

## FRIDAY PAPER SESSIONS

<b>Friday, March 23 13:00—15:00</b>	
<b>Track A—Nanotechnology and Microelectronics</b>	<b>Salon G</b>
A Two-Color CMOS Optical Detection Circuit	Antonio Soares Reginald Perry
Development of TSMC 0.25 $\mu$ m Standard Cell Library	Jeannette Djigbenou Cheng Wei Ren Thien Van Nguyen Dong Ha
Current gain modeling of SiGe DHBTs in SPICE including retarding potential barrier effect	Gagan Khanduri Brishbhan Panwar
Base Doping Profile Optimization Including Carriers Velocity Saturation Effect	Gagan Khanduri Brishbhan Panwar
Simultaneous Optimization of Doping Profile and Ge-Dose in Base in SiGe HBTs	Gagan Khanduri Brishbhan Panwar
Response function from Induced Dipoles above 10 GHz	Paul Huray Fiyinfole Popoola Steven Pytel Richard Mellitz Daniel Hua Stephen Hall
<b>Track B—General Engineering and Industrial Applications</b>	<b>Salon D</b>
Interplay of Numerical Integration with Gradient Based Optimization Algorithms for Robust Design Optimization	Sean Kugele Michael Trosset Layne Watson
DC Regenerative Drive Use for Battery Charge/Discharge Cycling	John Edward Jenkins Harry Jenkins Tim Piekarski Michael Waller
Electric Methods of Force	Weston Johnson Arthur Radun
Fault-Induced Conductor Motion	John Bruce Daniel Ward
LDA- Visibility Technique for Circularly Polarized Backscattered Waves	Mary Fares Said Fares Carl Ventrice
Building Design Optimization Using Sequential Linear Programming	Rekha Bhowmik

## FRIDAY PAPER SESSIONS

<b>Friday, March 23 13:00—15:00</b>	
<b>Track C—Education, Technology and Globalization</b>	<b>Salon H</b>
Integrating Bioinformatics and Algorithm Design	Gerard Rambally
Development and Evaluation of an Educational Computer Network Software	Ehsan Sheybani Giti Javidi
Senior Capstone Design Experiences for ABET Accredited Undergraduate Electrical and Computer Engineering Education	Ashraf Saad
Evaluation Procedure of a Module-Based Approach for Undergraduate Information Retrieval Education	Lei Zhu Chun Tang
Web-Based Evaluation Process for an Engineering Department	John Ventura
Idea Mechanics: Utilizing Technology to Better Communicate Ideas A new protocol to express, compare and evaluate ideas so every person can understand them exactly as they were originally conceived	Guy Laor
<b>Track D—Engineering in Medicine and Biology</b>	<b>Salon C</b>
A Visualization Approach to Motif Discovery in DNA Sequences	Gerard Rambally
Characterization of Transformer harmonic behavior using Finite Element Analysis and Discrete Wavelet Transforms	Osama Mohammed Nagy Abed Shuo Liu
A Distributed Bioinformatics Computing System for Analysis of DNA Sequences	Rajita Kumar Arooshi Kumar Sanjuli Agarwal
Wireless Information System for Patient Health Care Management	Arooshi Kumar Rajita Kumar Sanjuli Agarwal
Computer-Based Physical Therapy: A Case Study on Four Post-Acute Stroke Patients	Felix Akinladejo
Correlation of Muscle Fatigue Indices between Intramuscular and Surface EMG Signals	Gyu Tae Kim Mohammad A. Ahad Mohammed Ferdjallah Gerald F. Harris

## FRIDAY PAPER SESSIONS

<i>Afternoon Break—Salons 1-3 15:00—15:20</i>	
Friday, March 23 15:20—17:00	
<b>Track A—Nanotechnology and Microelectronics</b>	<b>Salon G</b>
Optical-Output Power Degradation of AlGaIn-based deep-UV Light Emitting Diodes by Plasma Treatment	Muhammad Khizar Yasin M. Raja
Identification of Significant Process Parameters in Variable Frequency Microwave Curing	Daniel Cepeda Cleon Davis Gary May
CIGSeS/CIGS <sub>2</sub> Thin Film Solar Cell Research and Development at the Florida Solar Energy Center	Neelkanth Dhare Vinay Hadagali Sachin Kulkarni Shirish Pethe Parag Vasekar
Impact of Device Scaling and Material Composition on the Soft Error Rates in Avionic Systems	William Atkinson William Seidler
Fabrication and Characterization of Magnetostrictive Cantilever Beams for Magnetic Actuation	Chinwendu Enyioha Bethanie J Stadler Rajneeta Basantkumar
<b>Track B—Control Systems</b>	<b>Salon D</b>
Modeling and Simulation of Flexible Robot Manipulator with a Prismatic Joint	Hasanul Basher
The Role of Non-minimum Phase Zeros in Stability of Infinite Dimensional Systems	Wlibur Dale
Investigation of Mal-launch Correction in Spin-Stabilized Rockets	A. Anderson D. Bittle R. Dean G. Flowers J. Hester A. Hodel
Velocity Control for a Quad-Rotor UAV Fly-By-Camera Interface	Andrew Neff Dong Bin Lee Vilas Chitrakaran Darren Dawson Timothy Burg
Nonlinear Dynamic System Model of Bipolar Mood Disorder	Anand Mohan

## FRIDAY PAPER SESSIONS

<b>Friday, March 23 15:20—17:00</b>	
<b>Track C—Education, Technology and Globalization</b>	<b>Salon H</b>
Development and Evaluation of Visualization Techniques in a Computer Networking Course	Giti Javidi Ehsan Sheybani
A Survey of Digital Signal Processing Education	Jerry Zacharias James Conrad
A Stepper Motor and Serial Communication Interface Daughter Board for Educational Use	Venkat Dronamraju Gurunath Athalye James Conrad
Do Computer Science Department Websites Meet the Needs of Students?	E. Kent Palmer Jeremy A. Kent
Implementing a Outsourced Technology Infrastructure	AJ Burke
<b>Track D—Applications of Sensor Networks</b>	<b>Salon C</b>
Applications of Mobile Agents and Related Security Issues	Mohammed Ketel
Investigation of Routing Protocols in a Sensor Network Using Resource Based Models	Ramesh Praveenkumar Thomas Jannett
Time Varying Stochastic Channel Modeling of Wireless DS-CDMA Ad-hoc Networks Using Different Mobility Models	Abdullah Al Zaman Mohammed Ferdjallah Mohammad Ashraf Ali Khan
Vehicle Identification using Wireless Sensor Networks	Seung S. Yang Yoon G. Kim Hongsik Choi
Development of Ultra Miniature 1-French Sensors for Wireless Radial Arterial Pressure Monitoring	Usha Gowrishetty Kevin Walsh Huntly Millar

## SATURDAY PAPER SESSIONS

<b><i>Continental Breakfast—Salon F 06:00—08:00</i></b>	
<b>Saturday, March 24 08:00—10:00</b>	
<b>Track A—Intelligent Systems and Control</b>	<b>Salon G</b>
Comparison of Glider Routing Algorithms for Data Acquisition in Undersea Sensor Networks	Anand Rajendra Thomas Jannett
Wordlength Estimation of Digital Controller Synthesis for Inkjet Printer Mechanism	Hung-Ming Cheng Anoop Desai Jean-Claude Thomassian
Robot Navigation Using Sensors with Fuzzy Characteristics	Dennis Crump David Livingston
Nonlinear Control of Double Integrator Plant with Saturation	M. Anand Mohan
Vehicle Identifications Using Acoustic Sensing	Saleh Zein-Sabatto Richard H. Mgaya
Robust Fuzzy Controllers Using FPGAs	Gene Monroe
<b>Track B—Networks and Distributed Systems</b>	<b>Salon D</b>
An Architectural Framework for Data Link Layer Security with Security Inter-layering	Hayriye Altunbasak Henry Owen
Security Inter-layering for Evolving and Future Network Architectures	Hayriye Altunbasak Henry Owen
Stacking Functional Agents in Sensor Network Systems	Anish Anthony Thomas Jannett
A New Distributed Topology Discovery Technology For IPv6 Networks	Zhenshan Liu Junyong Luo Qingxian Wang
Implementation of Wireless-Fidelity (Wi-Fi) Instruments for Technologically Underdeveloped Regions of North Carolina	Maurice Hawood DeWayne Brown Derrek Dunn
Performance of distribution networks under VBR video traffic	Mehmet Ozdem Yusuf Murat Erten

## SATURDAY PAPER SESSIONS

<b>Saturday, March 24 08:00—10:00</b>	
<b>Track C—Communications and Information Systems</b>	<b>Salon H</b>
Factors that Impact Implementing an Agile Software Development Methodology	Jeff Livermore
Conveying Cell Relationships in a Reporting Environment	Roger L. Goodwin
A Temporal Compatible Object Relational Database System	Thi Ngoc Chau Vo Suphamit Chittayasothorn
Attenuation of the Electromagnetic Waves Due to Moist Snow and Wet Snow	Mary Fares Said Fares Carl Ventrice
A Space-Time Block Coding System with Backward Compatibility for OFDM-Based WLANs	Jianhua Liu Jian Li
FPGA based Real Time Solution for Sensitivity Time Control	Meena D LGM Prakasam
<b>Track D—Computing and Real-Time Systems</b>	<b>Salon C</b>
The Validation Process and Component Analysis of Enterprise Integration	Raymond Wu
Micro Process Design and Services Virtualization in Enterprise Integration	Raymond Wu
Designing a pH Data Acquisition and Logging Device using an Inexpensive Microcontroller	Chaitanya Misal James Conrad
Electric Utility Migration To Regional Transmission Operations: A Case Study	James Greene
A New Frontier for Real-Time Systems - Lessons From Molecular Biology	Nevena Ackovska Stevo Bozinovski Gjorgji Jovancevski
Software Safety Risk in Legacy Safety-Critical Computer Systems	Janice Hill Rhoda Baggs

## SATURDAY PAPER SESSIONS

<b><i>Morning Break—Salons 1-3 10:00—10:20</i></b>	
<b>Saturday, March 24 10:20—12:00</b>	
<b>Track A—Circuits and Devices</b>	<b>Salon G</b>
Reduced Current Class AB Radio Receiver Stage Using Novel Superlinear Transistors with Parallel NMOS and PMOS Transistors at One GHz	Don Lieu Thomas Weldon
Coping with Process Variations in Ultra-low power CMOS Analog Integrated Circuits	Zheng Wang Huseyin S. Savci James D. Griggs Numan S. Dogan Ercument Arvas
High Brightness Field Emission from Carbon Nanosheets and Back-gated Devices	Mingyao Zhu Xin Zhao R. A. Outlaw Kun Hou Peter Miraldo Dennis M. Manos
1st Order Modeling of a SAW Delay Line using MathCAD	William Wilson Gary Atkinson
New Technique of One and Simultaneous Two Open-Switches Fault Automation Detection and Location in Two Level Three Phase Voltage Inverter	T Benslimane B Chetate
<b>Track B—Networks and Distributed Systems</b>	<b>Salon D</b>
Parallel Mining Of Association Rules Using a Lattice Based Approach	Wessel Thomas
Enhancement of IFTP for Transmission over Wireless Access Networks	Hala El Aarag Chris Hogg
Distributed Construction of Planar Graph for Position-based Routing in Ad Hoc Wireless Networks	Rashid Bin Muhammad
A Highly Scalable Model for Network Attack Identification and Path Prediction	Sanjeeb Nanda Narsingh Deo
Design Aspects of a Hybrid Community LAN Environment	Rathika Rajaravivarma Krzysztof Lasek

## SATURDAY PAPER SESSIONS

<b>Saturday, March 24 10:20—12:00</b>	
<b>Track C—Communications and Information Systems</b>	<b>Salon H</b>
Suitability of the Amazon Rain Forest as an On-Orbit Radiometric Calibration Target	Suleiman Alswess W. Linwood Jones
PUC to J2ME Interface Generator	Terri Howard Phillip Bradford
A Novel 4G MAC Protocol Guaranteeing the Highest QoS and Capacity in CBR Communications Networks by Optimally Reducing Contention Mini-Slot Collisions	Ahmed Kamal
Using XML as a Questionnaire Specification Language	Albert Bethke
An Intelligent Multimedia Traffic Classifier with Security Applications	Oge Marques Alvaro Fonesca Liam Mayron
<b>Track D—Applications</b>	<b>Salon C</b>
Web Application Clusters	Veeramuthu Rajaravivarma G. T. Bellarmine
Evaluation of Java 1.5 Network API for Use in Peer-to-Peer and Client-Server Applications	Mark Pendergast
Infrared (IR) Wireless Communication for Application in Mobile Robots	Kuldeep Rawat Jason Spruill Morris Beasley Thomas Jones
FPGA based Digital Beam Forming for Radars	Taniza Roy Meena D LGM Prakasam
Evolution of 60-Hz Magnetic Field Computer Monitor Susceptibility in the Past Decade	Iilir Mulla Vichate Ungvichian Yves-Thierry Jean-Charles

# SATURDAY PAPER SESSIONS

<b><i>Lunch—Salon F 12:00—13:00</i></b>	
<b>Saturday, March 24 13:00—15:00</b>	
<b>Track A—Engineering in Medicine and Biology</b>	<b>Salon G</b>
Telemammography Across an Ad-Hoc Network	Ehsan Sheybani Giti Javidi
Muscle Fatigue Analysis in Young Adults at Different MVC Levels Using EMG Metrics	Abdullah Al Zaman Mohammed Ferdjallah Mohammad Ashraf Ali Khan
Systems Engineering Challenges in Biofabrication	Timothy Burg Richard Groff Karen Burg Thomas Boland
Effect of Change in Pole Shape Design on Harmonic Contents of PM Synchronous Motor Air Gap Flux Density Waveform	Osama Mohammed Shreerang Ganu Nagy Abed
Out-of-plane Micro-Needle Arrays using Silicon Micromachining	Hiren Trada Kevin Walsh Alex Isham Scott Cambron
Polygraph Realization for Data Visualization and Analysis	Herman Watson Malcolm Heimer Jean Andrian Armando Barreto
<b>Track B—Networks and Distributed Systems</b>	<b>Salon D</b>
Localized Performance-Guided Reconfiguration for Distributed Sensor Networks	Parag Joshi Thomas Jannett
Implementing Distributed Internet Security using a Firewall Collaboration Framework	Lane Thames Randal Abler
The Invisible Node Attack Revisited	Todd Andel Alec Yasinsac
Real-Time Audio Transceiver Utilizing 802.11b Wireless Technology	Daniel Jakubisin Casey Roberts Marshall Davis Ivan Howitt
Survey on Coverage Problems in Wireless Ad Hoc Sensor Networks	Jie Chen
A Novel Design of FireWire to Ethernet Bridge	Omar Elkeelany

## SATURDAY PAPER SESSIONS

<b>Saturday, March 24 13:00—15:00</b>	
<b>Track C—Communications and Information Systems</b>	<b>Salon H</b>
Symmetric Key Insecurity In Bluetooth Communication	Pushpa Suri Sona Rani
Securing Wireless Geo-Location Services	Yu-Xi Lim Henry Own
Demodulator Design for Collaborative Signal Reinforcement in Sensor Networks	Todd Fleming Peter Athanas
Performance analysis of ad-hoc networks under black hole attacks	Semih Dokurer Yusuf Erten Can Acar
AJAX Application Server Performance	Clinton Smullen Stephanie Smullen
Proposed Autonomous Navigation using Hybrid Systems & Stochastic Estimation	Chad Andrade Clayon Harrison Phillip Beharie
<b>Track D—Computing and Real-Time Systems</b>	<b>Salon C</b>
Semantic metadata in enterprise integration	Raymond Wu
An Embedded Linux Platform to Collect, Analyze and Store Critical Data for the Navigation of an Autonomous Vehicle	Sonia Thakur James Conrad
Case study of component based integration in the industry	Raymond Wu
Data Logging Solution for Digital Signal Processors	Brian Newberry James Conrad
A Wireless Surface Electromyography System	Esther Hughes Aleeta Bell
Champion-Challenger Based Predictive Model Selection	Shyam Varan Nath

## SATURDAY PAPER SESSIONS

<i><b>Afternoon Break—Salons 1-3 15:00—15:20</b></i>	
<b>Saturday, March 24 15:20—17:00</b>	
<b>Track A—Circuits and Devices</b>	<b>Salon G</b>
Study on the Simulating for Universal Serial Bus 2.0 IP Core Circuit System	Bai Xiaoping Wei Yuanfeng
Automated Test Stand for HEV Capacitor Testing	Gary Armstrong
Case Study: Integrated Design of RC5 Encryption	Omar Elkeelany Adegoke Olabisi
A High-Speed Impedance Controlled Output Driver using Pre-Drive Control for Standard CMOS Technology	Brian Butka
Wavelet-Based Differential Nonlinearity Testing of Mixed Signal System ADCs	Cajetan Akujuobi Emad Awada Matthew Sadiku Warsame Ali
<b>Track B—Networks and Distributed Systems</b>	<b>Salon D</b>
Design Considerations for a Wireless Sensor Network for Locating Parking Spaces	Vamsee Boda Asis Nasipuri Ivan Howitt
Watchtower Service Oriented Sensor Web Framework for Educational and Academic Purposes	Marshall Huss Eric Pasch Anton Riedl
Secure Multicast in Various Scenarios of WirelessMAN	Sen Xu C.-T. Huang Manton Matthews
Signs of Recovery in the Optical Networking Arena	Tarek El-Bawab
Bluetooth Network-The Adhoc Network Concept	Pushpa Suri Sona Rani

## SATURDAY PAPER SESSIONS

<b>Saturday, March 24 15:20—17:00</b>	
<b>Track C—Communications and Information Systems</b>	<b>Salon H</b>
WiMAX: A Key to Bridging the Digital Divide	Bwanga Mbula Ajay Tumula Abdulrahaman Yarali
A PHLIPS-Based Expert System for Genealogy Search	Huiqing Yang Donald Forrester Christal Harris
The Best Novel 4G Contention-Resolution Protocol Guaranteeing High QoS and Capacity in CBR Communications Networks by Maximal Sequential Partitioning to Optimally Resolve Contention Mini-Slot Collisions	Ahmed Kamal
Use of Fixed Device Address During Connection Establishment	Pushpa Suri Sona Rani
A Method for the Construction of Fixed and Variable Length Matrix Communication Code with Variable Redundancy: An Extension	Dibakar Pal
<b>Track D—Communications Theory</b>	<b>Salon C</b>
HF Communications Analysis for Varying Solar and Seasonal Conditions	Guillermo Gonzalez Rafik Hanna Liang Hong W. Linwood Jones
ML Decoding for Convolutional Code for Short Codeword of Short Constraint Length and Alternate Use of Block Code	Abdullah Al Zaman Mohammad Ashraf Ali Khan Sabera Sultana S. M. Toahidul Islam
Empirical Study of IEEE 802.15.4 Mutual Interference Issues	Kalyan Pathapati Subbu Dr. Ivan L. Howitt
Dynamic Spectrum Allocation in Cognitive Radio Using Hidden Markov Models: Poisson Distributed Case	Ihsan Akbar
Order Estimation of Binary Hidden Markov Wireless Channel Models in Rayleigh Fading	Ihsan Akbar

## SUNDAY PAPER SESSIONS

<b><i>Breakfast Buffet—Salon F 06:00—08:00</i></b>	
<b>Sunday, March 25 08:00—10:00</b>	
<b>Track A—Engineering Systems</b>	<b>Salon G</b>
New Fault Location Approach Using Voltage Measurements	Yuan Liao
The Layer Theory Approach Applied to Induction Heating Systems with Rotational Symmetry	Laith j. Bunni Karim Altaii
Interdisciplinary Design of a Near Space Vehicle	Michael Marcel John Baker
Comparison of Approximate Formulas for the Capacitance of Microstrip Line	Matthew Sadiku Sarhan Musa Sudarshan Nelatury
Characterization of Printer Banding in Regions of Complex Image Content	Nathir Rawashdeh Oscar Martinez Myriam Quiroga Kevin Donohue
Robust Fuzzy Controllers Using FPGAs	Gene Monroe
<b>Track B—Image and Signal Processing</b>	<b>Salon D</b>
Fuzzy Sectorization in Knowledge Discovery of Digital Mammograms	Rahman Tashakkori Adam Reagan
Removal of Image Segmentation Boundary Errors Using an N-ARY Operator	Thomas Weldon
An Image Quality Motivated Complex Content Classifier	Nathir Rawashdeh Shaun Love Kevin Donohue
Exploiting Typical Clinical Imaging Constraints for 3D Outer Bone Surface Segmentation	Chris Mack Vishali Mogallapu Andrew Willis Thomas Weldon
Selected Application of LPLE in Speech Processing	Norelli Schettini Ravi Sankar
Broadband Signal Reconstruction of Gapped Data Using the Kim Extrapolation Technique	Brant Garner

## SUNDAY PAPER SESSIONS

<b>Sunday, March 24 08:00—10:00</b>	
<b>Track C—Estimation and Filtering</b>	<b>Salon H</b>
Gaussian Particle Filtering for Maneuvering Targets	Tadesse Ghirmai
RIPPLE - Residual Initiated Polynomial-time Piecewise Linear Estimation	Manjula Iyer Layne Watson
State Estimation Algorithm Considering Effects Of Model Inaccuracies	Yuan Liao
Interpolation Techniques for Fitting Equations into Design Data (Points)	David Eromon
Establishing Trust in Black-Box Programs	Ying Xia Kevin Fairbanks Henry Owen
Audio Signal Delay Estimation Using Partial Whitening	Kevin Donohue Alvin Agrinoni Jens Hannemann
<b>Track D—Applications</b>	<b>Salon C</b>
Pitch Conversion Based on Pitch Mark Mapping	Srikanth Mangayyagari Ravi Sankar
Enhanced Speaker Recognition Based on Score Level Fusion of AHS and HMM	Tanmoy Islam Srikanth Mangayyagari Ravi Sankar
Low Complexity Image Authentication for Mobile Applications	W Adi A Dawood A Mabrouk S.M. Musa
3-D Real-time Database	Will Meilander
Arithmetic Cryptography Protocol for Secure Multi-party Computation	Durgesh Kumar Mishra Manohar Chandwani
Circularization, Collimation and Expansion of Elliptical Laser Beams for LIDAR Systems	Mert Serkan Hulya Kirkici

# SUNDAY PAPER SESSIONS

<b>Sunday, March 25 10:20—12:00</b>	
<b>Track A—Systems Design and Analysis</b>	<b>Salon G</b>
Feature Generation Using the Laplacian Operator with Neumann Boundary	Mohamed Khabou
Demonstration of a High-Resolution Optical Interrogation Method for Sampled Fiber Bragg Sensor	Joshua Winebarger Gregory Tait
Monte Carlo Analysis of Time-dependent Cylindrical Problems	Matthew Sadiku
Synthesis and Characterization of Silicon Carbide (SiC) Microstructures	E. Thymour Legba D. Patrick Hunley Nikki Olida Ingrid St. Omer
Methodology and Design Challenges for Low Power Implementation at sub 90nm	Bodhisatya Sarker Vineet Sreekumar
<b>Track B—Software Systems</b>	<b>Salon D</b>
Software Development and Related Security Issues	Jeff Zadeh
Quick and Easy Binary to dB Conversion	George Weistroffer Jerry Tucker
Research on Aspect Connector for Software Architecture Adaptation	Jingjun Zhang Hui Li Yang Zhang
Effects of Multiple-Bit Shift-Right Operations on Complex Binary Numbers	Tariq Jamil Usman Ali
A New Paradigm For Real-Time DB Management	Will Meilander
<b>Track C—Power Systems</b>	<b>Salon H</b>
Three level back-to-back HVDC based on H-bridge converter	Siriya Skolthanarat
A High Speed Dynamic Power Supply Current Sensor	Johnny Roberts Adam Eastridge David Binkley Scott Thomas Rafic Makki
Test Facility for a Hybrid Fuel Cell Electric Vehicle	Michael Marcel Timothy Haskew Keith Williams
Polling the Smart Battery for Efficiency: Lifetime Optimization in Battery-Sensing Intrusion Protection Systems	Timothy Buennemeyer Theresa Nelson Randy Marchany Joseph Tront
Design & Economic Analysis of the Hybrid Wind PV Fuel cell Power System	Mohammad Saad Alam