2023 IEEE Silchar Subsection Conference (SILCON-2023)

Schedule at a Glance (Indian Standard Time GMT+5:30)

Timing/ Day	09:30 AM- 10:30 AM	10:40 AM- 12:30 PM	Lunch 12:30 PM- 1:30 PM	02:00 PM- 03:00 PM	03:10 PM- 5:20 PM	
Day 1 03-Nov-2023	**Inaugural Ceremony**	**Keynote 1**		**Keynote 2**	**T4.1, T5.1, T7.1, T8.1**	
Day 2 04-Nov-2023	**Keynote 3**	**T1.1, T3.1, T4.2, T5.2, T7.2**		**Keynote 4**	**T5.3, T7.3, T9.1, T10.1**	
Day 3 05-Nov-2023	**Keynote 5**	**T2.1, T3.2, T5.4, T6.1, T8.2**		**Keynote 6**	**Demonstration**	**Closing Ceremony**

Keynote Schedule

Keynote	Date	Time	Speaker
Inaugural Ceremony	03-Nov-2023	09:30 AM- 10:30 AM	Invited Guests: Prof. D K Baidya, *Director, NIT Silchar* Guest of Honour: Prof. R M Pant, *VC, Assam University*
Keynote 1(A) Keynote 1(B)	03-Nov-2023	10:40 AM- 12:10 PM	Prof. Rajive Mohan Pant, *VC, Assam University* Prof. Ranjan Kumar Behra, *IIT Patna*
Keynote 2	03-Nov-2023	02:00 PM- 03:00 PM	Prof. Ghanshyam Singh *MNIT Jaipur*
Keynote 3	04-Nov-2023	9:30 AM- 10:30 AM	Prof. David Eduardo Pinto Avendano *University City Puebla, Pue., Mexico*
Keynote 4	04-Nov-2023	02:00 PM- 03:00 PM	Prof. Ramesh T Subramaniam *Universiti Malaya (UM), Malaysia*
Keynote 5	05-Nov-2023	9:30 AM- 10:30 AM	Prof. Narasimharaju *NIT Warangal*
Keynote 6	05-Nov-2023	02:00 PM- 03:00 PM	Prof. Srinivasa Rao Satti *NTNU, Trondheim, Norway*
Demonstration	05-Nov-2023	3:10 PM- 4:40 PM	MathWorks

November 03, 2023

Technical Sessions		
Start	**End**	**T4.1: Micro/Nanoelectronics Devices and Circuits** ***Session Chairs: Dr. Kavicharan M, (NIT Silchar), Prof. R. S. Gupta, (Delhi University)***

3:10 PM	3:25 PM	An 8-bit 100 kS/s Low Power SAR ADC with Modified EPC for Bio-Medical Applications.
3:25 PM	3:40 PM	Study of parametric variations on Heterojunction Dual Gate Vertical TFET for performance Enhancement
3:40 PM	3:55 PM	A comparative study of an Exponential Window function for Linear Drift Memristor Model
3:55 PM	4:10 PM	A Junctionless Tri-Gate SOI FinFET 8T-SRAM Cell with improved Noise Margin
4:10 PM	4:25 PM	Design Evaluation and Performance Prediction of Different SRAM Cell Topologies through Inverter Optimization for the 5nm Technology Node using GAA CNTFETs
4:25 PM	4:40 PM	Electrothermal modeling of Phase change memory with interfacial oxide layer during RESET operation
4:40 PM	4:55 PM	Investigating the Impact of Intermediate Modulation Layer in RRAM on Multilevel Perceptron Performance
4:55 PM	5:10 PM	Methodology for Timing Closure in VLSI Physical Design containing high clock to Q Memory Delay
Parallel Session		
Start	**End**	**T5.1: Artificial Intelligence, Data Science and Computing** ***Session Chairs: Dr. Malaya Dutta Borah (NIT Silchar), Dr. E. Ramanujam (NIT Silchar)***
3:10 PM	3:25 PM	Plexus Search – A Search Enumeration
3:25 PM	3:40 PM	Enhancing Seizure Detection from EEG Signals- Optimization Driven Feature Selection and Classification using Artificial Neural Networks
3:40 PM	3:55 PM	AI Sovereignty in Autonomous Driving: Exploring Needs and Possibilities for Overcoming Challenges
3:55 PM	4:10 PM	Quadratic Interpolation enhanced hybrid Grey Wolf Optimization and Moth Flame Optimization for global optimization
4:10 PM	4:25 PM	A Transfer Learning based GUI for Skin Cancer Diagnosis and Classification using Dermoscopic Images
4:25 PM	4:40 PM	Artificial Intelligence Innovations: Inception of new horizons in food processing sector
4:40 PM	4:55 PM	Beyond Words: Harnessing GPT-2 to Continue Stories with Imagination
Parallel Session		
Start	**End**	**T7.1: Power System and Smart Grid** ***Session Chairs: Prof. A. K. Goswami (NIT Silchar), Dr. D. C. Das (NIT Silchar), Dr. Raja Ram Kumar (GKCIET, West Bengal)***
3:10 PM	3:25 PM	Optimal siting, sizing and scheduling of battery energy storage systems in power distribution networks
3:25 PM	3:40 PM	Improved Variable Step Size P&O MPPT for Wind Energy Conversion Systems
3:40 PM	3:55 PM	A New Approach for Placement of Shunt Active Filter in Distribution System
3:55 PM	4:10 PM	Experimental Studies with Real-Time Hardware-in-Loop Microgrid Structure and its Components
4:10 PM	4:25 PM	Solar PV based Hybrid AC/DC Microgrid Design and Transient Analysis for a University Campus
4:25 PM	4:40 PM	AGC performance improvement of two-area hybrid power systems using PIDDμF controller
4:40 PM	4:55 PM	Tie Line Fault Detection and Classification in Power System Based on Discrete Wavelet Transform and Total Harmonic Distortion Using Machine Learning
Parallel Session		
Start	**End**	**T8.1: Power Electronics and Drives** ***Session Chairs: Prof. Prakasah Chittora (DTU Delhi), Dr. Anagha Bhattacharya (NIT Mizoram), Dr. Amritesh Kumar (NIT Silchar)***

3:10 PM	3:25 PM	Implementation of Solar PV-Battery Based Electric Vehicle Charging Station
3:25 PM	3:40 PM	PV Connected High-frequency Transformer Based Nine Level Multilevel Converter with Model Predictive Control
3:40 PM	3:55 PM	Control of Dual Motor Test Bench for Performance Testing of PMSM for Traction Application
3:55 PM	4:10 PM	Development of Real-Time Data Acquisition System for Phase Shift Full Bridge Converter
4:10 PM	4:25 PM	A 23-Level Hybrid Inverter with HFL
4:25 PM	4:40 PM	A Triple Gain Five-Level Single-Phase Transformerless Inverter using Switched Capacitor for Renewable Power Applications
4:40 PM	4:55 PM	Solar Powered Battery Assisted Water Pumping System with UHGQB converter

November 04, 2023

Technical Sessions		
Start	**End**	**T1.1: Communications and Networking** ***Session Chairs: Dr. Manish Mandloi (PDEU Gandhinagar), Dr. Prabina Pattanayak (NIT Silchar)***
10:40	10:55	Exploration of Different Combination of Antenna Diversity Techniques for MIMO-PD-NOMA with Experimental Validation
10:55	11:10	Classification of Temperature-Strain Effects on Apodized Fiber Bragg Grating Sensor using Artificial Neural Network
11:10	11:25	A Novel Relay Selection Strategy for RF Energy Harvested Communication Network
11:25	11:40	Profiling the Causes of Vehicle Accidents to Prevent its Occurrence
11:40	11:55	Secured IoT Framework For Soil Moisture Detection
11:55	12:10	Multi-Relay Multi-User Asymmetric Two-Way Relaying Over Fading Channels: A Unified Outage Analysis and Location Optimization Study
12:10	12:25	AI-Driven Approach for QoS Estimation Using LCR in 5G Network with α-η-μ Fading and CCI Environment
Parallel Session		
Start	**End**	**T3.1: RF, Microwave and mmWave** ***Session Chair: Prof. MerihPalandoken, Izmir KatipCeleby Univ. Turkey***
10:40	10:55	A CPW Fed Circular Patch Antenna Loaded With Metamaterial For Gain Enhancement
10:55	11:10	Non-invasive adulteration sensing in milk with graphene nanomaterial sputtering
11:10	11:25	Design of a Linearly Polarized Slotted-Square Patch antenna for RFID Reader Applications
11:25	11:40	A Wideband Millimeter-wave MIMO Antenna for Application in 5G Using n260 Frequency Band
11:40	11:55	Miniaturized CPW MIMO Antenna with Enhanced Isolation for 5G Application
11:55	12:10	Compact Gap-coupled Multi-Slotted Patch Antenna for Sub-6 GHz Communications
12:10	12:25	Advancing 5G Connectivity: Design and Analysis of a 4 x 4 Butler Matrix Integrated MM-wave Beam-steerable Antenna Array
Parallel Session		
Start	**End**	**T4.2: Micro/Nanoelectronics Devices and Circuits** ***Session Chairs: Dr. Koushik Guha (NIT Silchar), Dr. T. R. Lenka (NIT Silchar), Dr. Arun Kumar (NIT Silchar)***
10:40	10:55	Impact of oxygen flow rate and annealing on the structural and optical properties of HfO2 thin films

10:55	11:10	ASIC and FPGA Implementation of Radix-2^2 32-point MDC-FFT Architecture
11:10	11:25	A Serial-Parallel-Based 4-Bit Novel Multiplier: Design, Implementation, and Performance Analysis
11:25	11:40	A High Speed 32-bit Approximate Adder with Improved Accuracy
11:40	11:55	A Survey on Way-Based Cache Partitioning
11:55	12:10	Performance engineering of SnO2-based dye- sensitized solar cells through optimization of dye loading and film thickness
12:10	12:25	Role of titania photoanode phase on the performance of the Dye Sensitized Solar Cell
12:25	12:40	Design of a Self-reconfigurable Incrementer for Fault Tolerant VLSI Architecture
Parallel Session		
Start	**End**	**T5.2: Artificial Intelligence, Data Science and Computing** ***Session Chairs: Dr. Partha Pakray (NIT Silchar), Dr. Ripon Patgiri (NIT Silchar)***
10:40	10:55	Prediction of Stress Levels using Low-Cost IoT-Based Health Parameters Measuring System
10:55	11:10	IOT based smart system for garbage detection and segregation
11:10	11:25	Generation of Deep Learning Models and Structural Alerts for Accurate Prediction of Eye Irritants
11:25	11:40	Low-cost Robot for smart healthcare services in Hospital
11:40	11:55	Predicting Cardiovascular Disease using Machine Learning Techniques
11:55	12:10	Towards Full-page Offline Bangla Handwritten Text Recognition using Image-to-Sequence Architecture
12:10	12:25	A Survey on Extraction of Relations using Knowledge Graphs in Various Applications
Parallel Session		
Start	**End**	**T7.2: Power System and Smart Grid** ***Session Chairs: Dr. Sunanda Sinha (MNIT Jaipur), Dr. M. Chakkarapani (Assam Energy Institute, Assam), Dr. Kundan Kumar (NIT Manipur)***
10:40	10:55	AGC of two-area deregulated power systems using PSO optimized MFOPIDD controller
10:55	11:10	TIE LINE FAULT DETECTION AND CLASSIFICATION IN POWER SYSTEM BASED ON DISCRETE WAVELET TRANSFORM AND TOTAL HARMONIC DISTORTION USING MACHINE LEARNING
11:10	11:25	Application of a Artificial Hummingbird Algorithm Optimized Tilted Integral Double Derivative Controller for a Multi-Area Thermal Power System
11:25	11:40	Detection and Classification of Faults in An Islanded Microgrid Using LSTM Model and its Real Time Validation
11:40	11:55	Design and Development of Composite AC/DC Distribution Architecture for Emerging Hybrid Power Grid
11:55	12:10	A Control Scheme for Grid Connected Solar Powered EV Charging Station With Hybrid Energy Storage System
12:10	12:25	A Systematic Review of Islanding Detection Approaches in Microgrids
Break		
Start	**End**	**T5.3: Artificial Intelligence, Data Science and Computing** ***Session Chairs: Prof. Nidul Sinha (NIT Silchar), Dr. Brinda Ilango (NIT Tiruchirappalli)***
3:10 PM	3:25 PM	Assessing Human Activity Recognition Performances of Different Machine Learning Algorithms Using Sensor Data

3:25 PM	3:40 PM	Text-Conditioned Image Synthesis - A Review
3:40 PM	3:55 PM	A Novel Deep Learning-Based Approach for Hypertension Level Detection Using PPG
3:55 PM	4:10 PM	Comparative Analysis of Machine Learning Techniques for Resonant Frequency Prediction for Printed Microstrip Antennas
4:10 PM	4:25 PM	Evaluation of Machine Learning Models for Intrusion Detection with the UNSW-NB15 Dataset
4:25 PM	4:40 PM	Portfolio adjusting model using uncertainty theory: an application to real finance market
4:40 PM	4:55 PM	Machine Learning Approach for Soil Nutrient Prediction
Parallel Session		
Start	**End**	**T7.3: Power System and Smart Grid** ***Session Chairs: Prof. L. C. Saikia (NIT Silchar), Dr. Biswanath Dekaraja (Assam Engg. College), Dr. Arvind Kumar Jain (NIT Agartala)***
3:10 PM	3:25 PM	Impact of Electric Vehicles on Load Frequency Control in an Interconnected Two-Area Restructured Power System
3:25 PM	3:40 PM	A Case study on OMC Power's Rooftop solar plant
3:40 PM	3:55 PM	Frequency Regulation in Low-Inertia Microgrid
Parallel Session		
Start	**End**	**T9.1: Control and Instrumentation** ***Session Chairs: Prof. B. K. Roy (NIT Silchar), Dr. Vinay Pratap Singh (MNIT Jaipur)***
3:10 PM	3:25 PM	Data Acquisition of Battery Variables and Estimation of Battery State of Health
3:25 PM	3:40 PM	MRAS Speed estimator based Sensorless Direct Torque Control of Induction Motor
3:40 PM	3:55 PM	PSO Based Design of PID Controller for Speed Control of BLDC Motor for Robotic Applications
3:55 PM	4:10 PM	Enhancing Performance and Dependability in E-Drive Testing: A Comprehensive Approach for Communication Reliability and Test Bench Operation Safety
4:10 PM	4:25 PM	Reinforcement Learning Tuned PI Controller for Two Tank Interacting Hybrid System
Parallel Session		
Start	**End**	**T10.1: Humanitarian Technology & Engineering Education** ***Session Chairs: Dr. R.G. Nair (NIT Silchar), Dr. Kedar Nath Das (NIT Silchar)***
3:10 PM	3:25 PM	Total Quality Management (TQM) for clean, affordable and reliable energy in research and development lab - A case-study from north east India
3:25 PM	3:40 PM	Smart Wireless Irrigation System-A Prototype
3:40 PM	3:55 PM	MLCNN-CDSE: A Multi-Label Convolutional Neural Network Model for Predicting COVID Drug Side Effects from Images of Stick Structure-Based Chemical Conformers

November 05, 2023

Technical Sessions		
Start	**End**	**T2.1: Signal Processing** ***Session Chairs: Dr. Amit Bhardwaj (IIT Jodhpur), Dr. R Murugan (NIT Silchar)***
10:40	10:55	Deep Learning based Spoof Detection: An Experimental Study
10:55	11:10	Detection and Classification of Disturbances in DG Based Power System using Time–Frequency-Scale Transform
11:10	11:25	Secure Image Encryption Algorithm based on Two-Level Diffusion and Hybrid Chaotic Maps

11:25	11:40	Schizophrenia and Bipolar Psychosis Classification with rsfMRI Functional Connectivity Feature Fusion technique using Super Learner
11:40	11:55	Entropy based EEG irregularity quantification in Single-Channel SSVEP-based BCIs
11:55	12:10	Disjunctive Edge Map based Image Sterilization for Destruction of Steganograms in Spatial Domain
Parallel Session		
Start	**End**	**T3.2: RF, Microwave and mmWave** ***Session Chairs: Dr. T Khan (NIT Silchar), Dr. Jagannath Mallick (IIT Patna), Dr. G. S. Baghel (NIT Silchar)***
10:40	10:55	Design of a Hexagonal Patch, Defected Ground Antenna for Energy Harvesting Applications
10:55	11:10	An array of Slotted Concentric-ring shaped Printed Radiators for DSRC Applications
11:10	11:25	Design and Implementation of Wearable Antenna for WBAN Applications
11:25	11:40	Highly Stable Ultra-Thin Wearable Metasurface with Broadband Cross-Polarization Conversion
11:40	11:55	Open-Ended SIW Cavity Backed Wearable Antenna for WiMAX Applications
11:55	12:10	Design and Study of a Highly Sensitive CSRR based Microwave Angular Displacement Sensor
12:10	12:25	A miniaturized UWB monopole antenna for sub-6 GHz 5G wireless applications
Parallel Session		
Start	**End**	**T5.4: Artificial Intelligence, Data Science and Computing** ***Session Chairs: Dr.Pradipto Das (Assam University), Dr. Dalton (NIT Silchar)***
10:40	10:55	MOORA MCDM based optimal Machine Learning Regression Techniques for Breast Cancer Prediction
10:55	11:10	Predicting Drug Functions from Gene Ontology, Amino Acid Sequences, and Drug-Disease Associations through Multi-label Machine Learning with MLSMOTE
11:10	11:25	Study of Linear Fractional Programming Problems By Using Ratio Ranking Method
11:25	11:40	A song emotion identification system from lyrics using heterogeneous ensemble learning
11:40	11:55	Cuisine Prediction from Ingredients using Hyper Parameter Tuning on Machine Learning Algorithms
11:55	12:10	WOA-FNN: An innovative hybrid optimization technique for effective detection of shot boundaries
12:10	12:25	Image Caption Generation using ResNET-50 and LSTM
12:25	12:40	Insect Classification Using Pretrained Deep Neural Networks and Transfer Learning
Parallel Session		
Start	**End**	**T6.1Software Engineering and AI** ***Session Chairs: Dr. E. Ramanujam (NIT Silchar)***
10:40	10:55	An Efficient and Cost-Effective Approach for Targeted Influence Maximization
10:55	11:10	Smoke Testing of UML Activity Diagrams: An Approach for Ensuring System Reliability
11:10	11:25	Olive: An Instruction Following LLaMA Model for Odia Language
11:25	11:40	Deep Learning based Waste Material Classification
11:40	11:55	A Semi-Supervised Deep Learning Approach for Detection and Classification of Lung Diseases
Parallel Session		
Start	**End**	**T8.2: Power Electronics and Drives** ***Session Chairs: Dr. Jiwanjot Singh (NIT Silchar), Dr. Ashish Paramane (NIT Silchar)***
10:40	10:55	A High Gain DC-DC Converter based FC-BatterySC System for EV Application

10:55	11:10	An improved hybrid switched inductor and switched capacitor based DC-DC Converter to reduce the voltage stress across the switch
11:10	11:25	A Real-time design and analysis of Dual Active Bridge DC-DC converter for EV applications

Instructions to Presenters:

1. The authorshould present their work physically or virtually during the assigned schedule. They **must be present** during the entire session as per the schedule.
2. The pre-recorded video of the presenter will only be played by the host if there is any problem with the internet connection or as per the instruction of the Session Chair(s).
3. After the presentation, the presenter has to**respond to the queries** (if any) of Session Chair(s) and other participants.
4. The total time allotted to each presenter: **12 minutes** for pre-recorded video+ **03 minutes** for Q&A.
5. **If the presenter fails to be present during the allotted schedule**, the decision regarding inclusion of the paper in the conference proceedings (IEEE Xplore) will be subjected to the decision of the Session Chair and Organising Committee.
6. The E-Certificate of presentation will be provided and sent to the registered email ID of the corresponding author after 07 days from the completion of the conference.
7. The Scan copy of the Registration Fee Receipt will be sent to the registered email ID of the corresponding author immediately after completion of the conference.

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