Available Research Practice Projects (ME Microelectronics/ ME Embedded Systems/ ME Communication Engineering)

Prof. Navneet Gupta Prof. Prof. Prof. Prof. Prof. Prof. Prof. Chandra Shekhar Prof. Chandra Shekhar Prof. Chandra Shekhar Prof. V. K. Chaubey Prof. V. K. Chaubey Prof. Anu Gupta Prof. Anu Gupta Prof. Anu Gupta Prof. Hari Om Bansal Branch Aritication of Control algorithm for HEVs to improve fuel efficiency. Publication in a reputed journal Validation of control algorithm for HEVs to improve fuel efficiency. Publication in a reputed journal Prof. H.D.Mathur IoT applications in Smart Grid Scenario Prof. Dheerendra Singh Prof. Dheerendra Singh Prof. Dheerendra Prof. Dheere	Name of Faculty	Topics	Area:	Expected outcome
Metamaterial based Antennas for RF devices	Duef Normest Courts	Design and Analysis of		Publication in a
For RF devices Modeling and Simulation of carbon nanotube field-effect transistors (CNT-FET)	Fioi. Navileet Gupta		ME Communication	standard IEEE
Modeling and Simulation of carbon nanotube field-effect transistors (CNT-FET)				
Prof. Chandra Shekhar VLSI Architectures and VLSI testing ME Microelectronics/ ME Embedded System To identify a research problem			ME Microelectronics	indexed journal
Prof. Chandra Shekhar VLSI Architectures and VLSI testing Embedded System Embedded System To identify a research problem		_	1121121001001001	
Prof. Chandra Shekhar VLSI Architectures and VLSI testing Embedded System Embedded System To identify a research problem		transistors (CNT-FET)		
Prof. V. K. Chaubey Communication link / Network modeling & Design Prof. Anu Gupta Implementation Of ANN Radiation Hardened Circuits Dynamic Voltage Frequency Scaling Clock Generation And Recovery Prof. Hari Om Bansal FPGA-Based Control for Electric Vehicle and Hybrid Electric Vehicle Development of Control Technique for Shunt Active Power Filter using Xilinx toolbox Prof. H.D.Mathur IoT applications in Smart Grid Scenario Prof. Dheerendra Singh FPGA implementation of Various speed Control Tech. Development of Deep Learning-Based crowed estimation, feature extraction. ME Communication ME Embedded System/ Communication WE Embedded System or identify a research problem To identify a research problem To identify a research problem ME Microelectronics/ Embedded System/ Devalidation of control algorithm for HEVs to improve fuel efficiency. Publication in a reputed journal Validation of control algorithm for SAPF to Reduce THD. Publication in a reputed journal WE Embedded System Development of a prototype for some application Prof. Dheerendra Singh FPGA implementation of Various speed Control Tech. Development of Deep Learning-Based crowed estimation, feature extraction.	Prof. Chandra Shekhar		ME Microelectronics/ ME	Strong understanding of
Network modeling & Design Prof. Anu Gupta Implementation Of ANN Radiation Hardened Circuits Dynamic Voltage Frequency Scaling Clock Generation And Recovery Prof. Hari Om Bansal FPGA-Based Control for Electric Vehicle and Hybrid Electric Vehicle Development of Control Technique for Shunt Active Power Filter using Xilinx toolbox Prof. H.D.Mathur IoT applications in Smart Grid Scenario FPGA implementation of Various speed Control Tech. Development of Deep Learning-Based crowed estimation, feature extraction. ME Microelectronics/ Embedded System Development of a prototype for some application Grown Development of Deep Learning-Based crowed estimation, feature extraction. ME Microelectronics/ Singh Singh Development of Deep Learning-Based crowed Singh		testing	Embedded System	architectures
Prof. Anu Gupta Implementation Of ANN Radiation Hardened Circuits Dynamic Voltage Frequency Scaling Clock Generation And Recovery	Prof. V. K. Chaubey	Communication link /	ME Communication	To identify a research
Radiation Hardened Circuits Dynamic Voltage Frequency Scaling Clock Generation And Recovery		Network modeling & Design		problem
Dynamic Voltage Frequency Scaling	Prof. Anu Gupta	Implementation Of ANN	ME Microelectronics/	
Scaling Clock Generation And Recovery Prof. Hari Om Bansal FPGA-Based Control for Electric Vehicle Development of Control Technique for Shunt Active Power Filter using Xilinx toolbox Total applications in Smart Grid Scenario Prof. Dheerendra Singh FPGA implementation of Various speed Control Tech. Development of Deep Learning-Based crowed estimation,/ feature extraction. ME Embedded Validation of control algorithm for HEVs to improve fuel efficiency. Publication in a reputed journal Validation of control algorithm for SAPF to Reduce THD. Publication in a reputed journal Development of a prototype for some application Real time learning + Publication in good Journal		Radiation Hardened Circuits	-	
Prof. Hari Om Bansal FPGA-Based Control for Electric Vehicle and Hybrid Electric Vehicle Development of Control Technique for Shunt Active Power Filter using Xilinx toolbox Prof. H.D.Mathur IoT applications in Smart Grid Scenario Prof. Dheerendra Singh Prof. Dheerendra Singh Prof. Dheerendra FPGA implementation of Various speed Control Tech. Development of Deep Learning-Based crowed estimation,/ feature extraction. ME Embedded ME Embedded System Development of control algorithm for SAPF to Reduce THD. Publication in a reputed journal Development of a prototype for some application Prof. Dheerendra FPGA implementation of Various speed Control Tech. Embedded Development of Deep Learning-Based crowed estimation,/ feature extraction. Prof. Dheerendra Development of Deep Learning-Based crowed estimation,/ feature Development of Deep Learning-Based crowed Development of Develop		Dynamic Voltage Frequency	Communication	
Prof. Hari Om Bansal FPGA-Based Control for Electric Vehicle and Hybrid Electric Vehicle Development of Control Technique for Shunt Active Power Filter using Xilinx toolbox Prof. H.D.Mathur IoT applications in Smart Grid Scenario Prof. Dheerendra Singh Prof. Dheerendra FPGA implementation of Various speed Control Tech. Development of Deep Learning-Based crowed estimation,/ feature extraction. ME Embedded Validation of control algorithm for SAPF to Reduce THD. Publication in a reputed journal Publication in a reputed journal Development of a prototype for some application Prof. Dheerendra FPGA implementation of Various speed Control Tech. Development of Deep Learning-Based crowed estimation,/ feature extraction. FPGA implementation of Deep Learning-Based crowed estimation,/ feature extraction. Prof. Dheerendra Development of Deep Learning-Based crowed estimation,/ feature extraction. Prof. Dheerendra Development of Deep Learning-Based crowed Development of Deep Learning-		Scaling		
Prof. Hari Om Bansal FPGA-Based Control for Electric Vehicle and Hybrid Electric Vehicle Development of Control Technique for Shunt Active Power Filter using Xilinx toolbox Prof. H.D.Mathur Frof. H.D.Mathur Tordi Scenario FPGA implementation of Singh FPGA implementation of Deep Learning-Based crowed estimation,/ feature extraction. ME Embedded Validation of control algorithm for SAPF to Reduce THD. Publication in a reputed journal Development of a prototype for some application ME Microelectronics/ Embedded/ Communication Validation of control algorithm for SAPF to Reduce THD. Publication in a reputed journal Development of a prototype for some application Real time learning + Publication in good Journal		Clock Generation And		
Electric Vehicle and Hybrid Electric Vehicle Development of Control Technique for Shunt Active Power Filter using Xilinx toolbox Prof. H.D.Mathur IoT applications in Smart Grid Scenario FPGA implementation of Various speed Control Tech. Development of Deep Learning-Based crowed estimation,/ feature extraction. Algorithm for HEVs to improve fuel efficiency. Publication in a reputed journal Validation of control algorithm for SAPF to Reduce THD. Publication in a reputed journal Development of a prototype for some application ME Microelectronics/ Embedded/ Communication Real time learning + Publication in good Journal		Recovery		
Electric Vehicle improve fuel efficiency. Publication in a reputed journal Validation of control algorithm for SAPF to Reduce THD. Publication in a reputed journal Prof. H.D.Mathur IoT applications in Smart Grid Scenario ME Embedded System Grid Scenario Development of a prototype for some application	Prof. Hari Om Bansal		ME Embedded	
Development of Control Technique for Shunt Active Power Filter using Xilinx toolbox Total algorithm for SAPF to Reduce THD. Publication in a reputed journal Prof. H.D.Mathur				_
Development of Control Technique for Shunt Active Power Filter using Xilinx toolbox Prof. H.D.Mathur IoT applications in Smart Grid Scenario Prof. Dheerendra Singh FPGA implementation of Various speed Control Tech. Development of Deep Learning-Based crowed estimation,/ feature extraction. Journal Walidation of control algorithm for SAPF to Reduce THD. Publication in a reputed journal Development of a prototype for some application ME Microelectronics/ Embedded/ Communication Journal Journal		Electric Vehicle		
Development of Control Technique for Shunt Active Power Filter using Xilinx toolbox Prof. H.D.Mathur IoT applications in Smart Grid Scenario Prof. Dheerendra Singh FPGA implementation of Validation of control algorithm for SAPF to Reduce THD. Publication in a reputed journal Development of a prototype for some application Real time learning + Publication in good Journal Communication Journal				1
Technique for Shunt Active Power Filter using Xilinx toolbox Prof. H.D.Mathur IoT applications in Smart Grid Scenario Prof. Dheerendra Singh FPGA implementation of Various speed Control Tech. Development of Deep Learning-Based crowed estimation,/ feature extraction. ME Embedded System Development of a prototype for some application Real time learning + Publication in good Journal				
Prof. H.D.Mathur IoT applications in Smart Grid Scenario Prof. Dheerendra Singh FPGA implementation of Various speed Control Tech. Development of Deep Learning-Based crowed estimation,/ feature extraction. Reduce THD. Publication in a reputed journal ME Embedded System prototype for some application ME Microelectronics/ Embedded/ Communication Reduce THD. Publication in a reputed journal Development of a prototype for some application Real time learning + Publication in good Journal		-		
Prof. H.D.Mathur Frof. H.D.Mathur IoT applications in Smart Grid Scenario FOGA implementation of Singh FOGA implementation of Various speed Control Tech. Development of Deep Learning-Based crowed estimation,/ feature extraction. ME Embedded System Development of a prototype for some application Real time learning + Publication in a reputed journal Development of a prototype for some application Communication Publication in a reputed journal		_		Reduce THD.
Prof. H.D.Mathur IoT applications in Smart Grid Scenario Prof. Dheerendra Singh FPGA implementation of Various speed Control Tech. Development of Deep Learning-Based crowed estimation,/ feature extraction. ME Embedded System Development of a prototype for some application Real time learning + Publication in good Journal		_		Publication in a reputed
Grid Scenario prototype for some application Prof. Dheerendra Singh FPGA implementation of Various speed Control Tech. Development of Deep Learning-Based crowed estimation,/ feature extraction. Grid Scenario ME Microelectronics/ Embedded/ Communication Journal		toolbox		journal
Prof. Dheerendra Singh FPGA implementation of Various speed Control Tech. Development of Deep Learning-Based crowed estimation,/ feature extraction. ME Microelectronics/ Embedded/ Communication Journal Journal	Prof. H.D.Mathur	IoT applications in Smart	ME Embedded System	Development of a
Prof. Dheerendra Singh FPGA implementation of Various speed Control Tech. Development of Deep Learning-Based crowed estimation,/ feature extraction. Real time learning + Publication in good Journal		Grid Scenario		
Singh Various speed Control Tech. Development of Deep Learning-Based crowed estimation,/ feature extraction. Embedded/ Communication Publication in good Journal				
Development of Deep Learning-Based crowed estimation,/ feature extraction. Communication Journal				_
Learning-Based crowed estimation,/ feature extraction.	Singh			
estimation,/ feature extraction.		-	Communication	Journal
extraction.		C		
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ANN-based Active filtering		-		
Dr. Abhijit Asati Study of clock domain Microelectronics (i) Understating	Dr. Abbijit Asati		Microelectronics	(i) Understating
crossing in VLSI circuits (1) Charistating CDC issues	Di. Aunju Asan	•	iviteroelectroffics	``
(ii) Simulating		1. 555mg m v Doi onound		
CDC (iii) Writing and				, ,
communicating a				` '
Research paper				_
Dr. K K Gupta Structural Health Monitoring ME Embedded / Publication in a	Dr. K K Gupta	Structural Health Monitoring	ME Embedded /	
based on Cyber-Physical Communication / standard IEEE	_	_	Communication /	standard IEEE
System Micro conference/SCOPUS		-	Micro	
Smart Water Grid indexed journal		Smart Water Grid		indexed journal

	Integrated Multi-Sensor Array for Water Quality Assessment Compressed Domain Video Analysis Multimodal Biometric Techniques using thermal and visible Facial Images Bearing Health Monitoring based on vibration and acoustics		(based on the quality of research and knowledge advancement)
Dr. Rahul Singhal	Design of Optical Communication Networks Planar Antenna Design & Development Design Optical Waveguide Based Devices	ME Communication	National/ International conference
Dr. Praveen Kumar A.V.	Dual-feed RF coupler designs Characterization of edible oil using microwaves FDTD analysis of slot antenna		Minimum Outcome to submit a conference paper
Dr. Anantha Krishna Chintanpalli	Concurrent vowel identification using neural networks. EEG signal analysis using a time-frequency representation.	ME Communication	Journal (Scopus/SCI)/IEEE conference
Dr. Sainath Bitragunta	Energy efficient and delay constrained cognitive radio network: design, analysis, and, simulation Cooperative and cognitive satellite systems: efficient protocol design and analysis Energy harvesting Millimeterwave communication system design and performance analysis Application of stochastic geometry for efficient wireless network modeling and design		Journal (Scopus/SCI)/IEEE conference
Dr. Nitin Chaturvedi	Design of Nonvolatile SRAM cell for storing multiple bits for runtime context switching for IoT Design of Self- Resetting Latches for Asynchronous Micro-Pipelines	ME Microelectronics	Good quality conference/journal paper (SCOPUS indexed)

	Study/Design and analysis of		
	high-speed asynchronous write		
	circuit for non-volatile		
	memory and logic		
	Study and analysis on the		
	potentials of FinFETs for		
	-		
	Asynchronous Circuit Design		
	Design and analysis of		
	reconfigurable cache		
	architecture and cache		
	coherence protocols		
	Study/Design of GaN HEMT		
	Device for biosensing		
	applications		
	Study/Design of GaN HEMT		
	Device for high voltage		
	applications		
Dr. Arnab Hazra	Self-doped TiO ₂	ME Microelectronics	Good Publication
	Nanotube		
	Sensor for Low-Temperature		
	Vapour Detection		
	Fabrication and		
	Characterizations of		
	Cu ₂ O/TiO ₂ Heterojunction		
	for Vapor Sensing		
	Application		
Dr. Pankaj Arora	Plasmonic devices for optical	ME Microelectronics	Good quality journal
J	sensing	ME Communication	paper /International
	Plasmonic solar celss	WILL COMMITMINGUISM	Conference
			Contenence
Dr. Vinay Chamola	Developing real-time	Embedded	Working models
	applications for the Internet of		implementing IoT
	Things.		
	Fog Computing for the	Embedded	Good quality
	Internet of Things.		Journal/Conference
			paper (+ hardware
			implementation)
	Research Frontiers in the	Embedded/Communicat	Good quality survey
	Internet of Things.	ions	paper/ Literature review
	8		
	Applications connecting	Embedded	Working models
	smartphones to the IoT and		implementing IoT
	Cloud.		
	Energy and Delay aware	Communications	Good quality
	resource management for		Journal/Conference
	solar-powered cellular		paper
	networks		
Dr. G S Sesha	Integrated Time	ME Embedded/	Scopus Index Journal
Chalapathi	Synchronization and ranging		paper
1	algorithm implementation	·	1 1
	Survey of existing Time		
	Synchronization protocols in		
	Wireless Sensor Networks		

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	Implementation of time		
	synchronization algorithm of		
	Wireless Sensor Nodes on the		
	hardware platform		
Mr. Devesh Samaiya	Development of Low Power,	ME Embedded System	Research paper
	Small size, Embedded Anti-		
	Theft Device		
	Study of background		
	subtraction methods		
	in videos with highly		
	dynamic background content		
	Study of camera motion		
	estimation and compensation		
	techniques in video sequences.		
Mr. K. Babu Ravi Teja	1.ASIC Implementation of	Knowledge of HDL,	Publication in a good
-	Video compression techniques	image processing, Xilinx	conference
	(optimization at submodule	Tools	
	level)		
	2.Investigation of Design	Good understanding of	Publication in a good
	strategies for multi-gate	Digital VLSI Design,	conference
	transistors	SPICE	
	3.FPGA based	Knowledge of HDL,	Publication in a good
	implementation of RNS based	Digital Design	conference
	DSP systems		
	4.ASIC Implementation of	knowledge of HDL,	Publication in a good
	Turbo Decoders	digital design, and	conference
		communication systems	
Dr. Ashish Patel	1.FPGA based control of	Embedded	Scopus/SCI indexed
	power converters and its		publication
	power converters and its		
	validation using hardware in		1