

Technical Program

Program Overview

DAY I: December 28, 2012

REGISTRATION: 9 AM TO 10 AM, <i>Gandhi Bhavan</i>		
INAUGURAL SESSION 10 AM to 11 AM <i>Gandhi Bhavan</i>		
HIGH TEA: 11 AM to 11-30 AM		
PLENARY TALK Prof. Supriyo Bandyopadhyay Virginia Commonwealth University, USA 11-30 AM to 12-15 PM <i>Gandhi Bhavan</i>		
Track 1 <i>Hall 1,</i> <i>TEQIP Building First Floor</i>	Track 2 <i>Hall 2,</i> <i>TEQIP Building First Floor</i>	Track 3 <i>Hall 3,</i> <i>TEQIP Building First Floor</i>
Session 1: Advanced Communication I 12-20 PM to 1-30 PM	Session 1: Semiconductor Devices 12-20 PM to 1-30 PM	Session 1: Computer Networks 12-20 PM to 1-30 PM
LUNCH BREAK: 1-30 PM TO 2-30 PM (<i>University Guest House</i>)		
Invited Talk Prof. Animesh Maitra, IRPE, Calcutta University 2-30 PM to 3 PM	Invited Talk Prof. Parthasarathi Dasgupta, IIM Calcutta 2-30 PM to 3 PM	Invited Talk Prof. Sajal Das, University of Texas at Arlington, USA 2-30 PM to 3 PM
Session 2: Cognitive Radios 3 PM to 4 PM	Session 2: Quantum Devices 3 PM to 4 PM	Session 2: Soft Computing and Data Security 3 PM to 4 PM
TEA BREAK: 4 PM TO 4-15 PM		
Session 3: OFDM and MIMO Systems 4-15 PM to 5-15 PM	Session 3: MEMS and Materials 4-15 PM to 5-15 PM	Session 3: Diverse Fields 4-15 PM to 5-15 PM
Poster Session A: Communication 5-15 PM to 6-30 PM <i>Hall 4, TEQIP Building First Floor</i>		Poster Session B: Devices, Circuits and Control Systems 5-15 PM to 6-30 PM <i>Hall 5, TEQIP Building First Floor</i>

DAY II: December 29, 2012

REGISTRATION: 9-30 AM TO 10 AM, *TEQIP Building First Floor*

Track 1 <i>Hall 1, TEQIP Building First Floor</i>	Track 2 <i>Hall 2, TEQIP Building First Floor</i>	Track 3 <i>Hall 3, TEQIP Building First Floor</i>
Invited Talk Prof. Mrityunjoy Chakraborty, IIT Kharagpur 10 AM to 10-30 AM	Jnan Saran Chatterjee Memorial Lecture Prof. Girish Kumar IIT Bombay 10 AM to 10-30 AM	Invited Talk Prof. Swapan Bhattacharyya, NIT Karnataka 10 AM to 10-30 AM
Session 4: Advanced Communication II 10-30 AM to 11-30 AM	Session 4: Antenna Arrays 10-30 AM to 11-30 AM	Session 4: Machine Learning and Bioinformatics 10-30 AM to 11-30 AM
TEA BREAK: 11-30 AM TO 11-45 AM		
Session 5: Image Processing and Pattern Recognition 11-45 AM to 1-30 PM	Session 5: Microstrip and Other Antennas 11-45 AM to 1-30 PM	Session 5: Control and Power Engineering 11-45 AM to 1-30 PM
LUNCH BREAK: 1-30 PM TO 2-30 PM (<i>University Guest House</i>)		
Invited Talk Prof. Dipti Prasad Mukherjee, ISI Kolkata 2-30 PM to 3 PM	Invited Talk Prof. Ananjan Basu, IIT Delhi 2-30 PM to 3 PM	Invited Talk Prof. Partha Chakraborty, MNNIT Allahabad 2-30 PM to 3 PM
Session 6: Bio-Electronics and Medical Imaging 3 PM to 4 PM	Session 6: Applied Electromagnetics 3 PM to 4 PM	Session 6: Circuits and Digital Logic 3 PM to 4 PM
TEA BREAK: 4 PM TO 4-15 PM		
Poster Session C: Microwave and Others 4-15 PM to 5-30 PM <i>Hall 4, TEQIP Building First Floor</i>	Poster Session D: Machine Learning/Image Processing/Pattern Recognition 4-15 PM to 5-30 PM <i>Hall 5, TEQIP Building First Floor</i>	
VALEDICTORY SESSION 5-30 PM to 6 PM <i>TEQIP Building First Floor</i>		

Day 1 — Friday, 28 December 2012

	Registration
Date/Time	28 December 2012 / 09:00 – 10:00 hrs
Venue	Gandhi Bhavan

	Inaugural Session
Date/Time	28 December 2012 / 10:00 – 11:00 hrs
Venue	Gandhi Bhavan

Plenary Talk	Hybrid Spintronics and Straintronics – An Ultra Low Energy Paradigm for Digital Computing
Talk By	Prof. Supriyo Bandyopadhyay <i>Virginia Commonwealth University, USA</i>
Date/Time	28 December 2012 / 11:30 – 12:15 hrs
Venue	Gandhi Bhavan

Track 1 /Session 1	Advanced Communication I	Parallel
Date/Time	28 December 2012 / 12:20 – 13:30 hrs	
Venue	Hall 1, TEQIP Building First Floor	

- 008
Accurate SER Expressions for M-Ary Dual Ring Star QAM in Fading Channels
 Sourjya Dutta and Aniruddha Chandra
- 116
DOA Based Adaptive Beamforming with Rake for TDSCDMA Cellular Networks
 Anindya Kundu, Sukanta Roy, Arabinda Roy and Susanta Kumar Parui
- 118
Maximum Likelihood Estimate of Parameters of Nakagami- m Distribution
 Rangeet Mitra, Amit Kumar Mishra and Tarun Choubisa
- 248
Power Spectral Density of Modified Hermite Pulses for M-Ary Pulse Shape Modulation
 Debashis Adhikari and C. Bhattacharya
- 298
Telemetry Applications of SOQPSK and Gmsk Based Modulation for Airborne Platforms
 Umashankar Balasubramanian, Pankaj R. Pacharne, Panga Radhakrishna, K. Krishna Naik and C. Bhattacharya

Invited Talk	Multi-Technique Observations of Propagation Effects on Satellite Communication Links at an Indian Location
Talk By	Prof. Animesh Maitra <i>IRPE, Calcutta University</i>
Date/Time	28 December 2012 / 14:30 – 15:00 hrs
Venue	Hall 1, TEQIP Building First Floor

Track 1 /Session 2	Cognitive Radios	Parallel
Date/Time	28 December 2012 / 15:00 – 16:00 hrs	
Venue	Hall 1, TEQIP Building First Floor	

135 **Performance of Weighted Cooperative Spectrum Sensing Schemes in Fading Channels**
Srinivas Nallagonda, Shravan Kumar Bandari, Sanjay Dhar Roy and Sumit Kundu

153 **Design and Implementation of a Cognitive Channel Allocation Algorithm for BWA System**
Anindita Kundu, Prasun Chowdhury, Iti Saha Misra and Salil K. Sanyal

155 **Buffered Non-Random Channel Access Method for Better QoS of Cognitive Users**
Anindita Kundu, Prasun Chowdhury, Sayan Sengupta, Iti Saha Misra and Salil K. Sanyal

210 **Game Theoretic Spectrum Sharing for Cognitive Radios**
Tanumay Manna and Iti Saha Misra

340 **Cognitive Vertical Handover with Cooperative Gaming for Optimal Payoff in Emerging Wireless HetNet**
Rajender Kumar and Brahmjit Singh

Track 1 /Session 3	OFDM and MIMO Systems	Parallel
Date/Time	28 December 2012 / 16:15 – 17:15 hrs	
Venue	Hall 1, TEQIP Building First Floor	

134 **Order Estimation of HMM Discrete Channel Model for OFDM Systems**
Rakesh Ranjan and Debjani Mitra

192 **Orthogonal Variable Spreading Factor (OVSF) Based Image Transmission Using Multiple Input Multiple Output Orthogonal Frequency Division Multiplexing (MIMO-OFDM) System**
Javaid A. Sheikh, Shabir A. Parah, Uzma Sakeena Akhtar, A. Mueed Hafiz and G. Mohiuddin Bhat

229 **Hybrid Channel Estimation Scheme for IEEE 802.11N-Based STBC MIMO System**
Parismita Gogoi and Kandarpa Kumar Sarma

246 **Single IFFT Block Based Reduced Complexity Partial Transmit Sequence Technique for PAPR Reduction in OFDM**
Ishita Gupta and Sarat Kumar Patra

277 **Composite Channel Estimation in MIMO-OFDM System with Enhanced Spectral Efficiency**
Shuvabrata Bandopadhyaya, Sandeep Kumar and Jibendu Shekhar Roy

Track 2 /Session 1	Semiconductor Devices	Parallel
Date/Time	28 December 2012 / 12:20 – 13:30 hrs	
Venue	Hall 2, TEQIP Building First Floor	

022 **A Proposed Method to Study the Parasitic Resistance of Ka-Band Silicon IMPATT Diode From Large-Signal Electric Field Snap-Shots**
Aritra Acharyya, J. P. Banerjee and Suranjana Banerjee

028 **High Performance SOI Lateral Trench Dual Gate Power MOSFET**
Yashvir Singh and Mayank Punetha

287 **Effect of Dielectric Thickness on Performance of Dual Gate Organic Field Effect Transistors**
Vidhi Goswami, Brijesh Kumar, B. K. Kaushik, K. L. Yadav, Y. S. Negi and M. K. Majumder

293 **Analytical Study of the Effect of Asymmetric Gate Bias on the Performance of Double Gate TFET**
Parthasarathi Gupta, Jayita Das, Debasree Burman, Madhuchhanda Brahma, Hafizur Rahaman and Parthasarathi Dasgupta

Modeling the Channel Potential and Threshold Voltage of a Fully Depleted Double Gate Junctionless FET

316

Parthasarathi Gupta, Debasree Burman, Jayita Das, Madhuchhanda Brahma, Hafizur Rahaman and Parthasarathi Dasgupta

A Subthreshold Surface Potential Model to Study the Effect of Dual Material Gate in Gate All Around n-TFETs

329

Sayani Ghosh and Chandan K. Sarkar

Invited Talk	VLSI Physical Design for Enhanced Yield – An Overview
Talk By	Prof. Parthasarathi Dasgupta <i>IIM Calcutta</i>
Date/Time	28 December 2012 / 14:30 – 15:00 hrs
Venue	Hall 2, TEQIP Building First Floor

Track 2 /Session 2	Quantum Devices	Parallel
Date/Time	28 December 2012 / 15:00 – 16:00 hrs	
Venue	Hall 2, TEQIP Building First Floor	

Simulation and Analysis of Quantum Capacitance in Single-Gate MOSFET, Double-Gate MOSFET And CNTFET Devices for Nanometre Regime

093

Sanjeet Kumar Sinha and Saurabh Chaudhury

$Al_xGa_{1-x}As$ Based Parabolic Quantum Well Structures – Enhancement of Multisubband Electron Mobility

096

Trinath Sahu, Ajit K. Panda and Sangeeta Palo

Electrical Characteristics of Silicon and Germanium Nanowire Transistors – A Simulation Study

151

S. Theodore Chandra and N. B. Balamurugan

Quantum Centroid Modeling for Surrounding Gate MOSFETs

160

P. Vimala and N. B. Balamurugan

Fowler-Nordheim Tunneling From Quantum Wires of Different Cross-Sections

262

Shubhasree Biswas Sett and Chayanika Bose

Track 2 /Session 3	MEMS and Materials	Parallel
Date/Time	28 December 2012 / 16:15 – 17:15 hrs	
Venue	Hall 2, TEQIP Building First Floor	

Thermally Actuated MEMS Based Silicon Micropump

074

Apurba Kr. Rai Baruah and B. Mondal

Residual Stress Analysis in RF MEMS Comb Line Band Reject Filter

075

Buddhadev Pradhan, Amrita Chakaborty and Bhaskar Gupta

Photonic Crystal Based Flat-Top Filter for CWDM Channel Compatible with ITU-T Recommendation G.694.2

264

Shounak Dasgupta, Susovan Mandal and Chayanika Bose

A Novel Design and Optimization Approach of RF MEMS Switch for Reconfigurable Antenna Using ANN Method

294

Paras Chawla and Rajesh Khanna

Small - Signal Parameter Extraction to Study the RF Performance of SOI and SON MOSFET

345

Tiya Dey Malakar, Bibhas Manna, Saheli Sarkhel, Sourav Naskar, P. K. Dutta and Subir Kumar Sarkar

Track 3 /Session 1	Computer Networks	Parallel
Date/Time	28 December 2012 / 12:20 – 13:30 hrs	
Venue	Hall 3, TEQIP Building First Floor	

Fuzzy Communication Model for Sensors in Wireless Sensor Network

041

Suman Bhowmik and Chandan Giri

Obstacle Discovery and Localization Scheme for Wireless Sensor Network

123

Prasenjit Chanak, Tuhina Samanta, Hafizur Rahaman and Indrajit Banerjee

Shortest Path Based Geographical Routing Algorithm in Wireless Sensor Network

124

Indrajit Banerjee, Indrani Roy, Ahana Roy Choudhury, Biswarup Das Sharma and Tuhina Samanta

Performance Enhancement of AODV Protocol by Considering Remaining Lifetime of Node in MANET

141

Shrikant D. Kulkarni, Radhika D. Joshi and D. A. Roy

Securing Network Using Mobile Agents

175

Munshi Navid Anjum, Chandreyee Chowdhury and Sarmistha Neogy

Gateway Node in WSN as the Queen Bee in a Honey Bee Colony

250

Kalyan Mahata and Sukanta Das

Invited Talk	Pervasive Computing vs. Cyber-Physical Systems – A Perspective from Smart Environments	
Talk By	Prof. Sajal Das <i>University of Texas at Arlington, USA</i>	
Date/Time	28 December 2012 / 14:30 – 15:00 hrs	
Venue	Hall 3, TEQIP Building First Floor	

Track 3 /Session 2	Soft Computing and Data Security	Parallel
Date/Time	28 December 2012 / 15:00 – 16:00 hrs	
Venue	Hall 3, TEQIP Building First Floor	

Non Blind Digital Watermarking Technique Using DCT and Cross Chaos Map

107

Chittaranjan Pradhan, Vilakshan Saxena and Ajay Kumar Bisoi

Change Detection in Remotely Sensed Images Using an Ensemble of Multilayer Perceptrons

196

Moumita Roy, Dipen Routaray and Susmita Ghosh

A New Soft-Computing Based Framework for Project Management Using Game Theory

285

Tuli Bakshi, Bijan Sarkar and Subir Kumar Sanyal

Distortion Free Secret Image Sharing Based on X-OR Operation

311

Amitava Nag, Jyoti Prakash Singh, D. Sarkar, P. P. Sarkar and Sushanta Biswas

Track 3 /Session 3	Diverse Fields	Parallel
Date/Time	28 December 2012 / 16:15 – 17:15 hrs	
Venue	Hall 3, TEQIP Building First Floor	

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A Search for Latent Periodicities of Irregular Time Series of Total Solar Irradiance
Sankar Narayan Patra, Koushik Ghosh and Subhas Chandra Panja

165

ZnO Nanoflake Based Metal-Insulator-Metal Methane Sensor for Underground Coalmine Application
S. Roy, C. K. Sarkar and P.Bhattacharyya

209

Implementation of Atomicity and Snapshot Isolation for Multi-Row Transactions on Column Oriented Distributed Databases Using RDBMS
Dharavath Ramesh, Amit Kumar Jain and Chiranjeev Kumar

251

Development of Wireless Insole Foot Pressure Data Acquisition Device
Oishee Mazumder, Ananda Sankar Kundu and Subhasis Bhaumik

310

Nano Computer Design Based on Intra Body Nanoscale Neuro-Spike Communication: A Nanonetwork Paradigm
Partha Pratim Ray

321

A New Design of a Dual Mode Bioassay Detection Analyzer for Digital Microfluidic Biochips
Pranab Roy, Mahua Raha Patra, Hafizur Rahaman and Parthasarathi Dasgupta

Poster Session A	Communication	Parallel
Date/Time	28 December 2012 / 17:15 – 18:30 hrs	
Venue	Hall 4, TEQIP Building First Floor	

073

Implementation of MIMO-OFDM Using Adaptive Multiuser Detection in Wireless Communication
Nazia Parveen and D. S. Venkateswarlu

258

Improved Energy Detector with Selection Combining in Cognitive Radio Network
Abhijit Bhowmick, Sanjay Dhar Roy and Sumit Kundu

167

Detection of Foliage Covered Immobile Targets Based on Incoherent Change Detection and SURE
K. N. L. Priya, R. Nagendran and A. Sreedevi

003

Analytical Calculations of CCDF for Some Common PAPR Reduction Techniques in OFDM Systems
Srinivas Ramavath and Rakesh Singh Kshetrimayum

057

Double Pass Erbium Doped Fiber Amplifier with 100-Nm Broadband Optical Amplification For CATV Transmission System
Ricky Anthony, Somnath Pain and Sambhunath Biswas

072

Reusability of Spectrum in Cognitive Radio Network Using Threshold
Ashima Rout and Srinivas Sethi

100

A Simplified Analytical and Simulation Framework for Evaluating BER of RS Coded Digital Signal in Rician Fading Channels
Anirban Chattopadhyay, Aniruddha Chandra and Anup Kr. Bhattacharjee

110

Study on Potentiality of Truncated PRN Sequences for Communication
P. Banerjee, Ushaben Keshwala and Monica Kaushik

138

Cooperative Spectrum Sensing with Censoring of Cognitive Radios in Presence of Log-Normal Shadowing Under Majority Logic Fusion
Srinivas Nallagonda, Shravan Kumar Bandari, Sanjay Dhar Roy and Sumit Kundu

164	Efficient Multimedia File Transfer in Wireless Local Area Network Using AODV Prodipto Das and Abhijit Paul
191	Investigation of XOR operation in All-Optical System with NRZ, RZ and Manchester Modulation Formats Pallavi Singh, D. K. Tripathi and H. K. Dixit
200	Design And FPGA Verification Of HF RFID Transponder Subhransu Sekhar Parhi, P. Venkateswaran and R. Nandi
203	Analysis of the Channel Capacity, for Different Line Length and Tap Bridges of Indoor Power Line Network for Broadband Communication K. Mondal and P. K. Ray
204	Differential Evolution Based Design of Multiplierless FIR Filter Using Canonical Signed Digit Representation Abhijit Chandra and Sudipta Chattopadhyay
207	Improvement in Target Detection and Image Formation for ISAR System Using CLEAN Algorithm Samarendra Nath Sur, Soumyasree Bera, Arun Kumar Singh and Rabindranath Bera
172	Design and Improvement of Bandwidth of a Compact and Wide Band Rejection Filter Somdotta Roy Choudhury, Susanta Kumar Parui and Santanu Das

Poster Session B	Devices, Circuits and Control Systems	Parallel
Date/Time	28 December 2012 / 17:15 – 18:30 hrs	
Venue	Hall 5, TEQIP Building First Floor	

254	Performance Analysis and Simulation Study of a Sandwiched Barrier Tunnel FET Partha Sarathi Gupta, Madhuchhanda Brahma, Jayita Das, Debasree Burman, Hafizur Rahaman and Partha Sarathi Dasgupta
043	Effect of Barrier Layer Thickness on Device Performance of Alinn/Gan Underlap DG MOSFET Hemant Pardeshi, Arghyadeep Sarkar, N. Mohankumar and Chandan Kumar Sarkar
129	Classical and Quantum Breathers: Application in Photonics for Ferroelectrics Arindam Biswas, A. K Bandhyoapdhyay, Susmita Biswas, A.K Bhattacharjee and Durbadal Mandal
206	A 2D Analytical Modeling Approach for Nanoscale Strained-Si (S-Si) on Silicon-Germanium-On-Insulator (SGOI) MOSFETs by Evanescent Mode Analysis Mirgender Kumar, Sarvesh Dubey, S. Jit and Pramod Kumar Tiwari
230	Design and Simulation of Integrated Optic Ring Resonator Based Devices Ishita Bhar, Tapolina Jha, Priya and Sabitabrata Dey
240	Design of High Delay Block Using Voltage Scaling Technique Chandrima Chaudhuri, Vinod Kumar, Narendra Nath Ghosh and Ashis Kumar Mal
333	Validity of Compact Gate C – V Model on SiC-SiO₂ MOS Device Chaitali Chakraborty
337	Leakage Current Reduction Using Modified Gate Replacement Technique for CMOS VLSI Circuit Surabhi Singh, Baljit Kaur, B. K. Kaushik and S. Dasgupta
343	Design and Electrothermal Analysis of MEMS Based Microheater Array for Gas Sensor Using INVAR Alloy S. S. Mondal, S.Roy and C. K. Sarkar
306	Dynamic Crosstalk Effect in Multi-Layer Graphene Nanoribbon Interconnects Narasimha Reddy K, Manoj Kumar Majumder, B. K. Kaushik, S. K. Manhas and B. Anand

303	Novel Modeling Approach for Multi-Walled CNT Bundle in Global VLSI Interconnects Jainender Kumar, Manoj Kumar Majumder, B. K. Kaushik, S. Dasgupta and S. K. Manhas
068	An Relaxation Oscillator Based Active Bridge Circuit for Converting Capacitance Change Into Frequency for Capacitive Humidity Sensor T. Islam, A. Gangopadhyay and Zaheeruddin
063	Development of Hall Sensor Propeller Anemometer for Measuring Wind Speed Using Embedded Controller G Karthick Kumar Reddy, S Venkatramana Reddy and T. K Ramkumar
252	An Improved Method of Frenet-Serret Based Guidance of a Non-Holonomic WMR Karnika Biswas and Ananda Sankar Kundu
089	Auto Tuned PID Controller Design Using Diophantine Equation Saurabh Srivastava, Anuraag Misra and V. S. Pandit
130	4-Bit All-Optical Binary to Two's Complement Converter Arunava Bhattachryya, Dilip Kumar Gayen and Tanay Chattopadhyay
314	Performance Enhancement in a Fuzzy Controlled Digital Phase Locked Loop Basab Chatterjee, Sudhabindu Ray and B. N. Biswas
261	Microcontroller Based Automatic Fault Identification in a Distribution System Debasree Saha and S. Sengupta
122	Development of Low Cost Bioimpedance Analyser for Analysing Various Biological Samples Deblina Biswas, Kunal Pal, Uttam Kumar and D. N. Tibrewala
194	Bandwidth Extension of BJT Amplifier Using a Novel Three Stage Cascade Topology Rupjyoti Haloi and Kandarpa Kumar Sarma

Day 2 — Saturday, 29 December 2012

	Registration
Date/Time	29 December 2012 / 09:30 – 10:00 hrs
Venue	TEQIP Building First Floor

Invited Talk	New Results in Canonic SPT (CSD) Addition and Multiplication with Application to Adaptive Filter Realization
Talk By	Prof. Mrityunjoy Chakraborty <i>IIT Kharagpur</i>
Date/Time	29 December 2012 / 10:00 – 10:30 hrs
Venue	Hall 1, TEQIP Building First Floor

Track 1 /Session 4	Advanced Communication II	Parallel
Date/Time	29 December 2012 / 10:30 – 11:30 hrs	
Venue	Hall 1, TEQIP Building First Floor	

Design and Implementaion of a Novel 2nd Order Fuzzy DPLL

052 Basab Chatterjee, Sudhabindu Ray and B. N. Biswas

Canonical Signed Digit Representation of Quadrature Mirror Filter Using Genetic Algorithm

104 Debajyoti Misra, Supriya Dhabal, Roshni Chakrabarti and P. Venkateswaran

Design and Evaluation of Tracking Filters for a Special Radar Application

186 A. Vaidhyathanan, S. Muhammed Suhail, M. Sreenivasa Babu, S. V. Subba Rao and V. Seshagiri Rao

Neighbour Location Based Channel Reservation Scheme for LEO Satellite Communication

288 Shubhajeet Chatterjee, Joydeep Saha, Soumyanil Banerjee and Arijit Mondal

An IFIR Approach for Designing M-Band NPR Cosine Modulated Filter Bank with CSD

297 Roshni Chakrabarti, Supriya Dhabal, Debajyoti Misra and P. Venkateswaran

Track 1 /Session 5	Image Processing and Pattern Recognition	Parallel
Date/Time	29 December 2012 / 11:45 – 13:30 hrs	
Venue	Hall 1, TEQIP Building First Floor	

Application of Unsupervised End Member Detection Algorithms for Spectral Unmixing of Hyperspectral Data for Mangrove Species Discrimination

029 Somdatta Chakravorty and Arpita Saha Choudhury

A New Approach for Segmentation of Image and Text in Natural and Commercial Color Documents

098 Malay K. Kundu, Soumyadip Dhar and Minakshi Banerjee

VISUC: Video Summarization with User Customization

157 Rameswar Panda, Sanjay K. Kuanar and Ananda S. Chowdhury

Digit Recognition From Pressure Sensor Data Using Euler Number and Central Moments

178 Angshuman Paul, Nilotpall Bhattacharya and Ananda S. Chowdhury

Two Stage Feature Extraction Using Modified MFCC for Honk Detection

322 Rohan Banerjee and Aniruddha Sinha

Image Compression Using Bessel Transformation

331 Tera Hindu and Suyakanth V Gangashetty

Clustering Based Band Selection for Hyperspectral Images

344 Aloke Datta, Susmita Ghosh and Ashish Ghosh

Image Segmentation Using Rough-Fuzzy K-Medoid Algorithm

354 Amiya Halder, Avijit Dasgupta and Susmita Ghosh

Invited Talk	Orthogonal Complement Analysis of Variations of Organ Shape Due to Disease
Talk By	Prof. Dipti Prasad Mukherjee <i>ISI Kolkata</i>
Date/Time	29 December 2012 / 14:30 – 15:00 hrs
Venue	Hall 1, TEQIP Building First Floor

Track 1 /Session 6	Bio-Electronics and Medical Imaging	Parallel
Date/Time	29 December 2012 / 15:00 – 16:00 hrs	
Venue	Hall 1, TEQIP Building First Floor	

LPG-PCA Algorithm and Selective Thresholding based Automated Method: ALL & AML Blast Cells Detection and Counting

154 Rupsa Bhattacharjee and Monisha Chakraborty

Classification of Motor Imagery Based on Hybrid Features of Bispectrum of EEG

225 Simanta Bordoloi, Ujjal Sharmah and Shyamanta M. Hazarika

Variation Mitigation Technique in SRAM Cell Using Adaptive Body Bias

233 S. Kushwaha, S. Prasad and A. Islam

A Robust Technique for Delineation and Features Extraction of ECG Signal From Mobile-Phone Photography

273 Rupendra Nath Mitra, Sucharita Mitra, Sayak Pramanik and Bidyut Baran Chaudhuri

Restoration of Digital Mammographic Images Corrupted with Quantum Noise Using an Adaptive Total Variation (TV) Based Nonlinear Filter

327 Subodh Srivastava, Neeraj Sharma, R. Srivastava and S. K. Singh

Segmentation of MRI Brain Images by Incorporating Intensity Inhomogeneity and Spatial Information Using Probabilistic Fuzzy C-Means Clustering Algorithm

349 Sudip Kumar Adhikari, J. K. Sing, D. K. Basu, M. Nasipuri and P. K. Saha

Jnan Saran Chatterjee Memorial Lecture	Cell Tower Radiation Hazards and Solutions
Talk By	Girish Kumar <i>IIT Bombay</i>
Date/Time	29 December 2012 / 10:00 – 10:30 hrs
Venue	Hall 2, TEQIP Building First Floor

Track 2 /Session 4	Antenna Arrays	Parallel
Date/Time	29 December 2012 / 10:30 – 11:30 hrs	
Venue	Hall 2, TEQIP Building First Floor	

- 039** **Design of Quad Band 22 Planar Microstrip Array**
A. K. Gautam, Sudarshan Joshi, Rohit Negi and Binod Kr Kanaujia
- 142** **Combination of FFT and Firefly Algorithm for Synthesis of Reconfigurable Rectangular Array with Circular Boundary**
A. Chatterjee and G. K. Mahanti
- 224** **Mutual Coupling Reduction of Microstrip Antenna Arrays Using Rectangular Split Ring Shaped Defected Ground Structure**
Bhupesh Mukherjee, Susanta Kr. Parui and Santanu Das
- 227** **Performance Comparison of Optimum Uniform and Non-Uniform Spacing of Circular Antenna Arrays**
Gopi Ram, Anik Biswas, Durbadal Mandal, Rajib kar and Sakti Prasad Ghoshal
- 279** **Antenna Array Synthesis by Implementing Non- Uniform Amplitude Using Fuzzy Logic**
Sanmoy Bandyopadhyay, Hiranmay Mistri and B. Maji

Track 2 /Session 5	Microstrip and Other Antennas	Parallel
Date/Time	29 December 2012 / 11:45 – 13:30 hrs	
Venue	Hall 2, TEQIP Building First Floor	

- 034** **Compact Circularly Polarized Microstrip Antenna with Different Geometries of Ground Plane**
Preety Soam, L. Lolit Kumar Singh, Geeta Goswami and S. R. Talukdar
- 091** **Study of Dipole Antenna Characteristic Using Different Numerical Methods**
Md. Faruk Ali and Sudhabindu Ray
- 176** **Fast and Accurate Model to Compute the Resonant Frequency of Triangular Patch Antenna on Suspended and Composite Substrates**
M. Dam and M. Biswas
- 212** **High Gain Compact Rectangular Microstrip Patch Antenna Using Substrate Integrated Artificial Dielectric**
Anindya Ghosh, Binay Kumar Sarkar and Arijit De
- 219** **Dual Band Microstrip Patch Antenna for Wireless Applications at 5.2 GHz And 5.8 GHz Using CSSRR**
Kumar Goodwill, Parth C. Kalaria, Ramesh Patel, Jagannath Malik, A. Patnaik and M. V. Kartikeyan
- 236** **The Effect of Composite and Suspended Substrate on Resonant Resistance of Circular Microstrip Patch Antenna**
Sourav Banik and Manotosh Biswas
- 283** **A CPW-FED UWB Monopole-Like Slot Antenna**
Manoj K. Shrivastava, A. K. Gautam and Amit Kumar Singh

Invited Talk	Recent Advances in Microwave Technologies	
Talk By	Prof. Ananjan Basu IIT Delhi	
Date/Time	29 December 2012 / 14:30 – 15:00 hrs	
Venue	Hall 2, TEQIP Building First Floor	

Track 2 /Session 6	Applied Electromagnetics	Parallel
Date/Time	29 December 2012 / 15:00 – 16:00 hrs	
Venue	Hall 2, TEQIP Building First Floor	

019 **Design and Improvement of Bandwidth of a Compact and Wide Band Rejection Filter**
Somdotta Roy Choudhury, Susanta Kumar Parui and Santanu Das

238 **Adaptive Neuro Fuzzy Inference System for the Optimization of Behavior of Fractal Antenna**
J. Bala Krishna, P. Parvathi and N. Latha

315 **A Comparative Study of Beamforming Techniques Using LMS and SMI Algorithms in Smart Antennas**
S K Imtiaj, Iti Saha Misra and Rathindranath Biswas

355 **Preliminary Studies on Performance of a 2.45 Ghz Wearable Antenna in the Vicinity of Human Body**
S. Sankaralingam, Sayantan Dhar and Bhaskar Gupta

Invited Talk	Towards Cloud Computing	
Talk By	Prof. Swapan Bhattacharyya <i>NIT Karnataka</i>	
Date/Time	29 December 2012 / 10:00 – 10:30 hrs	
Venue	Hall 3, TEQIP Building First Floor	

Track 3 /Session 4	Machine Learning and Bioinformatics	Parallel
Date/Time	29 December 2012 / 10:30 – 11:30 hrs	
Venue	Hall 3, TEQIP Building First Floor	

056 **Novel Approach to Power Spectrum Estimation of DNA Sequence by Prony's Method**
M. Roy and S. Barman(Mandal)

128 **A Novel Interpolation Based Missing Value Estimation Method to Predict Missing Values in Microarray Gene Expression Data**
Shilpi Bose, Chandra Das, Sourav Dutta and Samiran Chattopadhyay

284 **To Predict Possible Profit/Loss of a Movie to Be Launched Using MLP with Back-Propagation Learning**
Debaditya Barman, Nirmalya Chowdhury and Rupesh Kumar Singha

350 **Weighted Multi-Class Support Vector Machine for Robust Face Recognition**
Shiladitya Chowdhury, Jamuna Kanta Sing, Dipak Kumar Basu and Mita Nasipuri

352 **A New Approach for Dynamic Economic Dispatch Using Improved Bacterial Foraging Algorithm**
D. P. Dash, M. Basu and J. Pattanaik

Track 3 /Session 5	Control and Power Engineering	Parallel
Date/Time	29 December 2012 / 11:45 – 13:30 hrs	
Venue	Hall 3, TEQIP Building First Floor	

048 **Discrete Hilbert Transform as Minimum Phase Type Filter for the Forecasting and the Characterization of Wind Speed**
S. Mukhopadhyay, Paritosh Bhattacharya, R. Bhattacharjee and P.K.Bose

102 **Electronic Remote Lab**
Keshavamurthy, Dharmishtan K Varughese and N. J. R Muniraj

120	Rough Set Based Multi-Class Fault Diagnosis of Induction Motor Using Hilbert Transform Pratyay Konar, Shekhar Bhawal, Moumita Saha, Jaya Sil and Paramita Chattopadhyay
289	GA Application To Optimization of AGC In Two–Area Power System Using Battery Energy Storage S. Biswas and P. Bera
300	A Novel Approach and Implementation of Robot Path Planning Using Parallel Processing Algorithm M. C. Chinnaiah, D. Sanjay, P. Rajesh Kumar and T. Satya Savithri
312	Neuro-Fuzzy Based Adaptive Traffic Flow Control System Md. Asif Iqbal, Adiba Zahin, Zainu Sadia Islam and M. Shamim Kaiser
342	Analysis and Optimization of Vibration of 2-Dof Manipulator Sarika Bharilya and Priyabrata Chattopadhyay

Invited Talk	Plastic Electronic and Photonic Devices
Talk By	Prof. Partha Chakraborty <i>MNNIT Allahabad</i>
Date/Time	29 December 2012 / 14:30 – 15:00 hrs
Venue	Hall 3, TEQIP Building First Floor

Track 3 /Session 6	Circuits and Digital Logic	Parallel
Date/Time	29 December 2012 / 15:00 – 16:00 hrs	
Venue	Hall 3, TEQIP Building First Floor	

018	Modified I-V Model for Delay Analysis of UDSM CMOS Circuits Ashish Kumar Singh, Jagannath Samanta and Jaydeb Bhaumik
066	Analysis of Crosstalk Delay and Power Dissipation in Mixed CNT Bundle Interconnects Manoj Kumar Majumder, B. K. Kaushik, S. K. Manhas and Jainender Kumar
067	Crosstalk Effect in Coupled Interconnect Lines Using FDTD Method Shailesh Mittal, B. K. Kaushik, K. L. Yadav, D. K. Sharma and M. K. Majumder
180	Delay Metric for on-Chip RLCG Interconnect for Arbitrary Input V. Maheshwari, H. Jadav, S. Majumdar, J. Rakshit, R. Kar and D. Mandal
079	An Algorithm Facilitating Fast BCD Division on Low End Processors Using Ancient Indian Vedic Mathematics Sutras Diganta Sengupta, Mahamuda Sultana and Atal Chaudhuri
112	Design of Low Power and High Speed Ripple Carry Adder Using Modified Feedthrough Logic Sauvagya Ranjan Sahoo and Kamala Kanta Mahapatra

Poster Session C	Microwave and Others	Parallel
Date/Time	29 December 2012 / 16:15 – 17:30 hrs	
Venue	Hall 4, TEQIP Building First Floor	

082	Design of 10 Db Branch Line Coupler by Using DGS Tamasi Moyra, Arabinda Roy, Susanta Kumar Parui and Santanu Das
108	Design and Performance Improvement of Lowpass Filter by Using Defected Microstrip Structure Rahul Sinha, Tamasi Moyra and Arabinda Roy

- 038** **An Annular-Ring Slot Antenna with Pair Truncated Corners for CP Operation**
A. K. Gautam, Ajay Kumar, Rohit Negi and Binod Kr Kanaujia
- 050** **Optimization of Thinned Elliptical Antenna Arrays Using Particle Swarm Optimization**
Rajesh Bera and Jibendu Sekhar Roy
- 051** **Design of Thinned Arrays Using Particle Swarm Optimization with Differentially Perturbed Velocity**
Arindam Deb, Bhaskar Gupta and Jibendu Sekhar Roy
- 097** **A Hexagonal Shaped Fractal Antenna for UWB Application**
Sonu Agrawal, Ravi Dutt Gupta and Santanu Kumar Behera
- 111** **A CPW-Fed Monopole-Like Slot Antenna for UWB Applications**
Manoj Kr Shrivastava, Amit Kr Singh and A. K. Gautam
- 121** **A CPW Fed Slot Loop Minkowski Fractal Antenna with Enhanced Channel Selectivity**
Sayantan Dhar, Sudipta Maity, Bhaskar Gupta, D. R. Poddar and Rowdra Ghatak
- 197** **Synthesis of Cosec² Pattern of Circular Array Antenna Using Genetic Algorithm**
Debasis Mandal and A. K. Bhattacharjee
- 263** **Inset Fed Rectangular Microstrip Patch Antenna with Parasitic Element**
Ashish Singh, J. A. Ansari, Kamakshi, Anurag Mishra and Mohd. Anesh
- 308** **Design of an Extremely Wideband Monopole Antenna with Triple Notches**
Anumoy Ghosh and Sekhar Ranjan Bhadra Chaudhuri
- 014** **Random S-Box Generation in AES by Changing Irreducible Polynomial**
Indrajit Das, Sanjoy Roy, Subhprattim Nath and Subhash Mondal
- 184** **Strengthening SPN-Type Block Cipher Architecture Against Fault Attack**
Satyajit Das and Jaydeb Bhaumik
- 286** **Logarithmic Formula Generated Seed Based Cryptographic Technique Using Proposed Alphanumeric Number System and Rubik Rotation Algorithm**
Rajdeep Chowdhury, Rajdeep Bose, Nilanjan Sengupta and Mallika De
- 325** **Monte Carlo Analysis to Estimate the Performance of Adaptive Power Control Algorithm for Varying Target SIR**
C. R. Datta, Abhirup Datta, Dola Gupta and S. K. Chakravarty
- 281** **An Approach to Identify That of Indian Classical Music**
Madhuchhanda Bhattacharyya and Debashis De
- 351** **Designing a Micro-Heater with Genetic Algorithm Based Optimized Parameters and Study Its Performance**
B. Kantha, S. Roy, A. Ghosh, A. Khan, J. Bag and Subir Kumar Sarkar

Poster Session D	Machine Learning/Image Processing/Pattern Recognition	Parallel
Date/Time	29 December 2012 / 16:15 – 17:30 hrs	
Venue	Hall 5, TEQIP Building First Floor	

- 214** **Automatic Classification of a. Paeoniifolius Species From DNA Fingerprints of Amorphophalus Genus**
Anupam Banerjee, Sumana Basu, Orachorm Mekkerdchoo, Georges Srzednicki, Mita Nasipuri and Subhadip Basu
- 020** **Improving Prediction of Protein Function From Protein Interaction Network Using Intelligent Neighborhood Approach**
Sovan Saha, Piyali Chatterjee, Subhadip Basu, Mahantapas Kundu and Mita Nasipuri

033	Protein Function by Minimum Distance Classifier From Protein Interaction Network Tania Chatterjee, Piyali Chatterjee, Subhadip Basu, Mahantapas Kundu and Mita Nasipuri
046	Wavelet Based Noise Reduction of Liquid Level System Using Minimum Description Length Criterion Rimi Paul and Anindita Sengupta
139	Measures to Improve Crop Classification Using Remotely Sensed Hyperion Hyperspectral Imagery Hasmukh J. Chauhan and B. Krishna Mohan
190	Multiple Feature Extraction for RNN-Based Assamese Speech Recognition for Speech to Text Conversion Application Krishna Dutta and Kandarpa Kumar Sarma
199	A Binary Watermarking Scheme Using Quantization Levels of BTC-PF Method Chinmay Maiti and Bibhas Chandra Dhara
208	Dimensionality Reduction of Morphological Features of Tomato Leaves and Fruiting Habits S. Kundu, A. Hazra, K. Deb and P. Hazra
222	Polymorphism in Indian Classical Music: A Pattern Recognition Approach Debashis De and Samarjit Roy
265	Text Line Extraction From Handwritten Document Pages Using Spiral Run Length Smearing Algorithm Samir Malakar, Sougata Halder, Ram Sarkar, Nibaran Das, Subhadip Basu and Mita Nasipuri
313	Face Recognition in Reduced Eigen-Plane Abhijit Das
320	Feature Analysis for the Reversible Watermarked Electrooculography Signal Using Low Distortion Prediction-Error Expansion Nilanjan Dey, Shouvik Biswas, Poulami Das, Achintya Das and Sheli Sinha Chaudhuri
205	A Novel Technique for Automatic Abrupt Shot Transition Detection Malay Kumar Kundu and Jaydeb Mondal
088	An Unsupervised Learning Network for Face Identification and Subsequent Localization Goutam Sarker
065	Generalized Diagonal 2D FLDA for Efficient Face Recognition Jamuna Kanta Sing, Dwaipayan Roy, Dipak Kumar Basu and Mita Nasipuri

	Valedictory Session
Date/Time	29 December 2012 / 17:30 – 18:00 hrs
Venue	TEQIP Building First Floor