

## **Profile Page**



Name : Dr Afzal Sikander

Designation : Assistant Professor Grade-i

Department : Instrumentation & Control Engg.

Qualification : Ph.D. Electrical Engineering (Indian Institute of Technology Roorkee, Roorkee, Uttarakhand)  
M.Tech. Instrumentation and Control Engineering (M.D. University, Rohtak, Haryana)  
B.Tech. Instrumentation and Control Engineering (H.N.B. Garhwal University, Srinagar, Uttarakhand)

Address : Room No. 508E, 5th Floor, Department of Instrumentation and Control Engineering  
Dr. B.R. Ambedkar National Institute of Technology Jalandhar  
Jalandhar, Punjab - 144011

Email : afzals@nitj.ac.in

Phone : 01815037680; Ex-2911

### **Research Interests :**

Control System, Sliding Mode Control, Fractional Order Control, Two-Wheeled Mobile Robot, UAVs, DC-DC Converters in LED Drivers, Applications of Machine Learning, Model Order Reduction Techniques, Applications in Load Frequency Control, Automatic Voltage Regulator in Power System, Solar System, Renewable Energy

### **Other Profile Links :**

#### **Google Scholar Link :**

Google Scholar Link [Click Here](#)

#### **Personal Web Link :**

ResearchGate [Click Here](#)

IRINS@NITJ (VIDWAN) [Click Here](#)

ORCiD [Click Here](#)

SCOPUS [Click Here](#)

Web of Science Researcher [Click Here](#)

### **Journal Publications :**

Year	Journal	Publication
------	---------	-------------

2022	Arabian Journal for Science and Engineering (SCI IF: 2.807)	Rahul Bisht, Afzal Sikander, "A New Soft Computing-Based Parameter Estimation of Solar Photovoltaic System"
2022	Optik (SCI IF: 2.84)	Rahul Bisht, Afzal Sikander "An Improved method based on Fuzzy Logic with beta parameter for PV MPPT System"
2022	Microsystem Technologies (SCI IF: 2.012)	Sunil Kumar, Afzal Sikander, "An intelligent optimize path planner for efficient mobile robot path planning in a complex terrain"
2022	Engineering Optimization (SCI IF: 2.500)	Sunil Kumar, Afzal Sikander, "A Modified Probabilistic Roadmap algorithm for efficient mobile robot path planning"
2022	Microsystem Technologies (SCI IF: 2.012)	Afzal Sikander, Ajay Dheeraj, Abhi Chatterjee, Nafees Ahamad, "Control Design Approach for Improved Voltage Stability in Microgrid Energy Storage System"
2022	Journal of Intelligent Manufacturing (SCI IF: 7.136)	Sunil Kumar, Afzal Sikander, "A novel hybrid framework for single and multi-robot path planning in a complex industrial environment"
2022	Circuits, Systems, and Signal Processing (SCI IF: 2.225)	Nafees Ahamad, Afzal Sikander, Gagan Singh, "A Novel Reduction Approach for Linear System Approximation"
2022	The International Journal for Computation and Mathematics in Electrical and Electronic Engineering (SCI IF: 0.755)	Rahul Bisht, Afzal Sikander, "A novel way of parameter estimation of solar photovoltaic system"
2022	Arabian Journal for Science and Engineering (SCI IF: 2.807)	Sunil Kumar, Afzal Sikander, "Optimum Mobile Robot Path Planning Using Improved Artificial Bee Colony Algorithm and Evolutionary Programming"
2021	Turkish Journal of Electrical Engineering & Computer Sciences (SCI IF: 0.806)	Nafees Ahamad, Afzal Sikander, "A novel approach of order diminution using time moment concept with Routh array and Salp Swarm algorithm"
2021	Wireless Personal Communications (SCI IF: 1.671)	Nitin Uniyal, Girish Dobha, Ajay Rawat, Afzal Sikander, "A Novel Encryption Approach Based on Vigenère Cipher for Secure Data Communication"
2021	IETE Journal of Research (SCI IF: 2.333)	Ajay Rawat, Rama Sushil, Amit Agarwal, Afzal Sikander, "A New Approach for VM Failure Prediction using Stochastic Model in Cloud"
2021	IETE Journal of Research (SCI IF: 2.333)	Ajay Rawat, Rama Sushil, Amit Agarwal, Afzal Sikander, Robin Bhadoria, "A New Adaptive Fault Tolerant Framework in the Cloud"
2021	The International Journal for Computation and Mathematics in Electrical and Electronic Engineering (SCI IF: 0.755)	Ram Kumar, Afzal Sikander, "Parameter identification for load frequency control using Fuzzy FOPID in power system"
2021	Journal of The Institution of Engineers (SCOPUS)	Afzal Sikander, Rajul Goyal, Monica Mehrotra, Girish Parmar, "Discrete-Time System Approximation using Hybrid Method based on Fuzzy C-Means Clustering"
2020	ISA Transactions (SCI IF: 5.468)	Afzal Sikander, Padmanabh Thakur, "A new control design strategy for automatic voltage regulator in power system"
2020	Circuits, Systems, and Signal Processing (SCI IF: 2.225)	Arvind Kumar Prajapati, V. G. Durgarao Rayudu, Afzal Sikander, Rajendra Prasad, "A New Technique for the Reduced-Order Modelling of Linear Dynamic Systems and Design of Controller"
2019	Journal of Intelligent Manufacturing (SCI IF: 6.485)	Afzal Sikander, Rajendra Prasad, "Reduced order modelling based control of two wheeled mobile robot"
2019	Microsystem Technologies (SCI IF: 2.276)	Rajul Goyal, Girish Parmar, Afzal Sikander, "A new approach for simplification and control of linear time invariant systems"
2019	Microsystem Technologies (SCI IF: 2.276)	Nafees Ahamad, Afzal Sikander, Gagan Singh, "Substructure preservation based approach for discrete time system approximation"
2019	Microsystem Technologies (SCI IF: 2.276)	Rajesh Bhatt, Girish Parmar, Rajeev Gupta, Afzal Sikander, "Application of stochastic fractal search in approximation and control of LTI systems"

2019	Microsystem Technologies (SCI IF: 2.276)	Mahendra Kumar Pandey, Girish Parmar, Rajeev Gupta, Afzal Sikander, "Non-blind Arnold scrambled hybrid image watermarking in YCbCr color space"
2019	Microsystem Technologies (SCI IF: 2.276)	Puneet Kumar Chaudhary, Girish Parma, Afzal Sikander, "Single phase standalone photovoltaic micro system with six level inverter topology"
2019	International Journal of System Assurance Engineering and Management (SCOPUS)	Mahendra Kumar Pandey, Girish Parmar, Rajeev Gupta, Afzal Sikander, "Lossless robust color image watermarking using lifting scheme and GWO"
2019	International Journal of System Assurance Engineering and Management (SCOPUS)	Jay Kumar, Afzal Sikander, Monica Mehrotra, Girish Parmar, "A new soft computing approach for order diminution of interval system"
2019	UPB Scientific Bulletin, Series C: Electrical Engineering and Computer Science (SCOPUS)	Nafees Ahamad, Shailesh Uniyal, Afzal Sikander, Gagan Singh, "A comparative study of PID controller tuning techniques for time delay processes"
2019	ISA Transactions (SCI IF: 4.343)	Afzal Sikander, Padmanabh Thakur, "A new control design strategy for automatic voltage regulator in power system"
2018	Microsystem Technologies (SCI IF: 1.581)	Mahendra Kumar Pandey, Girish Parmar, Rajeev Gupta, Afzal Sikander, "Non-blind Arnold scrambled hybrid image watermarking in YCbCr color space"
2018	Microsystem Technologies (SCI IF: 2.276)	Jeetendra Agarwal, Girish Parmar, Rajeev Gupta, Afzal Sikander, "Analysis of grey wolf optimizer based fractional order PID controller in speed control of DC motor"
2018	Trends in Renewable Energy	Afzal Sikander"Special Issue on International Conference on Recent Innovations in Electrical, Electronics and Communication Systems (RIEECS 2017), Dehradun, India, 2017"
2018	Microsystem Technologies (SCI IF: 1.581)	Rajesh Bhatt, Girish Parmar, Rajeev Gupta, Afzal Sikander, "Application of stochastic fractal search in approximation and control of LTI systems"
2018	Advance Research in Science and Engineering	Ashish Gupta, Afzal Sikander, "Performance Evaluation of Controller for Load Frequency Control in Power System"
2018	Wireless Personal Communications (SCI IF: 1.671)	Shailesh Uniyal, Afzal Sikander, "A Novel Design Technique for Brushless DC Motor in Wireless Medical Applications"
2018	IETE Journal of Research (SCI IF: 0.829)	Ajay Rawat, Rama Sushil, Amit Agarwal, Afzal Sikander, "A New Approach for VM Failure Prediction using Stochastic Model in Cloud"
2017	Computers and Electrical Engineering (SCI IF: 3.818)	Afzal Sikander, Padmanabh Thakur, R.C.Bansal, S.Rajasekar, "A Novel Technique to Design Cuckoo Search based FOPID Controller for AVR in Power Systems"
2017	Soft Computing (SCI IF: 3.643)	Afzal Sikander, Padmanabh Thakur, "Reduced Order Modelling of Linear Time Invariant System using Modified Cuckoo Search Algorithm"
2017	Sadhana (SCI IF: 1.888)	Afzal Sikander, Rajendra Prasad, "New Technique For System Simplification Using Cuckoo Search and ESA"
2017	IETE Journal of Research (SCI IF: 2.333)	Afzal Sikander, Rajendra Prasad, "A New Technique For Reduced Order Modelling of Linear Time Invariant System"
2017	Sadhana (SCI IF: 1.188)	Afzal Sikander, Rajendra Prasad, "New Technique For System Simplification Using Cuckoo Search and ESA"
2015	Applied Mathematical Modelling (SCI IF: 5.129)	Afzal Sikander, Rajendra Prasad, "Linear Time Invariant System Reduction Using Mixed Methods Approach"
2015	IETE Journal of Research (SCI IF: 2.333)	Afzal Sikander, Rajendra Prasad, "A Novel Order Reduction Method using Cuckoo Search Algorithm"
2015	Circuits, Systems, and Signal Processing (SCI IF: 2.225)	Afzal Sikander, Rajendra Prasad, "Soft Computing Approach for Model Order Reduction of Linear Time Invariant Systems"

## Conference Publications :

<b>Year</b>	<b>Conference</b>	<b>Publication</b>
2021	2nd International Conference for Emerging Technology (INCET) Belgaum, India	Ajay Dheeraj, Afzal Sikander, "Fuzzy Logic Based Control of Voltage and Transient Stability in a DC Microgrid"
2020	International Conference on Electric Power and Renewable Energy Conference, Jamshedpur, India	Nafees Ahamad, Afzal Sikander, Gagan Singh, "A New Classical Method of Reduced-Order Modelling and AVR System Control Design"
2020	International Conference on Energy System, Drives and Automation, Kolkata, India	Vikas Soni, Girish Parmar, Afzal Sikander, "Sensitivity Analysis of hyGWO-PS tuned FOPID for AGC of Interconnected Hydro-Thermal Power System"
2020	International Conference on Energy System, Drives and Automation, Kolkata, India	Rajul Goyal, Girish Parmar, Afzal Sikander, "Invasive Weed Optimization based Reduced Order Modelling"
2020	International Conference on Energy System, Drives and Automation, Kolkata, India	Rita Saini, Girish Parmar, Rajeev Gupta, Afzal Sikander, "An Enhanced Tuning of PID Controller via Hybrid Stochastic Fractal Search Algorithm for Control of DC Motor"
2020	International Conference on Energy System, Drives and Automation, Kolkata, India	Jay Kumar, Girish Parmar, Afzal Sikander, "A Novel Model Order Diminution Algorithm for LTIC System using Whale Optimization"
2019	International conference on Soft Computing: Theories and Applications, Patna, India	Rahul Bisht, Newton Kumar, Afzal Sikander, "Fuzzy Logic based Improved Control Design Strategy for MPPT of Solar PV Systems"
2019	International Conference on Energy System, Drives and Automation, Kolkata, India	Rita Saini, Girish Parmar, Rajeev Gupta, Afzal Sikander, "SFS/PI Approach for AGC of Two Area Interconnected Thermal Power System"
2019	International Conference on Energy System, Drives and Automation, Kolkata, India	Arvind Kumar Prajapati, Afzal Sikander, Rajendra Prasad, "A Comprehensive Study of Time Moments and Markov Parameters in System Reduction"
2019	International Conference on Energy System, Drives and Automation, Kolkata, India	Arvind Kumar Prajapati, Nimisha Bharti, Afzal Sikander, Rajendra Prasad, "A New Hybrid Method Approach for Linear System Approximation"
2019	International Conference on Energy System, Drives and Automation, Kolkata, India	Mahendra Kumar Pandey, Girish Parmar, Afzal Sikander, "Performance Analysis of Color Image Watermarking with Lifting Scheme"
2019	International Conference on Energy System, Drives and Automation, Kolkata, India	Vikas Soni, Girish Parmar, Afzal Sikander, "hyGWO-PS Tuned FOPID for AGC of Three Area Interconnected Hydro-Thermal Power System"
2018	International Conference on 'Energy Systems, Drives and Automations', ESDA2018, Kolkata, India	Arvind Kumar Prajapati, V G Durgarao Rayudu, Afzal Sikander, Rajendra Prasad, "A New Technique for the Reduced Order Modelling of Linear Dynamic Systems and its Qualitative Comparison"
2018	International Conference on 'Energy Systems, Drives and Automations', ESDA2018, Kolkata, India	Mahendra Kumar Pandey, Girish Parmar, Rajeev Gupta, Afzal Sikander, "Performance Analysis of Color Image Watermarking with Lifting Scheme"
2018	International conference on Soft Computing: Theories and Applications, Jalandhar, India	Mahendra Kumar Pandey, Girish Parmar, Rajeev Gupta, Afzal Sikander, "Lossless Color Image Watermarking based on Lifting Scheme and GWO for Copy Right Protection"

2018	International conference on Soft Computing: Theories and Applications, Jalandhar, India	Monika Bharti, Varun Sharma, Afzal Sikander, Om Prakash Verma and Suneel Dutt, "A Monte-Carlo Simulation Study of the Angular Correlations by using Z+Jets events at center of mass energy of 14 TeV."
2018	International conference on Soft Computing: Theories and Applications, Jalandhar, India	Ram Kumar, Afzal Sikander, "Controller Design Strategies for Load Frequency Control in Power System"
2018	International conference on Soft Computing: Theories and Applications, Jalandhar, India	Afzal Sikander, Shiv Sagar, Om Prakash Verma, S. Sathiya, Varun Sharma, Suneel Dutt, "A New System Approximation based Approach for Modelling of DC-DC Converter"
2018	International conference on Soft Computing: Theories and Applications, Jalandhar, India	Sathiya S., Afzal Sikander, "Online Estimation of liquid viscosity and density based on Artificial Neural Network Approach"
2018	International Conference on Recent Innovations in Science and Engineering (ICRISE-18), Gorakhpur (UP), India	Ashish Gupta, Afzal Sikander, "Performance Evaluation of Controller for Load Frequency Control in Power System"
2017	IEEE International Conference on Innovative Smart Grid Technologies (ISGT Asia 2017), University of Auckland, New Zealand	Afzal Sikander, Piyush Verma, Nitish Patel, and Nirmal-Kumar C. Nair, "Design of Controller Using Reduced Order Modeling for LED Driver Circuit"
2017	IEEE International Conference on Advances in Computing, Communication & Automation, Dehradun, India	Ashish Gupta and Afzal Sikander, "Approximation based design of Load Frequency Controller"
2017	IEEE International Conference on Signal Processing, Computing and Control, Solan, India	Mann Gupta, Akshay Walia, Sparsh Gupta, Afzal Sikander, "Modelling and identification of single area power system for load frequency control"
2017	International Conference on Intelligent Communication, Control and Devices, Dehradun, India	Ishita Uniyal and Afzal Sikander "A Comparative Analysis of PID Controller Design for AVR based on Optimization Techniques"
2017	IEEE International Conference on Power and Embedded drive control (ICPEDC2017) Chennai, India	Nafees Ahamad, Gagan Singh, Afzal Sikander, "Performance Analysis and Design of Optimal Reduced Order H-infinity Controller L1 norm based Genetic Algorithm technique"
2016	IEEE Southern Power Electronics Conference, University of Auckland, New Zealand	Piyush Verma, Nitish Patel, Nirmal Kumar C. Nair and Afzal Sikander, "Design of PID Controller Using Cuckoo Search Algorithm for Buck-Boost Converter of LED Driver Circuit"
2016	IEEE International Conference on Next Generation Computing Technologies, UPES, Dehradun, India	Afzal Sikander, P. Thakur, Ishita Uniyal "Hybrid Method of Reduced Order Modelling for LTI System using Evolutionary Algorithm"
2015	International Conference on Emerging Trends in Electrical and Electronics Engineering, Jamia Millia Islamia, New Delhi, India	Afzal Sikander & Rajendra Prasad, "Time Domain Order Reduction Method using Improved Hermite Normal Form" [Awarded Best Paper]
2014	International Conference on Microelectronics, Circuits & Systems (CCSN MICRO-2014), Kolkata, India	Afzal Sikander, Rajendra Prasad, "Soft Computing Approach for Model Order Reduction of Linear Time Invariant Systems"
2013	International Conference on Computer Applications in Electrical Engineering-Recent Advances, CERA-13, IIT Roorkee, India	Akshay Gupta, Afzal Sikander and Rajendra Prasad, "Order Reduction of MIMO System by Pole Clustering and Factor Division Algorithm"
2010	Emerging Trends in Industrial Automation and Soft Sensors, Graphic Era University, Dehradun, India	Afzal Sikander, Piyush Verma, Kamal Jeet Singh Gill, "Introduction to DTC Technology: A Latest Trend in Industrial Automation System"

2010	Emerging Trends in Electronics & Communication, Department of Electronics & Communication Engg., BRCM CET, Bahal, India	Vivek Kumar, Kumar Dheeraj, Afzal Sikander, Shailendra Bhasker, “Power System Security using STATCOM with Super Capacitors”
------	---	---

### Book/Chapter Publications :

Type	Title	Publisher	Authors	ISBN/ISS N No.	Year
Chapter	An Enhanced Tuning of PID Controller via Hybrid Stochastic Fractal Search Algorithm for Control of DC Motor	Springer	Rita Saini, Girish Parmar, Rajeev Gupta, Afzal Sikander	978-981-1 6-7274-3	2022
Chapter	Invasive Weed Optimization Based Reduced Order Modelling	Springer	Rajul Goyal, Girish Parmar, Afzal Sikander	978-981-1 6-7274-3	2022
Chapter	A Novel Model-Order Diminution Algorithm for LTIC System Using Whale Optimization	Springer	Jay Kumar, Girish Parmar, Afzal Sikander	978-981-1 6-7274-3	2022
Book	Advanced Energy and Control Systems	Springer	Chandan Kumar ChandaJerzy R. Szymanski, Afzal Sikander, Pranab Kumar Mondal, Dulal Acharjee	978-981-1 6-7274-3	2022
Chapter	Controller Design Strategies for Load Frequency Control in Power System	Springer	Ram Kumar, Afzal Sikander	978-981-1 5-0751-9	2020
Chapter	Online Estimation of liquid viscosity and density based on Artificial Neural Network Approach	Springer	Sathiya S., Afzal Sikander	978-981-1 5-0751-9	2020
Chapter	Lossless Color Image Watermarking based on Lifting Scheme and GWO for Copy Right Protection	Springer	Mahendra Kumar Pandey, Girish Parmar, Rajeev Gupta, Afzal Sikander	978-981-1 5-0751-9	2020
Chapter	A Monte-Carlo Simulation Study of the Angular Correlations by using Z+Jets events at center of mass energy of 14 TeV	Springer	Monika Bharti, Varun Sharma, Afzal Sikander, Om Prakash Verma and Suneel Dutt	978-981-1 5-0751-9	2020
Chapter	SFS/PI Approach for AGC of Two Area Interconnected Thermal Power System	Springer	Rita Saini, Girish Parmar, Rajeev Gupta, Afzal Sikander	978-981-1 5-5089-8	2020
Chapter	A Comprehensive Study of Time Moments and Markov Parameters in System Reduction	Springer	Arvind Kumar Prajapati, Afzal Sikander, Rajendra Prasad	978-981-1 5-5089-8	2020
Chapter	A New Hybrid Method Approach for Linear System Approximation	Springer	Arvind Kumar Prajapati, Nimisha Bharti, Afzal Sikander, Rajendra Prasad	978-981-1 5-5089-8	2020

Chapter	Performance Analysis of Color Image Watermarking with Lifting Scheme	Springer	Mahendra Kumar Pandey, Girish Parmar, Afzal Sikander	978-981-15-5089-8	2020
Chapter	hyGWO-PS Tuned FOPID for AGC of Three Area Interconnected Hydro-Thermal Power System	Springer	Vikas Soni, Girish Parmar, Afzal Sikander	978-981-15-5089-8	2020
Chapter	A New Classical Method of Reduced-Order Modelling and AVR System Control Design	Springer	Nafees Ahamad, Afzal Sikander, Gagan Singh	978-981-15-8815-0	2020
Chapter	Fuzzy Logic Based Improved Control Design Strategy for MPPT of Solar PV Systems	Springer	Rahul Bisht, Newton Kumar, Afzal Sikander	978-981-15-4032-5	2020
Book	Soft Computing: Theories and Applications	Springer	Millie Pant, Tarun K. Sharma Om Prakash Verma, Rajesh Singla Afzal Sikander	978-981-15-0751-9	2020
Book	Energy Systems, Drives and Automations	Springer	Afzal Sikander, Dulal Acharjee ,Chandan Kumar Chanda, Pranab Kumar Mondal, Piyush Verma	978-981-15-5089-8	2020
Chapter	A New System Approximation based Approach for Modelling of DC-DC Converter	Springer	Afzal Sikander, Shiv Sagar, Om Prakash Verma, S. Sathiya, Varun Sharma and Suneel Dutt	978-981-15-0751-9	2020
Chapter	A Comparative Analysis of PID Controller Design for AVR Based on Optimization Techniques	Springer	Ishita Uniyal and Afzal Sikander	978-981-10-5903-2	2018

## Research Projects :

Role	Project Type	Title	Funding Agency	From	To	Amount	Status	Co-Investigator
Principal Investigator	Research Project	Design and development of sewerage cleaning and monitoring robotic system	TEQIP-III	03-12-2018	31-12-2019	Rs. 2 Lakhs	Ongoing	Dr. Sathiya S.

Co-Principal Investigator	Research Project	Design of fractional order PID Controller for AGC of Interconnected Power Systems	TEQIP-III	25-09-2019	30-07-2020	Rs. 2.4 Lakhs	Ongoing	Dr. Vikas Soni, Dr. Girish Parmar
Principal Investigator	Research Project	Development of hydrological modelling approach for water resources assessment in mountainous region using space based inputs	ISRO					Dr. B Simhadri Rao, WRAD, Water Resources Group, RSAA, NRSC
Principal Investigator	Research Project	Development of Reduced Order Modules for Large Scale Systems	Council of Scientific and Industrial Research (CSIR), INDIA	25-02-2020	Till Date	Rs. 34 Lakhs (Approx.)	Ongoing	-

### Events Organized :

Category	Type	Title	Venue	From	To	Designation
Conference	International	Recent Innovations In Electrical, Electronics & Communication Systems (Rieecs-2017)	Department of Electrical Engineering, Graphic Era (Deemed to be University), 566/6, Bell Road, Clement Town, Dehradun-248002, Uttarakhand	28-10-17	29-10-17	Co-Convenor
MNRE Sponsored Seminar	National	Renewable Energy - Emerging Technologies and Its Challenges	Department of Electrical and Electronics Engineering Graphic Era (Deemed to be University), 566/6, Bell Road, Clement Town, Dehradun-248002, Uttarakhand	09.08.2010	10.08.2010	Coordinator



Conference	International	SOFT COMPUTING: THEORIES AND APPLICATIONS (SOCTA2018)	Department of Instrumentation and Control Engineering Dr. B.R. Ambedkar National Institute of Technology Jalandhar, Jalandhar (Punjab) - 144011	21-12-2018	23-12-2018	Organizing Secretary
------------	---------------	---	--	------------	------------	----------------------

### PhD Supervised :

Scholar Name	Research Topic	Status	Year	Co-Supervisor
Ravi S Bahuguna	Development of Reduced Order Modules for Large Scale Systems	Ongoing	2022	-
Ameen Uddin Ahamad	Integration and Control of Renewable Energy Sources	Ongoing	2022	-
Deepak Kumar	FPGA based Control Design Strategies	Ongoing	2021	-
Rahul Bisht	Control Design Techniques and Parameter Estimation of Solar PV System	Ongoing	2019	-
Sunil Kumar	Intelligent Navigational Strategies for Mobile Robot Using Optimization Techniques	Submitted	2018-2022	-

### PG Dissertation Guided :

Student Name	Dissertation Title	Status	Year	Co-Supervisor
Kamaldeep Singh	Application of Converter in Electric Vehicle	Ongoing	2023	Er. Narinder Singh
Manikandan Murugiah Pandi	Analysis of sliding mode controller for non isolated DC-DC converters	Ongoing	2022	-
Piyushkumar Bhanubhai Hirapara	Neuronal Cell Segmentation based on Mask-RCNN	Awarded	2022	-
Ajay Dheeraj	Voltage and Transient Stability Analysis of a DC Microgrid	Awarded	2021	-
Newton Kumar	Design and Performance Analysis of MPPT Charge Controller for Photovoltaic Solar System	Awarded	2020	-
Ram Kumar	Control Design Strategy for Load Frequency Control in Power System	Awarded	2019	-
Nimisha Bharti	Design of Controller for Robotic Manipulator	Awarded	2019	-
Ishita Uniyal	Performance Analysis and Design of Controller for AVR Systems	Awarded	2017	Dr. Padmanabh Thakur
Shailesh Uniyal	Design of Controller for BLDC Motor used in Wireless Communication	Awarded	2017	-
Akshay Kumar	Reduced Order Modelling for MIMO Systems	Awarded	2013	-
Rishi Kumar Sharma	Comparison of Model Order Reduction Techniques for SISO Systems	Awarded	2013	-
Bhageshwar	Order Reduction Techniques- A Comparative Statement	Awarded	2013	-
Ankush Sharma	Reduction of Higher Order Linear Time Invariant Systems	Awarded	2013	-

### Patents :

Name	Reg./Ref. No.	Date of Award/Filling	Organization	Status
A SOLAR AIR HEATER EMBEDDED WITH WAVY SERPENTINE THERMAL ENERGY STORAGE UNIT	202211025202	06/05/2022	Dr B R Ambedkar NIT Jalandhar	Filed/Published
POWER CONTROL SYSTEM FOR ELECTRIC-ASSIST MODES OF ELECTRIC-ASSIST BICYCLE	202211027857	20/05/2022	Dr B R Ambedkar NIT Jalandhar	Filed/Published
SINGLE REFLECTION BASED SEXTANT	202211029334	27/05/2022	Dr B R Ambedkar NIT Jalandhar	Filed/Published
POWER CONTROL STRATEGY TO ACHIEVE HIGHER SPEED IN E-ASSIST CYCLE	202211045790	26/08/2022	Dr B R Ambedkar NIT Jalandhar	Filed/Published

### Admin. Responsibilities :

Position Held	Organization	From	To
Dean Planning	Rajkiya Engineering College Bijnor, Uttar Pradesh, India	14-12-2017	11-01-2018
OSD with director office:	Dr. B. R. Ambedkar NIT Jalandhar	30-05-2019	Till Date
Social Media Champion (SMC)	Dr. B. R. Ambedkar NIT Jalandhar	17-07-2019	Till Date
Unnat Bharat Abhiyan	Dr. B. R. Ambedkar NIT Jalandhar	25-07-2018	Till Date
Faculty Coordinator-SPICE	Dr. B. R. Ambedkar NIT Jalandhar	10-07-2019	Till Date
Faculty Coordinator-R-Tist (Robotics Club)	Dr. B. R. Ambedkar NIT Jalandhar	10-07-2019	Till Date
Women Cell/Internal Complaints Committee	Dr. B. R. Ambedkar NIT Jalandhar	14-02-2020	Till Date

### Award and Honours :

Title	Activity	Given by	Year
BEST TEACHER AWARD	Teaching and Research	Dr. B. R. Ambedkar NIT Jalandhar	2021
International Travel Grant	Conference at New Zealand	Council of Scientific & Industrial Research (CSIR), India	2017
Research Excellence Award-2015	Article Publications	Graphic Era University, Dehradun	2015
Best Paper Award	International Conference on Emerging Trends in Electrical and Electronics Engineering	Jamia Millia Islamia, New Delhi, India	2015