

**International Conference on Signal Processing, Informatics, Communication and Energy Systems
(IEEESPICES2022)**

10th, 11th and 12th March 2022

Organized by

IEEE Kerala Section & Mar Baselios College of Engineering & Technology, Nalanchira, Trivandrum

Programme Schedule

Thursday 10th March 2022	
10.00 AM -12.00 PM	Tutorial Session (1): <i>Dr. V. R. Jisha</i> <i>Professor, Dept. of Electrical Engineering, College of Engineering, Trivandrum</i> Title: Optimal Control of Robots
2.30 PM-4.30 PM	Tutorial Session (2): <i>Dr. Bhim Singh</i> <i>Professor, Dept. of Electrical Engineering, IIT Delhi</i> Title: Microgrids
5.00 PM- 6.00 PM	Tutorial Session (2): <i>Dr. Darsana P. Joysula</i> <i>Professor, Dept. of Computer Science, Bowie state University, USA</i> Title: Towards self learning, self correcting, explainable systems
Friday 11th March 2022	
9.00 AM -10.00 AM	Inauguration
10.30 AM -11.30 AM	Key note (1): <i>Dr. Anurag Kumar</i> <i>Honorary Professor, Indian Institute of Science, Bangalore</i> Title: Cyber Physical Systems for Industry 4.0
11.30 AM - 12.30 PM	Key note (2): <i>Dr. Sivaji Chakravorti</i> <i>Vice-President, Indian National Academy of Engineering (INAE)</i> Title: Estimation of Instantaneous Frequency of a Signal

2.00 PM-3.00 PM	Key note (3): <i>Dr. Maode Ma</i> <i>Research Professor, College of Engineering, Qatar University</i> <i>Title:: Security Issues in Named Data Networks</i>					
3.00 PM- 4.30 PM	Technical Session I - Oral Paper Presentations					
	Venue-I Track 1- Signal Processing Session (1A)	Venue-II Track 2- Communication and Networks Session (1B)	Venue-III Track 3- Advanced Computing Session (1C)	Venue-IV Track 4- Artificial Intelligence and Data Science (1D)	Venue-V Track 5- Power and Energy Systems (1E)	Venue – VI Track 6 & 7 – Instrumentati on and Control/ Robotics and Automation (1F) & Invited Talk
5.00 PM - 6.00 PM	Key note (4): <i>Dr. Akshay Kumar Rathore</i> <i>Associate Professor, Graduate Program Director and Chair of Graduate Awards, Electrical and Computer Engineering, Concordia University, Canada</i> <i>Title:: Low Device Switching Frequency Control of Multilevel Inverters for the Medium Voltage High Power Industrial Drives</i>					
Saturday 12th March 2022						
10.00 AM - 11.00 AM	Key note (5): <i>Dr. Sharul Kamal Bin Abdul Rahim</i> <i>Professor, Universiti Teknologi, Malaysia</i> <i>Title:: Antenna and Switch Beamforming Network for 5G/B5G Communication Systems</i>					
11.15 AM- 12.45 PM	Technical Session II - Oral Paper Presentations					
	Venue-I Track 1- Signal Processing Session (2A)	Venue-II Track 2- Communicatio n and Networks Session (2B)	Venue-III Track 3- Advanced Computing Session (2C)	Venue-IV Track 4- Artificial Intelligence and Data Science (2D)	Venue-V Track 5- Power and Energy Systems (2E)	Venue – VI Track 8 –Smart Cities & Invited Talk (2F)
2.00 PM- 3.30 PM	Technical Session III - Oral Paper Presentations					
	Venue-I	Venue-II	Venue-III	Venue-IV	Venue-V	

	Track 1- Signal Processing Session (3A)	Track 2- Communicatio n and Networks Session (3B)	Track 5- Power and Energy Systems (3C)	Track 4- Artificial Intelligence and Data Science (3D)	Track 5- Power and Energy Systems (3E)	
Valedictory Function (4 – 4.30 PM)						

Session details

Track 1- Signal Processing

Session 1A

Venue: I

Date: 11/03/2022, 3.00 – 4.30 PM

SI No	Paper ID	Paper Title	Authors
1	40	Aquila Optimizer based Deep Neural Network for Automatic Diabetic Retinopathy detection and classification	V. Desika Vinayaki
2	48	A Heuristic Approximation Algorithm to Design Power and Area Efficient FIR Filters in the Canonic Signed Digit Space	Bindiya T S
3	118	Measurement of chaos and quantum decoherence in H&E stained images of oral epithelium for early detection Oral Submucous Fibrosis	Aparajita Karmakar
4	59	Cross Spectral Image Registration for Fever Detection	Joseph Mathew
5	64	Comparison of GSEIM with Simulink with respect to simulation speed	Akhil Nandan
6	262	Transfer learning for Speech Based Emotion Recognition	Meenu S Nair

Session 2A

Venue: I

Date: 12/03/2022, 11.15 AM– 12.45 PM

Sl.No.	Paper ID	Paper Title	Authors
1	66	Design of Quadrature mirror filter using Grasshopper Optimization Algorithm.	Aritra Ghosh
2	67	A Survey on Various Combination of Breast Cancer Biomarkers	Sheethal Aji Mani
3	54	Design of Computationally Efficient IFIR based Filter Structure for Digital Channelizer	Rinu C Varghese
4	132	Analysis of Mental Task Ability in Students based on Electroencephalography Signals	Ananda Babu T
5	139	LSTM based Synthesis of 12-lead ECG Signal from a Reduced Lead Set	Ato Kapfo
6	150	Emotion Classification using Physiological Signals: A Recent Survey	Amita Umesh Dessai

Session 3A

Venue: I

Date: 12/03/2022, 2.00 – 3.30 PM

Sl.No.	Paper ID	Paper Title	Authors
1	168	New Mixed Model Order Reduction Approach for Linear System	Yogesh Vijay Hote
2	192	A holistic approach towards detection, tracking, and recognition of face	Kuldeep Singh Yadav
3	203	Alzheimer's Disease Classification from Cross-sectional Brain MRI using Deep Learning	Sreelakshmi S.
4	279	Residual Network Based Single Object Tracking	Shiv Kumar
5	65	Design Of Band-Pass Fir Filter Using Modified Social Group Optimization Algorithm And Its Implementation On FPGA.	Tania Paul Das

Track 2 – Communication and Networks

Session 1B

Venue: II

Date: 11/03/2022, 3.00 PM – 4.30 PM

SI No	Paper ID	Paper Title	Authors
1	11	BER-SNR Evaluation Using Phase Shift Keying With OSTBC In MIMO Environment	Milind Thomas Themalil
2	13	Area Efficient Implementation Of Short Length QC-LDPC Codes For Ultra Reliable Low Latency Communication (URLLC)Application	Lakshmi J L
3	30	Design Of A Dual Processor Based Single Board Gnss Receiver Embedded Navigation Computer For Low Cost Launch Vehicles	Vinoj V S
4	33	Design Considerations For Selecting GNSS Antenna Mounting Location In Launch Vehicles	Anand Shankar Ot
5	35	Design Methodology Of Solid State C-Band Transponder For Radar Calibration	Muhammed Suhail S
6	46	A Set Of Novel Stress Tests For High Dynamic Navic/Gps Receiver Software With Rf Signal Input, Observations And Mitigation Strategies	Biju V S

Session 2B

Venue: II

Date: 12/03/2022, 11.15 – 12.45 PM

SI No	Paper ID	Paper Title	Authors
1	47	Development Of A New Portable Test Station For Remote Testing Of Inertial Navigation Systems For Launch Vehicles	Deepa Sara John
2	56	Design And Performance Analysis Of Various 32-Bit Hybrid Adders Using Verilog	Renjith R
3	61	Performance Evaluation Of DFTBased Channel Estimation For Spatial Modulated FBMC-OQAM Systems On Multipath Fading Channels	Anetha Mary Soman
4	71	Passive Control Of Annealing In Polymerase Chain Reaction Using Phase Changing Materials	B Indulakshmi
5	89	SNO2 Thin Film Coated Fiber Optic VC Sensor Based On Intensity Modulation Technique	Zachariah C. Alex

SI No	Paper ID	Paper Title	Authors
1	108	Design And Numerical Analysis Of A Compact Microstrip Antenna Sensor For Wireless Body Area Networks	Sreelekshmi.S
2	167	High Power Microwave Rectifier With Less Sensitive To Input Power And Phase Variation	Vivek Kumar
3	257	Gate Matching Algorithm For Early False Path Detection In Statistical Static Timing Analysis	Sachin K Bhat Agni
4	259	Hot Carrier Effect On Base Resistance Of Sige Heterojunction Bipolar Transistor	Ann Mary Alex
5	261	Performance Analysis Of Code Hopping Multiple Access Using Orthogonal Complementary Codes Under Rician Fading Channels	Aswathy K.A
6	278	Dual Stepped Line Impedance Antenna For 8 Ghz Communication	Ankita Bagri

Track 3 – Advanced Computing Session**Session 1C****Venue: III****Date: 11/03/2022, 3.00 PM – 4.30 PM**

SI No	Paper ID	Paper Title	Authors
1	38	WaterHCI Part 1: Open Water Monitoring with Realtime Augmented Reality	Samir Khaki
2	53	Graph Based Document Model And Its Application In Keyphrase Extraction	Sincy V Thambi
3	110	A Blockchain-Based Platform For Smart Contracts And Intellectual Property Protection For The Additive Manufacturing Industry	Abhiram Haridas
4	129	A Cellular Iot Based Sensor System For Atmospheric Studies Using Uavs	Rajesh Kavadi
5	136	A Comparative Analysis Of Localization Techniques In Wireless Sensor Network	Akshay A
6	140	Decentralized Crowdfunding Platform Using Smart Contracts	Inderajith K

Session 2C**Venue: III****Date: 12/03/2022, 11.00 AM – 12.45 PM**

SI No	Paper ID	Paper Title	Authors
1	141	An Efficient Approach For Spammer Detection On Twitter And Their Behavior Analysis.	Anaswara K
2	188	Revocable And Scalable Access To Personal Health Records In A Cloud Computing Environment	F. Sammy
3	218	An Overview On Handling Anti Forensic Issues In Android Devices Using Forensic Automator Tool	H. Hemanth Bharath Bhushan
4	247	A Secured Key Management Scheme For Mobile Ad Hoc Networks With Modified Montgomery Modular Arithmetic	Janani V S
5	253	Analyzing Tone Of The Annual Report - An Indian Context	Prakash Kalingrao Aithal
6	269	A Real-Time IOT And Cloud System For Carbon Dioxide Monitoring In Dhaka City'S Buildings With Rooftop Garden And Without Rooftop Garden	MD. Hasan Imam Bijoy

Track 4 – Artificial Intelligence and Data Science

Session 1D

Venue: IV

Date: 11/03/2022, 3.00 PM – 4.30 PM

SI No	Paper ID	Paper Title	Authors
1	18	Vehicle Accident Detection And Prevention Using Iot And Deep Learning	Lakshmy S
2	50	Supervised Fan Beam Computed Tomography Image Synthesis Using 3D CycleGAN	Jiffy Joseph
3	57	Comparison Of Different Machine Learning Algorithms For Cardiac Auscultation	Ashin Prakash
4	81	A Study Of Change Impact Analysis Techniques Based On Requirement Defects During The Software Development Process	Anjali C
5	83	A Survey Of Metadata Retrieval Through Sentiment Analysis	M. Thanga Subha Devi
6	92	Implementation Of Testing Accreditation Analytical Framework For Higher Education System	Sushitha S
7	103	Design And Development Of A Simulation Environment For Iot Devices	Srivatsan V

Session 2D

Venue: IV

Date: 12/03/2022, 11.15 AM – 12.45 PM

SI No	Paper ID	Paper Title	Authors
1	113	Social Media Monitoring Using Elk Stack	Aparna Sankar N S
2	126	An Efficient Analysis Of E-Commerce Site Using Big Data Assisted Modified Learning Strategy Based On Novel Customer Recommendations	Ho Chi Minh Perumal
3	142	Star Identification In Night Sky Images Using Mobile Phone Camera	Dhruv Salvadi
4	147	A Comparative Study Of State-Of-The-Art Image Splicing Localization Methods Using Fully Convolutional Networks	Vidya K.R.
5	181	Shallow Segnet With Bilinear Interpolation And Weighted Cross-Entropy Loss For Semantic Segmentation Of Brain Tissue	Pranav Goyal
6	190	Water HCI Part 2: Open water sensing, meta-sensing, and observing with drones	Samir Khaki

		and augmented reality	
7	194	Automated Alert Generation Ensuring Women Safety Using Heartbeat Detection	Anusha Jhampri

Session 3D

Venue: IV

Date: 12/03/2022, 3.00 PM – 4.30 PM

SI No	Paper ID	Paper Title	Authors
1	207	Fraud Detection And Analysis For Insurance Claim Using Machine Learning	Abhijeet Urunkar
2	219	On Some Issues In Kalman Filter Based Trilateration Algorithms For Indoor Localization Problem.	Hena Kausar
3	225	Patch-Based All Convolutional Neural Network Model For Classification Of Benign And Malignant Mammograms	Pournami P.N.
4	229	Achieving Market Segmentation From B2B Insurance Client Data Using Rfm & K-Means Algorithm	Srijith J Kumar
5	239	Maximizing Strategy In Customer Segmentation Using Different Clustering Techniques	Pavithra M
6	240	Performance Comparison Of Classifiers Of MR Brain Tumor Images On Various Datasets	Divya Mohan
7	276	Effective Software Effort Estimation Using Heterogenous Stacked Ensemble	Somya Goyal

Track 5 – Power and Energy Systems

Session 1E

Venue: V

Date: 11/03/2022, 3.00 PM – 4.30 PM

SI No	Paper ID	Paper Title	Authors
1	208	Sensor-less Vector Control of Surface PM Synchronous Motor Using Reduced - Order Cubature Kalman Filter Based Estimator	Arabindo Chandra
2	10	Performance study of Capacitor Clamped Multilevel Inverter fed Induction Motor Drive for Electric Vehicle Application	Praveen O
3	23	Modelling and Performance Estimation of All Inorganic Double Perovskite Solar Cells	Deepthi Jayan K
4	49	SPV Panel Hotspot Thermal Profile Modeling and Characterization with Active Cooling Employing CAD Simulation	Polaka Divya Reddy
5	52	Open-Circuit Switch Fault-Tolerant Half-Bridge LLC Resonant Converters for Satellite Applications	Abraham Mathews
6	73	Regenerative Braking of Switched Reluctance Motor for Electric Vehicle Application	Aaliya Farzana. P. A
7	74	Steering Angle Estimation for an Autonomous Car	Abhiram A

Session 2E

Venue: V

Date: 12/03/2022, 11.15 – 12.45 PM

SI No	Paper ID	Paper Title	Authors
1	82	Torque Ripple Reduction And Speed Control Of PMSM Using Fuzzy Logic For Propulsion Application	Lekshmi P Nair
2	109	Voltage Profile Improvement of A Multi Microgrid Interconnection Scheme Using Synchronverters	Charivil Sojy Rajan
3	127	Performance Assessment of A Hybrid Islanding Detection Scheme For PV Based Distributed Generators Combining Total Harmonic Distortion And Bidirectional Reactive Power Injection	Praveen Raj R S
4	130	IPMSM Drive With Interleaved Bidirectional Converter For Electric Vehicle Application	Chandni Asok
5	137	Investigation Of Choice Of State Space For Reinforcement Learning Based Battery Scheduling In Microgrid	Vaishak Rajeev

6	169	Fractional Order Modelling And Controller Design For Non-Ideal Dc-Dc Buck Converter	Yogesh Vijay Hote
7	173	Exhibiting The Effect Of Time Delays On Load Frequency Control Of Multi Area Interconnected Hybrid Power System	P Harideep

Session 3E

Venue: V

Date: 12/03/2022, 2.00 – 3.30 PM

SI No	Paper ID	Paper Title	Authors
1	183	Cost Analysis of a Smart Home Energy Management System-A Case Study	Divya N A
2	201	Review of Battery Charging Methods for Electric Vehicle	Sandhya P
3	4	Current Control with Hysteresis Controller and Sliding mode Controller in SRM	Stella Kurian
4	211	FEM analysis and experiments of a Double-sided Axial Flux Switched Reluctance Motor for two alternative phase winding terminal connections	Sabarni Pal
5	227	A solution to power balancing in high renewable penetration power system: Use of Abandoned Generating Units	Athul Jose P
6	231	Radial force reduction of Switched Reluctance Motor for EV application	Rani S
7	235	A Single- Phase Hybrid Seventeen Level Multilevel Inverter Topology.	Sahana B K

Session 3C

Venue: III

Date: 12/03/2022, 3.00 – 4.30 PM

SI No	Paper ID	Paper Title	Authors
1	243	Design, Fabrication, Analysis and Testing of a Planar Inductor on a High Frequency Buck Converter using SiC Device	Arnab Dey
2	249	Techno-Economic Feasibility Analysis of LVDC System to Retrofit an Existing AC System: Case Study	Rani Chacko
3	251	Detailed FEM-based Analysis of Vibration in a 3-phase Switched Reluctance Motor and its Experimental Validation	Samrat Das
4	252	Investigations on Performance Parameters of Hybrid Perovskite Solar Cells	Kiran Susan Pavu
5	263	A Novel State Space Model of an Interleaved Boost Converter operating over a wide range of duty ratio	Nikhil Sasidharan

6	268	Parameter Independent Backstepping Controller for Bidirectional Buck-Boost Converter in DC Grid Battery Interface with CPL	Nikhil Sasidharan
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Track 6 & 7 – Instrumentation and Control/ Robotics and Automation

Session 1F

Venue: VI

Date: 11/03/2022, 3.00 – 4.30 PM

SI No	Paper ID	Paper Title	Authors
1	98	Design Of An Optimized Controller For Docking System For Space Application	Navya S Warriar
2	144	Modelling Of Power Flow Dynamics For Congestion Control	Pratyasa Bhui
3	242	A Disturbance Observer Based Control For Quadrotor Aircraft Subject To Wind Gusts	Sini S
4	70	Performance Analysis Of Path Tracking Controllers For Robotaxi Manoeuvres	Anurag Reghu
5	223	Gain Scheduled Lqr Control Of A Two Wheeled Mobile Robot With Heavy Payloads	Anu Gopinath
6	224	Decentralized Control Of Slow Moving Mobile Manipulator	Shyju Susan Mathew

Track 8 – Smart Cities

Session 2F

Venue: VI

Date: 12/03/2022, 11.15 AM – 12.45 PM

SI No	Paper ID	Paper Title	Authors
1	134	Smart Bridges Based On Bridge Information Modelling	Navya S Warriar
2	245	Virtual Smart Canteen System	Pratyasa Bhui
3	348	Space Syntax Analysis Of Total Connectivity Through The Evolution Of Bag Bazar Street, Kolkata (1746-2020)	Anurag Reghu