

2008 IEEE International Conference on Electro/Information Technology



May 18-20, 2008
Ames, Iowa

Program Schedule

SUNDAY, MAY 18

12-2 P.M. ROOM 171

Student Research Session

Coordinator: Anu Gokhale, Illinois State University

12-7:30 P.M. ROOM 179

Industry Exhibits

2-3 P.M. ROOM 167

Professional Track 1: Leadership Skills

Speaker: Tarek Lahdhiri, Engineering Specialist and Program Manager, General Motors

3-3:30 P.M.

Break

3:30-5 P.M. ROOM 171

IEEE Student Branch Counselors Meeting

Chair: Anu Gokhale, Illinois State University

3:30-6 P.M. ROOM 167

Professional Track 2: Student Career Counseling

Professional Development

Speaker: James Gregory, Senior Engineering Manager, Rockwell Collins

Resume and Job Interviews

Speaker: Tarek Lahdhiri, Engineering Specialist and Program Manager, General Motors

6-7:30 P.M. 1st FL LOBBY

Reception

MONDAY, MAY 19

7-8 A.M. LOUNGE 182

Breakfast

8-10 A.M. ROOM 167

Opening & Plenary Talks (Session Chair: Arun K. Somani, Iowa State University)

Opening Remarks

Speaker: Prof. Arun K. Somani, Iowa State University, EIT 2008 Conference Chair

Digital Identity Management and Protection

Speaker: Prof. Elisa Bertino, Purdue University

Advancing the Biological Realism of Neural Networks

Speaker: Prof. Hojjat Adeli, The Ohio State University

10-10:30 A.M. LOUNGE 182

Break

10:30 A.M.-5 P.M. ROOM 179

Industry Exhibits

10:30 A.M.-12 P.M. VARIOUS LOCATIONS

Oral Presentations

Session A: Cyber Infrastructure I/Embedded Systems (Session Chair: G. Manimaran, Iowa State University)

ROOM 167

Relating Boolean Gate Truth Tables to One-Way Functions, G. Mahadevan, Princeton University; A. Tyagi, Iowa State University

Experiments in Attacking FPGA-based Embedded Systems Using Differential Power Analysis, S. Song, J. Zambreno, Iowa State University

Developing System-on-Chips with Moore, Amdahal, Pareto, and Ohm, D. Jensen, Rockwell Collins

Architectural Support for Securing Application Data in Embedded Systems, O. Gelbart, E. Leonite, B. Narahari, R. Simha, George Washington University

FPGA-based Design of a Novel Enhanced Error Detection and Correction Technique, A. Wang, N. Kaabouch, University of North Dakota

Session B: Distributed Decision Making/Intelligent Systems (Session Chair: Sam Ellis, IBM)

ROOM 171

Some Practical Issues on Implementing Distributed Multi-agent Reasoning Systems, Abdunnaser Diaf, University of Windsor, Canada; Nasser Noroozi, Lakehead University, Canada

An Application of Networked Embedded Computer Systems to Provide Distributed Decision Making for Intelligent Logistics, R. Diaz, DSI Corp.

Euclidean ARTMAP-based Target Tracking Control System, Riyadh Kenaya, Lawrence Tech University; Ka C. Cheok, Oakland University

Lyapunov Measure and Control of Complex Dynamics, A. Diwadkar, U. Vaidya, Iowa State University; A. Raghunathan, United Technologies Research Center

Fully Automated Commando Training System, P. Sudhakara Rao, A. Narmada, VNR Vignana Jyothi Institute of Engineering and Technology, India

Session C: Renewable Energy (Session Chair: Sudip K. Mazumder, University of Illinois at Chicago)

ROOM 175

PEM Fuel Cell System Identification and Model Order Reduction for H^∞ Loop Shaping Controller Design, Shady M. Elashhab, Mohammed A. Zohdy, Oakland University

Multistage Stochastic Hydrothermal Scheduling, Tarik Aouam, Akhawayn University; Zuwei Yu, Purdue University

An Optimal Load Shedding Scheme Using GA- and PSO-based Algorithms with Application of AHP Method, Behzad Farhangi Rad, Mehrdad Abedi, Amirkabir University of Technology, Iran

A General Benders Decomposition Structure for Power System Decision Problems, Yuan Li, J. McCalley, Iowa State University

12-1 P.M.LOUNGE 182

Lunch

Knowledge Management for the New World of Business

Speaker: Prof. Madjid Fathi, University of Siegen Hoelderlinstr, Germany

1-2:30 P.M. VARIOUS LOCATIONS

Oral Presentations

Session A: Cyber Infrastructure I/Security (Session Chair: Joseph Zambreno, Iowa State University)

ROOM 167

A Minimum-Velocity-Based Segmentation Scheme for Improved Performance of an Online Signature Verification System, Tarig A. Osman, Mohan Krishnan, Mark J. Paulik, University of Detroit

Toward a Forensic-aware File System, Ryan Q. Hankins, Jigang Liu, Metropolitan State University

A Multimedia-Content Authentication and Recovery Protocol in Peer-to-Peer Networks, Sufyan Ababneh, Ashfaq Khokhar, Rashid Ansari, University of Illinois at Chicago

Defending Selective Forwarding Attacks in WMNs, Devu Manikantan Shila, Tricha Anjali, Illinois Institute of Technology

Simulation of a Cyclic Multicast Proxy Server, Olatunde O. Abiona, Tricha Anjali, Illinois Institute of Technology; Lawrence O. Kehinde, Texas Southern University

Image Encryption Scheme Based on Using Least Square Approximation Techniques, Mahmood Al-khassaweneh, Yarmouck University; Selin Aviyente, Michigan State University (not presented)

Session B: Solid State Technology/RFIC (Session Chair: Stanley Burns, University of Minnesota)

ROOM 171

Attempts at Gauge Determination in Superconducting Transmission Lines, R. Gerdes, M. Mina, Iowa State University

On-Chip At-Speed Linearity Testing of High-Resolution High-Speed DACs Using DDEM ADCS with Dithering, Hanqing Xing, Degang Chen, Randall L. Geiger, Iowa State University

Use of Local Biasing in Designing Analog Integrated Circuits, Reza Hashemian, Northern Illinois University

An Overview and Behavioral Modelling of Higher Order Multi-Bit Sigma Delta A/D Converters, Vaibhav Kumar, Degang Chen, Iowa State University

A Simple 4 Quadrant NMOS Analog Multiplier with Input Range Equal to $\pm V_{DD}$ and Very Low THD, Soman Purushothaman, AMD India Design Center

Session C: Education/Miscellaneous (Session Chair: Hossein Mousavinezhad, Idaho State University)

ROOM 175

Integrating Electronics in Computer Science Under Curricula Constraints: A Comparative Study, Hassan Farhat, University of Nebraska at Omaha

Reprogrammable High-Speed Platform: Bridging the Gap Between Research, Education, and Engineering, Jin-Wei Tioh, Rashmi Bahuguna, Nathan VanderHorn, Mani Mina, Robert J. Weber, Arun K. Somani, Iowa State University

Fiber-based Measurements of Domain Characteristics in Bismuth Substituted Iron Garnets, Sasha Kemmet, Greg Bonnett, Mani Mina, Robert J. Weber, Iowa State University

Performance Evaluation of Composite Insulators in Pollution Conditions in Iran, A. Hooshmand Khooy, M.R. Shariati, M.T. Hassanzadeh, M. Oskuoee, Niroo Research Institute, Iran

A New Frequency-Dependent-Model for Cables, C. Rodriguez, Purdue University; R.M. Tallam, R.J. Kerkman, Rockwell Automation

2:30-3 P.M. LOUNGE 182

Break

3-5 P.M. VARIOUS LOCATIONS

Tutorials (Choose One)

Recent Progress in Carbon-based Nanomaterials in Electronic Devices

Speaker: Prof. A.H. Jayatissa, University of Toledo

ROOM 167

High-Performance Inverters for Alternative Energy Systems

Speaker: Prof. Sudip K. Mazumder, University of Illinois at Chicago

ROOM 171

Secure Enabled Systems

Speaker: Dr. G. Mahadevan, Princeton University

ROOM 175

5-6:30 P.M. 1st FL LOBBY

Poster Session (Session Chairs: Degang Chen, Akhilesh Tyagi, Iowa State University)

Wind Power & Transmission: A Bridge to Energy Security Part I – The Model, Zuwei Yu, Purdue University

Wind Power & Transmission: A Bridge to Energy Security: Part II – Case Studies, Zuwei Yu, Purdue University

An Inexpensive Microelectronic Environmental Test Chamber, Jacob D. Sloat, Randall L. Geiger, Iowa State University

Photocurrent Enhancement of Nanocrystalline Zinc Oxide Films Using Low-cost Dyes, Ahalapitiya H. Jayatissa, University of Toledo

Simulation of a New Maximum Power Point Tracking Technique of Multiple Photovoltaic Arrays, Ali M. Bazzi, University of Illinois at Urbana-Champaign; Sami H. Karaki, American University of Beirut, Lebanon

Designing a 5th Order Median Filter with Systolic Array Implementation, T. Bhatti, National University of Science and Technology, Pakistan

Modification of Power System Linearization at the Operating Point to Improve the Stability in Power Systems Including Wind Parks, Carlos Gallardo, Pablo Ledesma, Universidad Carlos III de Madrid, Spain

Solving a Hydrothermal Security Constrained Unit Commitment with Restricted Operating Zone Limits, Hossein Daneshi, Azim Lotfjou Choobbari, Mohammad Shahidehpour, Zuyi Li, Illinois Institute of Technology, Chicago

Using Modified Z-transforms to Model the Step Response of the Peak Current-mode Controlled Buck Converter, Erik Mayer, Bowling Green State University

EM-based Distributed Estimation in Cluttered Environments, Dianhui Xu, Yingwei Yao, University of Illinois at Chicago

GIS-based Wind Farm Site Selection in Lebanon, Ali M. Bazzi, University of Illinois at Urbana-Champaign; Dima A. Fares, American University of Beirut, Lebanon

Network Localization Using Angle of Arrival, Yanping Zhu, Daqing Huang, Nanjing University of Aeronautics and Astronautics, China; Aimin Jiang, University of Windsor, Canada

A Fuzzy Logic Based Adaptive Thresholding Algorithm for Bioinformatics Problems, Ankit Agrawal, Iowa State University; Ankush Mittal, Rahul Jain, Raghav Takkar, Indian Institute of Technology, Roorkee

A New Heuristic for Multiple Sequence Alignment, Ankit Agrawal, Iowa State University

Automatic Techniques for Gridding cDNA Microarray Images, Naima Kaabouch,
University of North Dakota

Key Management in Vehicular Ad-Hoc Networks (VANETs), Christopher Langley, Raul Lucas,
Huirong Fu, Oakland University

Handheld Data Protection Using Handheld Usage Pattern Identification, Wen-Chen Hu, Yanjun
Zuo, Lei Chen, Tom Wiggen, University of North Dakota

Enhancing Malware Detection in an IM Environment, Yectli Adolfo Huerta, Jigang Liu,
Metropolitan State University

*An Efficient Test-Data Compaction for an Efficient Test-Data Compaction for Low-Power VLSI
Testing*, Po-Han Wu, Tsung-Tang Chen, Wei-Lin Li, Jiann-Chyi Rau, Tamkang University, Taiwan

Proxy Server Experiment and the Changing Nature of the Web, Olatunde O. Abiona, Tricha
Anjali, Illinois Institute of Technology; Clement E. Onime, Abdus Salam International Centre for
Theoretical Physics, Italy; Lawrence O. Kehinde, Obafemi Awolowo University, Nigeria

Hierarchical Plug-and-Play Self-Diagnosable Intelligent Sensor Networks for Process Control,
Bharat Joshi, University of North Carolina-Charlotte; Tyrone Vincent, Colorado School of Mines;
Jinran Chen, Arun K. Somani, Iowa State University; Nicholas Gomez, ITN Energy Systems

Improving Direction-Giving Through Utilization of an RFID-Enabled Kiosk, Andy Luse,
Anthony M. Townsend, Iowa State University

Impact of SOFPGA IP Router Architecture on Link Bandwidth, N. Alaraje, Guy Hembroff,
Michigan Technological University

Meeting Real-Time Requirements for a Low Bitrate Multimedia Encoding Framework,
Amit Pande, Iowa State University; Ankush Mittal, Praveen Kumar, Indian Institute of Technology,
Roorkee; Amit Verma, Symantec

Scalable Multimedia-Content Integrity Verification with Robust Hashing, Sufyan Ababneh,
Rashid Ansari, Ashfaq Khokhar, University of Illinois at Chicago

An Empirical Feasibility Study of 4G's Key Technologies, Jivesh Govil, University of Michigan;
Jivika Govil, Maharshi Dayanand University, India

English-Malayalam Cross-Lingual Information Retrieval: An Experience, Nikeshe P.L., Sumam
Mary Idicula, David Peter S., Cochin University of Science & Technology, India

Orthogonal Coding and Iterative Decoding Improves Coding Gain, Saleh Faruque, University of
North Dakota

Traffic Engineering for Multirate Wireless Data, Saleh Faruque, University of North Dakota

7-9 P.M. GATEWAY CONFERENCE CENTER
Banquet

TUESDAY, MAY 20

7-8 A.M. LOUNGE 182
Breakfast

8 A.M.-5 P.M. ROOM 179
Industry Exhibits

8-10 A.M. ROOM 167
Plenary Talks: Industrial Session (Session Chair: Vikram L. Dalal, Iowa State University)
New Directions in Semiconductor Memories
Speaker: Dr. Linda Somerville, R&D Director of Process Engineering, Micron Technology

Active Learning & Experimental Research with System-Level Graphical Design
Speaker: Igor Alvarado, Academic Business Development Manager, National Instruments

Information Assurance at Rockwell Collins
Speaker: Philip Jasper, Vice President and General Manager, Mobility and Rotary Wing Solutions, Rockwell Collins

10-10:30 A.M. LOUNGE 182
Break

10:30 A.M.-12 P.M. VARIOUS LOCATIONS
Oral Presentations
Session A: Solid State Technology/RFIC & Electronics (Session Chair: Robert J. Weber, Iowa State University)

ROOM 167

A Heterogeneous Reconfigurable Baseband Architecture for Wireless LAN Transceivers, Wenqing Lu, Shuang Zhao, Chao Lu, Xiaofang Zhou, Fudan University, China; Gerald E. Sobelman, University of Minnesota

Vapor HF Sacrificial Etching for Phosphorus Doped Polycrystalline Silicon Membrane Structures, Haibo Cao, Robert J. Weber, Iowa State University

Charged-based MOS Transistor Modeling in Weak Inversion, Tamkeen M. Bhatti, National University of Science and Technology, Pakistan

Biochemical Sensing of Charged Polyelectrolytes with a Novel CMOS Floating-gate Device Architecture, Baozhen Chen, Chengwu Tao, Sumarlin William, Santosh Pandey, Iowa State University

Session B: Distributed Decision Making/Signal Processing (Session Chair: Degang Chen, Iowa State University)

ROOM 171

Architecture of an ATCS Network Simulator, Paul Vincent Craven, Simpson College

Covariance Expressions for Implicit Estimators of Kinetic Parameters with Dynamic PET, Fatih Pektas, Imam Samil Yetik, Illinois Institute of Technology

Optimization of Ancillary Services for System Security: Sequential vs. Simultaneous LMP Calculation, Siddhartha Kumar Khaitan, Yuan Li, Chen-Ching Liu, Iowa State University

Design and Analysis of Efficient Reconfigurable Wavelet Filters, Amit Pande, J. Zambreno, Iowa State University

Delay Analysis in Message Ferrying System, Taha A. Khalaf, Sang Wu Kim, Iowa State University

Session C: Cyber Infrastructure/Robotics & Software (Session Chair: Naima Kaabouth, North Dakota State University)

ROOM 175

Development of a Car-like Online Navigation Test-bed, Kito Berg-Taylor, Keehong Seo, Soon-Jo Chung, Iowa State University

Mono-Vision Corner SLAM for Indoor Navigation, Koray Celik, Soon-Jo Chung, Arun K. Somani, Iowa State University

Fault-Tolerant Wearable Computing Systems Architecture for Self-Health Management, Reshmi Mitra, Bharat Joshi, Arindam Mukherjee, University of North Carolina-Charlotte

Globally Distributed Software Development Using an Immersive Virtual Environment, Redge Bartholomew, Rockwell Collins

Application Driven Software for Chemistry, Donald Ephraim Curtis, Teodor Rus, University of Iowa; Jan Jensen, University of Copenhagen, Denmark

12-1 P.M. STAGE DOOR LOUNGE 190

Lunch

Technological Solutions for the Energy Crisis

Speaker: Prof. Vikram L. Dalal, Iowa State University

1-2:30 P.M. VARIOUS LOCATIONS

Oral Presentations

Session A: Solid State Technology (Session Chair: Jaeyoun Kim, Iowa State University)

ROOM 167

Changes in DC Current Dias as a Function of Input Drive for a Depletion Mode SiC MESFET, Saalini V. Sekar, Haibo Cao, Robert J. Weber, Iowa State University

Multiwalled Carbon Nanotubes-based Hydrogen Gas Sensors, Ahalapitiya H. Jayatissa, K. Guo, University of Toledo

Photon Tunneling and Mode Selection Due to the Absorptive Layers, Wei Li, University of Wisconsin-Platteville; S.M. Sadeghi, University of Alabama at Huntsville; Anthony E. Gregerson, University of Wisconsin-Madison

Superlattice Structures for Nanocrystalline Silicon Solar Cells, Atul Madhavan, Vikram L. Dalal, Max A. Noack, Iowa State University

Compact Thermal Network Model: Realization and Reduction, Shriram Krishnamoorthy, Masud H. Chowdhury, University of Illinois at Chicago

Session B: Power Economics & Electronics (Session Chair: Venkataramana Ajarapu, Iowa State University)

ROOM 171

Long-Term Load Forecasting in Electricity Market, Hossein Daneshi, Mohammad Shahidehpour, Illinois Institute of Technology

Integration-Duty Cycle Conversion as Novel Digital Algorithm, Mahmoud Shaker, Imadeddin Abdalla Abdalla, University of Garyounis, Libya

Single-stage Low-cost and Energy-efficient Isolated Phased-shifted High-frequency Cycloconverter for Universal Residential Fuel Cell Power System, S.K. Mazumder, R.K. Burra, R. Huang, K. Acharya, M. Tahir, University of Illinois at Chicago

Microcrystalline Silicon-Germanium Solar Cells Fabricated Using VHF PECVD, Satya Saripalli, Vikram L. Dalal, Iowa State University

Session C: Distributed Decision Making/Signal Processing & Computation (Session Chair: Bahart Joshi, University of North Carolina-Charlotte)

ROOM 175

A Unified Backward Approach to the Code Book Design Problem, Taisir Eldos, Rasha Omari, Jordan University of Science and Technology, Jordan

Real Time Implementation of Adaptive Noise Cancellation, Gaurav Saxena, Subramaniam Ganesan, Manohar Das, Oakland University

Computation of Voronoi Diagrams Using a Graphics Processing Unit, Igor Majdandzic, Christian Treftz, Greg Wolffe, Grand Valley State University

Instrument Sound Separation in Songs, Khalid Youssef, Peng-Yung Woo, Northern Illinois University

2:30-3 P.M. LOUNGE 182

Break

3-4:10 P.M. VARIOUS LOCATIONS

Oral Presentations

Session A: Bioengineering (Session Chair: Santosh Pandey, Iowa State University)

ROOM 167

DNA_{light}TT: Pairwise DNA Alignment with Sequence Specific Transition-Transversion Ratio, Ankit Agrawal, Xiaohu Huang, Iowa State University

A Multiagent Multicellular Systems Biology Model of Trichoplax Adhaerens, Karl Altenburg, Karthik Namasivayam, North Dakota State University

An Integrated System for Therapy Planning of High Intensity Focused Ultrasound, Tao Long, Viren R. Amin, Liangshou Wu, Ronald Roberts, Scott McClure, R.B. Thompson, Iowa State University

Retinal Oxygen Tension Estimation in Phosphorescence Lifetime Images Using Regularized Least Squares, Isa Yildirim, Rashid Ansari, Justin Wanek, I. Samil Yetik, Mahnaz Shahidi, University of Illinois at Chicago

Session B: Cyber Infrastructure/Software (Session Chair: David Jensen, Rockwell Collins)

ROOM 171

Module Prototype for Online Failure Prediction for the IBM Blue Gene/L, Lizandro D. Solano-Quinde, Brett M. Bode, Iowa State University

Requirements Engineering Methodologies for COTS Systems, Roger Finnegan, Capella University

Method of Comparing Graph Differencing Algorithms for Software Differencing, Jason Stanek, Suraj Kothari, Kang Gui, Iowa State University

Taming XML: Objects First, Then Markup, Matt Bone, Peter F. Nabicht, Konstantin Laufer, George K. Thiruvathukal, Loyola University

Session C: Distributed Decision Making/Communications (Session Chair: Howard Liu, Motorola Mobile Devices)

ROOM 175

BER Performance Comparison Between CDMA and UWB for RF/Wireless Interconnect Application, Md. Sajjad Rahaman, Masud H. Chowdhury, University of Illinois at Chicago

Measuring the Performance of IEEE 802.11p Using ns-2 Simulator for Vehicular Networks, Todd Murray, Tammy Murray, Michael Cojocari, Huirong Fu, Oakland University

Collaboration Framework for Data Compensation in Sensor Networks, Pierre F. Tiako, Langston University; Le Gruenwald, University of Oklahoma

Combined Nulling-Canceling and Maximum-Likelihood Detection for Multiple Antenna Communication, Peng Yu, Zhengdao Wang, Iowa State University

4:15-4:30 P.M. GROUND FL LOBBY

Travel to Virtual Reality Applications Center, Howe Hall

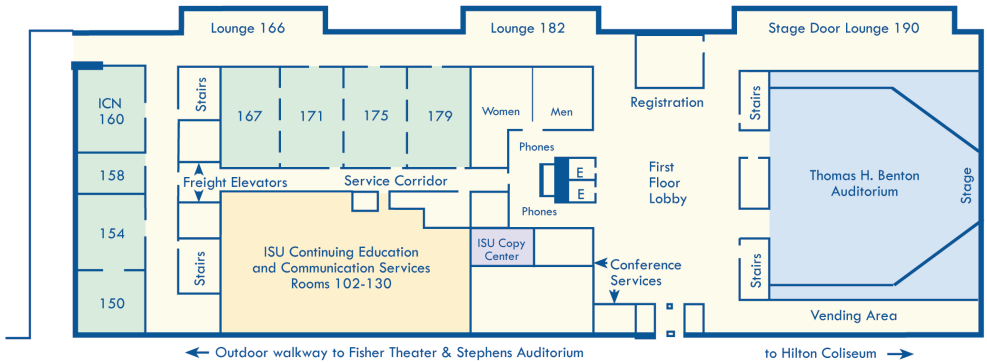
4:30-5:30 P.M. HOWE HALL

Virtual Reality Applications Center Tour & Closing Remarks

ORGANIZING COMMITTEE

Dr. Arun K. Somani, Dr. Vikram L. Dalal, Dr. Akhilesh Tyagi, Dr. Degang Chen, Dr. Manimaran Govindarasu, Dr. Venkataramana Ajarapu, Dr. Ahmed Kamal, Dr. Jaeyoun Kim, Dr. Joseph Zambreno, Dr. Tom Daniels, Dr. Tarek Lahdhiri, Dr. Hamid Vakilzadian, Mr. Bob Evanich, Dr. Hossein Mousavinezhad, Dr. Satyendra Basu

FIRST FLOOR SCHEMAN BUILDING



Technical Sponsors:



Industry Sponsors:

