Photonic Crystal Biosensor for Detection of Foodborne Pathogens | Dr. R.S. Kaler | Electronics and Communication Engineering Department | 2014 | 31.00 | 3 years | DBT |



| Performance analysis of Dense wavelength division multiplexed systems. | Dr. R.S. Kaler | Electronics and Communication Engineering Department | 2011 | 10.00 | 3 years | University grant commission, New Delhi |
|---|---------------------------|---|------|--------|---------|--|
| Special Manpower Development Programme for VLSI Design and Related Software (SMDP- II) | Dr.Alpana Agarwal | Electronics and Communication Engineering Department | 2005 | 109.00 | 8 years | MoCIT, DIT |
| Application of Neuro- fuzzy Control in Interconnected Power System | Dr. Surya Prakash | Electrical and Instrumentation Engineering Department | 2015 | 4.20 | 2 years | Thapar University |
| Design & validation of microgrid system for Kashoud at Himachal Pradesh | Dr. Prasenjit Basak | Electrical and Instrumentation Engineering Department | 2014 | 4.15 | 2 years | Thapar University |
| Process Instrumentation of the State-of-the-art Integrated Cooling System for Large Generators in Power Plants | Dr. Gyan Ranjan Biswal | Electrical and Instrumentation Engineering Department | 2014 | 4.85 | 2 years | Thapar University |
| Feasibility Analysis of Photovoltaic system in Patiala Distribution Network in Smart Grid Environment | Dr. Mukesh Singh | Electrical and Instrumentation Engineering Department | 2015 | 5.00 | 2 years | Thapar University |



| Development of diabetes and related disease identification system using iris and retinal images | Dr. Ravinder Agarwal and Dr. Atul Bansal | Electrical and Instrumentation Engineering Department | 2017 | 5.00 | 2 years | GLA University |
|---|---|---|------|-------|---------|------------------------------------|
| Modeling and control of different type of inverted pendulums in the presence of uncertainties | Dr. Vikram | Electrical and Instrumentation Engineering Department | 2017 | 3.00 | 2 years | Thapar University |
| Development and testing of advanced control algorithms | Dr. Swati Sondhi | Electrical and Instrumentation Engineering Department | 2017 | 5.00 | 2 years | Thapar University |
| Impact analysis of renewable energy sources on power system and energy market operations | Dr. S.K. Agarwal | Electrical and Instrumentation Engineering Department | 2017 | 4.00 | 2 years | Thapar University |
| Experimental Studies on performance of Z-Source converters | Dr. Santosh Sonar | Electrical and Instrumentation Engineering Department | 2015 | 4.70 | 2 years | Thapar University |
| Solution for rotation and translation in image based biometric system for cloud applications | Dr. Sunil Singla and Dr. Gagandeep Kaur | Electrical and Instrumentation Engineering Department | 2016 | 5.00 | 2 years | Ingineous Corp. Sol. Pvt. Ltd. |
| Design and Development of AC-AC converter | Dr. Santosh Sonar | Electrical and Instrumentation Engineering Department | 2017 | 12.00 | 2 years | Alasa Electronics ,New Delhi |



| A Smart wearable device for cognitive assessment | Dr. Parag Nijhawanand Dr. Amandeep Singh | Electrical and Instrumentation Engineering Department | 2017 | 5.50 | 2 years | Priority Solutions, Mohali. |
|--|--|---|------|-------|---------------------|-----------------------------------|
| Particulate matter dose relationship with lung function efficiency of children during agriculture crop residue burning episodes | Dr. Susheel Mittal and Dr. Ravinder Agarwal | Electrical and Instrumentation Engineering Department | 2013 | 41.10 | 4 years | ICMR |
| Development of Fatigue Detection System | Dr. MD Singh and Dr. Mandeep Singh | Electrical and Instrumentation Engineering Department | 2015 | 9.99 | 2 years 3 months | DIPAS (DRDO) |
| Development of Wireless embedded system for Health monitoring of ambulatory subjects | Dr. Mandeep Singh and Dr. MD Singh | Electrical and Instrumentation Engineering Department | 2015 | 9.93 | 2 years 6 months | DIPAS (DRDO) |
| Electric vehicle charging station as a voltage and frequency regulator, within the real capability of EVs available , in presence of intermittent renewable energy sources | Dr. Sukumar Mishra and Dr. Mukesh Singh, Dr. Neeraj Kumar | Electrical and Instrumentation Engineering Department | 2016 | 44.00 | 3 years | DST |



| Development of full-field polarization -sensitive optical coherence tomography for soft biological tissue | Dr Vishal Srivastava and Dr. Ravinder Agarwal | Electrical and Instrumentation Engineering Department | 2017 | 35.92 | 3 years | DST-SERB |
|---|---|---|------|-------|---------|--------------------------------|
| Brain Fingerprinting: Detection of physiological based concealed information in the brain of suspect using machine learning techniques | Dr. Ravinder Agarwal and Dr. Saurabh Bhardwaj | Electrical and Instrumentation Engineering Department | 2016 | 9.89 | 3 years | DRDO-INMAS |
| Low - Complexity power- efficient reconfigurable implementation of fractional order filters for weak ECG non-stationary biomedical signal processing applications | Dr. Ravinder Agarwal and Dr. Sanjay Kumar, Dr. Alpana Agarwal, | Electrical and Instrumentation Engineering Department | 2016 | 53.96 | 3 years | DST |
| Energy Management of the Smart Home using Cloud Infrastructure - A Utility Perspective | Dr. Mukesh Singh and Dr. Neeraj Kumar | Electrical and Instrumentation Engineering Department | 2016 | 25.00 | 3 years | CSIR |
| Smart demand response framework for load optimization in an electrical grid | Dr. S.K. Agarwal and Dr. Shalini Batra | Electrical and Instrumentation Engineering Department | 2017 | 7.28 | 2 years | Haryana State Council (DST) |



| Study and Development of SEMG based exoskeleton knee | Dr. Ravinder Agarwal and Dr. Hardeep Singh | Electrical and Instrumentation Engineering Department | 2014 | 37.24 | 3 years | DST |
|---|---|---|------|--------|---------|---|
| Demonstration of grid Supportive EV Charger and Charging Infracture at LT Level(D-EVCI) | Dr. Mukesh Singh (PI) | Electrical and Instrumentation Engineering Department | 2017 | 30.80 | 3 years | DST |
| Development of Vehicle to Grid enabled Charging station networks & Technologies | Dr. Mukesh Singh (PI) | Electrical and Instrumentation Engineering Department | 2017 | 200.00 | 2 years | DHI-TPEM |
| Qualitative and Quantitative Analysis of The Sludge Accumulated in the Bed of Buddha Nallah at Various Locations | Dr. Pramod Kumar Bajpai/Dr. Haripada Bhunia | Chemical Engineering | 2013 | 4.50 | 3 years | Punjab Pollution Control Board, Patiala |
| Photocatalytic Degradation of Textile Dye Effluent Using Doped TiO ₂ Catalyst | Mr. Alok Garg | Chemical Engineering | 2013 | 0.97 | 2 years | UGC-New Delhi |
| Application of Nanozeolites For The Removal of Novel Contaminants From Waste Water | Dr. Sangamitra Barman | Chemical Engineering | 2013 | 8.11 | 3 years | UGC-New Delhi |



| Tailoring of Nanostructure For Reversible Hydrogen Storage: Molecular Simulation As A Guiding Tool | Dr. S K Singh | Chemical Engineering | 2013 | 6.00 | 2 Years | UGC-New Delhi |
|--|--|----------------------|------|-------|---------|---|
| Application Software Development To Evaluate Thermal Performance Of Tube Type, Air To Air Heat Exchangers For CACA High Rated Electrical Motors | Dr. D. Gangacharyulu/ Dr. Rajiv Kumar | Chemical Engineering | 2013 | 13.82 | 3 years | Crompton Greaves Global R & D Centre, Kanjur Marg, Mumbai |
| Transalkylation of Di- Isopropylbelzene(DIPB) With Benzene Over Modified Nano Zeolite Catalyst: A kinetic Study | Dr. Sangamitra Barman | Chemical Engineering | 2013 | 23.60 | 3 Years | DST, New Delhi |
| Essential Oil Production and Characterization | Dr. Avinash Chandra | Chemical Engineering | 2013 | 6.00 | 3 Years | UGC, New Delhi |
| Application of adsorption process for removal of emerging pollutants from drinking water | Dr. Pramod K. Bajpai/ Dr. Jafar Soltan | Chemical Engineering | 2014 | 2.62 | 1 year | SRG (Indo- Canadian) |
| Synthesis and Characterization of High Capacity Adsorbents For CO2 capture | Dr. Haripada Bhunia/ Dr. Pramod Kumar Bajpai | Chemical Engineering | 2014 | 25.34 | 3 Years | DST, New Delhi |



| Studies on STF – Nanoclay Based Composites For Personal Armour Systems | Dr. Rajeev Mehta | Chemical Engineering | 2014 | 32.00 | 3 Years | ARMREB, DRDO |
|---|---|----------------------|------|-------|---------|---------------------|
| Development of Nano- Eco Toxic Polyolefins With Controlled Environmental Degradation by Using High Energy Radiation and Pro-Oxidants | Dr. Haripada Bhunia/ Dr. Pramod Kumar Bajpai | Chemical Engineering | 2014 | 27.89 | 3 Years | DAE-BRNS, Mumbai |
| Investigation of Hydrodynamics and RTD of Pulp Digester Using Radiotracer Technique | Dr. Avinash Chandra/Dr. Haripada Bhunia,Dr. Pramod Kumar Bajpai | Chemical Engineering | 2014 | 26.97 | 3 Years | DAE-BRNS, Mumbai |
| Study of Hydrodynamics and RTD of Effluent Treatment Process(Biological) Using Radiotracer Technique | Dr. Vikas Kumar Sangal/ Dr. Haripada Bhunia | Chemical Engineering | 2015 | 24.51 | 3 Years | DAE-BRNS, Mumbai |
| Measurement of Circulation time and Optimization of Mixing Process for Ethyl Acetate Reactor Using Radiotracer Technique | Dr. Raj Kumar Gupta & Dr. Haripada Bhunia | Chemical Engineering | 2015 | 25.24 | 3 Years | DAE-BRNS, Mumbai |



| Drying of Polymer – Polymer – Solvent Coatings: Experimental and Simulation Study | Dr. Raj Kumar Arya | Chemical Engineering | 2017 | 41.21 | 3 Years | SERB-DST New Delhi |
|---|--|---|------|-------|---------|-----------------------|
| Polymer fiber addition to multi-scale glass fiber reinforced clay epoxy nanocomposites for improved impact strength | Dr. Rajeev Mehta/ Dr. Tarun Nanda | Chemical Engineering | 2017 | 28.92 | 3 years | SERB-DST New Delhi |
| Polylactide polypropylene blends: Preparation, Characterization, Degradibillity and Eco- toxicity studies | Dr. Haripada Bhunia/ Dr. S Ahuja | Chemical Engineering | 2017 | 24.96 | 3 years | CSIR, India |
| Electroreduction of carbon dioxide to ethanol using nano structured copper-based electrocatalysts | Dr. Haripada Bhunia/ Dr. Neetu Singh | Chemical Engineering | 2017 | 39.61 | 3 years | SERB-DST New Delhi |
| Alkali metal supported transition metal oxides as solid catalyst for the transesterification of jatropha and karanja oils | Dr. Amjad Ali Associate Professor & Head, SCBC | School of Chemistry and Biochemistry | 2012 | 19.00 | 2 years | DRDO |
| ESIPT based Chromophores: Applications for Sensing and White light emitting devices | Dr. Vijay Luxami Associate Professor | School of Chemistry and Biochemistry | 2012 | 35.00 | 2 years | DST - INSPIRE |



| Particulate matter dose relationship with lung function efficiency of children during agriculturalcrop residue burning episodes | Dr. Susheel Mittal & Dr. Ravinder Aggarwal, TUA. Chander Senior Professor | School of Chemistry and Biochemistry | 2012 | 40.00 | 2 years | ICMR |
|--|---|---|------|-------|---------|------------|
| Modelling Atmospheric Pollution and Networking (MAPAN) – Patiala (MAPAN – 08) | Dr. Susheel Mittal & Dr. Gurfan Beig Senior Professor , SCBC | School of Chemistry and Biochemistry | 2013 | 22.30 | 3 years | IITM |
| Study of surface charge and Zeta potential of coinage metal nanoparticles for their optimum stability and catalytic activity | Dr. Bonamali Pal Professor | School of Chemistry and Biochemistry | 2013 | 15.00 | 3 years | CSIR |
| Synthesis of Clay Supported TiO2 Nanoparticles for Photocatalytic Oxidation of Volatile Organic Compounds (VOCs). | Dr. Soumen Basu Associate Professor | School of Chemistry and Biochemistry | 2014 | 24.98 | 3 years | SERB - DST |



| Mixed metal oxides as heterogeneous catalysts for the triacetin synthesis" | Dr. Amjad Ali Associate Professor & Head, SCBC | School of Chemistry and Biochemistry | 2015 | 42.11 | 3 years | DST |
|--|--|---|------|--------|---------|-----------------|
| Synthesis of fused heteroaromatic derivatives through molecular hybridization technique and their in vitro evaluation as anticancer agents | Dr. Kamaldeep Paul Associate Professor | School of Chemistry and Biochemistry | 2015 | 36.40 | 3 years | CSIR |
| Size and Shape Dependent Photocatalytic activity of TiO2 nanostructures for selective reduction of nitroaromatics | Dr. Bonamali Pal Dr. Satnam Singh Professor Professor | School of Chemistry and Biochemistry | 2015 | 15.00 | 3 years | CSIR |
| Removal of Metal Ions from Waste Waters Using Hierarchically Porous Metal Oxide Monoliths with Tunable Mesopore Size. | Dr. Soumen Basu Associate Professor | School of Chemistry and Biochemistry | 2015 | 24.62 | 3 years | BRNS |
| Innovative research in pedagogy for Mini- MOOCs blended with instruction strategies to enhance quality of Higher Education | Dr. Susheel Mittal Dr. Deepak Garg Dr. Shivani Goyal Senior Professor | School of Chemistry and Biochemistry | 2016 | 110.00 | 3 years | RAE (UK) & TIET |



| Bimetallic Core-Shell Nanostructures of Transition Metals for Homogeneous Hydrogenation Catalysis and Heterogeneous Co- Catalysis | Dr. Bonamali Pal Professor | School of Chemistry and Biochemistry | 2016 | 42.39 | 3 years | DST |
|---|--|---|------|-------|---------|------------|
| Ruthenium Catalyzed C-H Band Activation Strategy For C-C And C-X Bond Formation For Biological Active Compounds | Dr. Kamaldeep Paul Associate Professor | School of Chemistry and Biochemistry | 2017 | 25.00 | 3 years | DST - SERB |
| Short and efficient synthesis of natural fragrance and pheromones employing organocatalyzed aldol reaction | Dr. Ranjana Prakash Professor | School of Chemistry and Biochemistry | 2017 | 24.00 | 3 years | CSIR |
| Encapsulation of Mesoporous Carbohydrate Nanoparticles on Intestinal Microflora Cell Surface for Enhancement of Drug Effectiveness. | Dr. Diptiman Choudhury Assistant Professor | School of Chemistry and Biochemistry | 2017 | 43.12 | 3 years | DST - SERB |
| Magnetic core supported heterogeneous catalysts for the glycerol carbonate synthesis | Dr. Amjad Ali Associate Professor & Head, SCBC | School of Chemistry and Biochemistry | 2017 | 15.00 | 3 years | CSIR |



| Dynamic Combinatorial Chemistry: Accessing complex topologies and new receptors | Dr. Vijay Luxami Associate Professor | School of Chemistry and Biochemistry | 2017 | 55.00 | 3 years | SERB |
|---|---|---|------|-------|---------|------|
| Design and synthesis of tri/tetraphenylethyene molecules as fluoresent receptors and anticancer agents | Dr. Vijay Luxami Associate Professor | School of Chemistry and Biochemistry | 2017 | 25.00 | 3 years | CSIR |
| A fluorometric bimodal nanosensor based on carbon dot-MnO2 nanocomposites for detection and intracellular imaging of glutathione | Dr. Soumen Basu Associate Professor | School of Chemistry and Biochemistry | 2017 | 10.00 | 3 years | CSIR |
| Development of myoglobin-based artificial metalloenzyme containing rhodium in place of iron for accessing non-natural activities | Dr. Vikas Tyagi Assistant Professor (INSPIRE Faculty) | School of Chemistry and Biochemistry | 2017 | 35.00 | 3 years | DST |
| Investigations of Enzyme/Synthetic Compound Catalyzed C-H Activation, Drug Metabolism and Impact of Quantum Mechanical Tunneling | Dr. Debashish Mandal Assistant Professor (INSPIRE Faculty) | School of Chemistry and Biochemistry | 2017 | 35.00 | 3 years | DST |



| Feasibility study on the use of steel melting furnace slag/APCD dust as filler in the manufacture of fly ash bricks/Blocks | Dr. Amit Dhir | School of Energy and Environmnet | 2014 | 1.20 | 1 year | Industry (Non- Government) |
|--|---------------------------|-------------------------------------|------|-------|---------|-------------------------------|
| Evaluation of LSCF-GDC cathode layer fabricated by aqueous spray coating for intermediate temperature solid oxide fuel cells | Dr. Venkatasubramanian | School of Energy and Environmnet | 2016 | 5.00 | 2 years | TIET |
| Localization of selenium and other trace elements in edible crops cultivated in seleniferous soils | Dr. N.Tejo Prakash | School of Energy and Environmnet | 2017 | 22.66 | 2 years | DST-RFBR |
| Molecular aspects of selenium tolerance by aerobic baiteria and development of bioreactor for selenate/selenit bioremediatio | Dr. N.Tejo Prakash | School of Energy and Environmnet | 2011 | 4.02 | 2 years | India-Japan S&T Cooperatio |
| Neuroprotective properties of selenoergothioneine sourced from selenium- rich mushrooms against oxidative stress and nitrosative damage in neuronal cells | Dr. N.Tejo Prakash | School of Energy and Environmnet | 2012 | 23.70 | 2 years | DBT |



| Biofortification of selenium in Edible Mushrooms from se-rich crop Residues" | Dr. N.Tejo Prakash | School of Energy and Environmnet | 2012 | 24.30 | 2 years | DBT |
|---|--------------------------|---|------|-------|----------|---------------------|
| Reforming of Biogas for Hydrogen Production and its Utilization in CI engine under dual fuel mode | Dr. Amit Dhir | School of Energy and Environmnet | 2016 | 39.00 | 2 years | MNRE |
| Applications of ionizing radiation in AOP based degradation of persistent pollutants from aqueous streams | Dr. Amit Dhir | School of Energy and Environmnet | 2015 | 24.83 | 3 years | DAE-BRNS |
| Studies on combustion, performance and emissions characteristics of diesel engine fuelled with biodiesel and biogas | Dr. Sunil Kumar Mahla | School of Energy and Environmnet | 2014 | 19.20 | 3 years | DST-SERB |
| National Env. Awareness campaign,2012-13 | K.S.Babu | School of Energy and Environmnet | 2013 | 0.15 | 3 Months | PSCST Chandigarh |
| A Strategic framework for consumer preferences towards emerging retail formats | Dr. Ravi Kiran | School of Humanities and Social Sciences | 2012 | 5.00 | 3 years | ICSSR |
| An experimental investigation of the Psychological determinants of financial decision making: A | Dr. Santha Kumari | School of Humanities and Social Sciences | 2013 | 7.00 | 3 Years | ICSSR |



| prospect theory approach. | | | | | | |
|---|--|---|------|-------|---------|------|
| A strategic model for enhancing entrepreneurial skill development: An empirical study of technical business incubators in India | Dr. Ravi Kiran | School of Humanities and Social Sciences | 2017 | 21.60 | 3 years | DST |
| On L ¹ -Convergence of trigonometric series with special coefficients | Dr. Jatinderdeep kaur (PI) & Dr. S.S. Bhatia (Co-PI) | School of Mathematics | 2013 | 9.72 | 3 years | UGC |
| Automorphisms of Finite p-Groups | Dr. Deepak Kumar Gumber | School of Mathematics | 2013 | 60.00 | 3 years | UGC |
| Non-Linear and Class- Preserving Automorphisms of Finite p-Groups | Dr. Deepak Kumar Gumber | School of Mathematics | 2014 | 10.12 | 3 years | NBHM |



| Higher order Discontinuouse Gelerkin method for unsteady incompressible Navier Stokes Equation: Analysis and Simulation On q-series Split n-colour | Dr. Sapna Sharma Dr. Meenakshi Rana | School of Mathematics School of Mathematics | 2014 | 13.32 | 3 years | DST |
|--|--|--|------|-------|---------|-----------|
| partitions ans F-partitions | | | | | | |
| On Combinatorics of q- series, Rogers- Ramanujan type identities and split n-color partitions | Dr. Meenakshi Rana | School of Mathematics | 2016 | 14.40 | 3 years | NBHM |
| Divisibility Conjecture and Existence of Non-Linear Automorphisms of order p for Non-Abelian Finite p-Groups | Dr. Deepak Kumar Gumber | School of Mathematics | 2016 | 20.00 | 3 years | SERB, DST |
| Extinction risk analysis: An approach to preserve endangered species | Dr. Parimita Roy | School of Mathematics | 2017 | 13.05 | 3 years | SERB, DST |
| Mathematical modeling of equilibrium structures and oscillations of rotating stars inbinary systems using modified Roche equipotential | Dr. A.K. Lal(PI) and Dr. Ankush Pathania (Co-Investigator) | School of Mathematics | 2017 | 16.96 | 3 years | CSIR |



| Study of surface and LAMB Type Wave Propagation in the context of Size Dependent Piezoelectricity | Dr. Satish Kumar | School of Mathematics | 2017 | 16.00 | 3 years | SERB, DST |
|---|---------------------|-----------------------|------|-------|---------|-----------|
| Modelling and simulation of three-dimentional magnetohydrodynamic Nanofluid flows over a stretching surface | Dr. Raj Nandkeolyar | School of Mathematics | 2017 | 16.23 | 3 years | SERB, DST |
| Numerical analysis of tumor growth models using Discontinous Galakin Techniques | Dr. Parmjeet Singh | School of Mathematics | 2017 | 13.19 | 3 years | DAE, NBHM |
| On class-preserving automorphims of finite groups | Dr. Hemant Kalra | School of Mathematics | 2017 | 6.60 | 3 years | SERB, DST |
| Compression and representation of biological shapes and signals using diffusion wavelet | Dr. Kavita | School of Mathematics | 2017 | 6.60 | 3 years | SERB, DST |
| Understanding traffic dynamics via lattice hydrodynamics approach: Modeling, analysis & simlation | Dr. Sapna Sharma | School of Mathematics | 2017 | 6.60 | 3 years | SERB, DST |



| Study of wave propagation phenomena in the context of size dependent elastic theories | Dr. Satish Kumar | School of Mathematics | 2017 | 7.97 | 3 years | CSIR |
|---|--------------------|-----------------------|------|------|---------|------------|
| Finite volume analysis of PDE Models arising in Neuronal Variability | Dr. Parmjeet Singh | School of Mathematics | 2014 | 3.26 | 2 years | SEED Grant |
| Construction of some new iterative methods for solving nonlinear equations | Dr. Sanjeev Kumar | School of Mathematics | 2014 | 5.00 | 2 years | SEED Grant |
| Integrated behavior and performance analysis of some industrial systems | Dr. Harish Garg | School of Mathematics | 2016 | 4.20 | 2 years | SEED Grant |
| Nonsmooth minimax fractional programming problems | Dr. Vikash Sharma | School of Mathematics | 2015 | 3.00 | 2 years | SEED Grant |
| Some fixed point problems in Abstract Spaces with Applications | Dr. Sumit Chandok | School of Mathematics | 2017 | 2.30 | 2 years | SEED Grant |
| Finite p-groups with central automorphism group of minimal order | Dr. Hemant Kalra | School of Mathematics | 2017 | 2.20 | 2 years | SEED Grant |
| Modeling and simulation of traffic flow throw lattice hydro-dynamic approach | Dr. Sapna Sharma | School of Mathematics | 2017 | 2.30 | 2 years | SEED Grant |



| Application of wavelets in uncertainty quantification | Dr. Kavita | School of Mathematics | 2017 | 2.40 | 2 years | SEED Grant |
|--|---------------------|--|------|-------|---------|------------|
| Numerical study of MHD nanofluid flow in the presence of induced magnetic field | Dr. Raj Nandkeolyar | School of Mathematics | 2017 | 3.60 | 2 years | SEED Grant |
| Synthesis andCharacterization ofMultiferroic AFe2O4- BiFeO3 (A= Co, Ni, Zn) Nanocomposite Films | Dr. Puneet Sharma | School of Physics and Material Sciences | 2014 | 10.00 | 2 years | UGC |
| Development of barium hexaferrite (BaFe12O19)thick films for micro/millimeter wave device application. | Dr. Puneet Sharma | School of Physics and Material Sciences | 2013 | 16.00 | 3 years | CSIR |
| Development of M type hexaferrite films for microwave device application | Dr. Puneet Sharma | School of Physics and Material Sciences | 2014 | 47.46 | 3 years | DST |
| Development of exchange coupled hard/soft ferrite nanocomposites for tunable microwave application. | Dr. Puneet Sharma | School of Physics and Material Sciences | 2017 | 21.56 | 3 years | CSIR |
| Synthesis and characterization of novel 2Dmetal carbides (MXenes) for energy | Dr. O.P. Pandey | School of Physics and Material Sciences | 2017 | 40.66 | 3 years | DST |



| conversion and storage applications | | | | | | |
|--|-----------------|--|------|-------|-----------|---------------|
| Synthesis and Characterization of Na ₂ S- P ₂ S ₅ glass/glass-ceramic based solid electrolytes for Na-ion batteries | Dr. O.P. Pandey | School of Physics and Material Sciences | 2015 | 28.00 | 3 years | DST |
| Study of alkali metal oxide containing calcium silicate glasses as substrate for solar cell application | Dr. O.P. Pandey | School of Physics and Material Sciences | 2017 | 23.70 | 3 years | DST |
| Synthesis and characterization of molybdenum carbide nanoparticles for electrochemical applications | Dr. O.P. Pandey | School of Physics and Material Sciences | 2017 | 2.13 | 3 years | UGC, DAE, CRS |
| Development of Transition Metal Oxides decorated Graphene- Polypyrole nanocomposites as RADAR Absorbing Materials | Dr. O.P. Pandey | School of Physics and Material Sciences | 2016 | 9.91 | 1.5 years | DRDO |



| Study of Alkaline earth metals substitution in Bi based mixed ion conductor for solid oxide fuel cell application | Dr. K. Singh | School of Physics and Material Sciences | 2012 | 14.42 | 3 years | DRDO |
|--|-----------------|--|------|-------|---------|---------------|
| Study of La doped mixed conductor for solid electrolyte | Dr. K. Singh | School of Physics and Material Sciences | 2012 | 34.50 | 3 years | DST |
| Corrosion Resistant behaviour of Glass -steel interface | Dr. O.P. Pandey | School of Physics and Material Sciences | 2011 | 9.03 | 3 years | UGC |
| Synthesis of nano tungsten carbide powder from wolframite ore | Dr. O.P. Pandey | School of Physics and Material Sciences | 2010 | 33.00 | 3 years | DST |
| Synthesis of WC nano powder through thermo- chemical reduction and its application for the development of WC- Composite | Dr. O.P. Pandey | School of Physics and Material Sciences | 2010 | 27.00 | 3 years | DST |
| Synthesis and Characterization of Vanadium Carbide Nanoparticles | Dr. O.P. Pandey | School of Physics and Material Sciences | 2012 | 7.34 | 5 years | UGC, DAE, CRS |
| Determination of Neel Temperature for ferritin | Dr. S.D.Tiwari | School of Physics and Material Sciences | 2011 | 3.67 | 3 years | UGC |



| Effect of magnetic anisotropy and particle size distribution on the magnetization of antiferromagnetic NiO nanoparticles | Dr. S.D.Tiwari | School of Physics and Material Sciences | 2014 | 18.75 | 3 years | CSIR |
|--|-------------------------------|--|------|-------|---------|------------|
| Development of PVDF- (Ba, Sr) TiO ₃ nanocomposites based capacitor grade film for high energy density applications | Dr. Dwijendra Pratap Singh | School of Physics and Material Sciences | 2017 | 25.21 | 3 years | TBRL, DRDO |
| Nanoengineering of magnetic carriers for drug delivery of anticancer therapeutics | Dr. B.N.Chudasama | School of Physics and Material Sciences | 2012 | 13.75 | 3 years | DST |
| Magnetic Fluid based coolant to enhance thermal and dielectric properties of transformer oil. | Dr. B.N.Chudasama | School of Physics and Material Sciences | 2012 | 20.25 | 3 years | CSIR |
| Studies on antimicrobial properties of metal and metal oxide nanostructures. | Dr. B.N.Chudasama | School of Physics and Material Sciences | 2013 | 27.10 | 3 years | UGC |
| Study of nuclear reaction dynamics involved with heavy ion collisions | Dr. Manoj Sharma | School of Physics and Material Sciences | 2012 | 12.50 | 3 years | DST |



| Study of different versios of nuclear proximity potentials in the formation and decay path of nuclear systems | Dr. Manoj Sharma | School of Physics and Material Sciences | 2012 | 12.70 | 3 years | UGC |
|---|------------------|--|------|-------|---------|------|
| Exploring the incomplete processes and features which effect the same | Dr. Manoj Sharma | School of Physics and Material Sciences | 2015 | 20.00 | 3 years | CSIR |
| Decay analysis of light particle induced reactions and related structural effects | Dr. Manoj Sharma | School of Physics and Material Sciences | 2016 | 17.80 | 3 years | DST |
| Study of heavy-Light D and B mesons using HQET | Dr. Alka | School of Physics and Material Sciences | 2012 | 9.90 | 3 years | UGC |
| Low energy properties of baryon $J_p=1/2+$ octets and $J_p=3/2+$ Decuplets using phenomenological model | Dr. Alka | School of Physics and Material Sciences | 2015 | 17.39 | 3 years | DST |
| Synthesis of $BiFeO_3$ - $(K_{0.5}Na_{0.5})NbO_3$ thin films for device applications | Dr. P.Uniyal | School of Physics and Material Sciences | 2013 | 13.92 | 3 years | UGC |
| Study of Size-dependent multiferroics properties of doped BiFeO3 nanostructures. | Dr. N.K.Verma | School of Physics and Material Sciences | 2013 | 24.14 | 3 years | BRNS |



| Lead free relaxor ferroelectric ceramics for Electrocaloric applications | Dr. P.Uniyal | School of Physics and Material Sciences | 2017 | 39.40 | 3 years | CSIR |
|---|-------------------|--|------|-------|---------|----------|
| Investigation of growth dynamics and kinetic surface roughening of some solution processed technologically important binary sulfides | Dr.B.C.M | School of Physics and Material Sciences | 2013 | 6.00 | 2 years | UGC |
| Photovoltaic and Grain Boundary Characteristics of Single Target Sputtered Cu ₂ ZnSn(SSe) ₄ Thin Film Solar Cell | Dr.B.C.M | School of Physics and Material Sciences | 2015 | 55.26 | 3 years | SERB-DST |
| Substrate mediated phase transition in two- dimensional liquid crystal systems | Dr.Debabrata Deb | School of Physics and Material Sciences | 2016 | 26.45 | 3 years | SERB-DST |
| Moving And Colliding Cavity Solitons and Cavity Soliton Molecules | Dr.S.Jana | School of Physics and Material Sciences | 2012 | 6.00 | 2 years | UGC-BSR |
| Development of Magnetic Therapeutic Agents for Thhermo-Chemotherapy of Cancer | Dr. B.N.Chudasama | School of Physics and Material Sciences | 2017 | 48.78 | 3 years | DST |