

## Session Topic 11 -- Nanocircuits and Architectures

Chairs: Jorge Seminario, Texas A&M University

### TUESDAY, Room M10

Paper ID	Time	Title	Authors & Affiliations
PID550614	10:00 - 10:40	<i>Image Processing Architecture for Semiconductor Nanowire based Fabrics</i>	Pritish Narayanan, University of Massachusetts Amherst, USA; Teng Wang, University of Massachusetts Amherst, USA; Michael Leuchtenburg, University of Massachusetts Amherst, USA; and Csaba Andras Moritz, University of Massachusetts Amherst, USA
PID594547	10:40 - 11:20	<i>Evaluating Performance Tradeoff in Defect-Tolerant Gate Programming Techniques for the Clock-Free Nanowire Crossbar Architecture</i>	Ravi Bonam, Missouri Univ of Science & Technology, USA; and Minsu Choi, Missouri Univ of Science & Technology, USA
PID595987	11:20 - 12:00	<i>Challenges to Crossbar Integration of Nanoscale Two-Terminal Symmetric Memory Devices</i>	Mian Dong, Rice University, USA; and Lin Zhong, Rice University, USA
	<b>12:00 - 2:00</b>	<b>Lunch</b>	
	2:00 - 2:45	Poster Session	
	<b>2:45 - 3:00</b>	<b>Break</b>	
PID555446	3:00 - 3:40	<i>Implementation of a New Functional Digital IC for Multiplexing operation based on RTDs</i>	Sunkyu Choi, KAIST, Korea (South); Yongsik Jeong, KAIST, Korea (South); Jongwon Lee, KAIST, Korea (South); and Kyounghoon Yang, KAIST, Korea (South)
PID600716	3:40 - 4:20	<i>Transversal Characteristics of DNA devices</i>	Luis A. Jauregui, Texas A&M University, USA; and Jorge M. Seminario, Texas A&M University, USA
PID599666	4:20 - 5:00	<i>Quantum Mechanics and Electromagnetics of Weak Magnetic Field Sensing, Storage and Retrieval in Biosystems and Synthetic Systems</i>	Sergey Lyshevski, RIT, USA

### WEDNESDAY, Salon C

PID596474	9:00 - 9:45	<i>A Defect-Tolerant Memory Nanoarchitecture Exploiting Hybrid Redundancy</i>	Shuo Wang, University of Connecticut, USA; and Lei Wang, University of Connecticut, USA
	<b>9:45 - 10:00</b>	<b>Break</b>	
PID596607	10:00 - 10:40	<i>Program for the Analysis of Molecular Arrays of Highly Nonlinear Devices</i>	Alejandro Gimenez, Texas A&M University, USA; Gabriel Luna-Barcenas, Cinvestav Queretaro, Mexico; and Jorge Seminario, Texas A&M University, USA
PID593968	10:40 - 11:20	<i>Fault-tolerant Circuit for Carbon Nanotube Transistors with Si-CMOS Hybrid Circuitry</i>	Shinichi Yasuda, Toshiba Corporation, Japan; Deji Akinwande, Stanford University, USA; Gael F. Close, Stanford University, USA; H.-S. Philip Wong, Stanford University, USA; Bipul C. Paul, Toshiba America Research Inc., USA; and Shinobu Fujita, Toshiba Corporation, Japan

PID599662	11:20 - 12:00	<i>Neuronal Processing by Neurons, Reconfigurable Neural Networks and Stochastic Computing</i>	Sergey Iyshevski, RIT, USA; Vlad Shmerko, University of Calgary, Canada; Marina Iyshevski, Microsystems and Nanotechnologies, USA; and Svetlana Yanushchkevich, University of Calgary, Canada
	<b>12:00 - 2:00</b>	<b>Lunch</b>	
PID598525	2:00 - 2:45	<i>Static Superelement Technique based Model Order Reduction for High Speed Nanometer Designs</i>	Ravindra J.V.R., International Institute of Information Technology, Hyderabad, India; and Srinivas M.B., International Institute of Information Technology, Hyderabad, India
	<b>2:45 - 3:00</b>	<b>Break</b>	
PID596328	3:00 - 3:45	<i>A BIST Approach for Configurable Nanofabric Arrays</i>	Waleed Al-Assadi, Missouri University of Science and Technology, USA; and Mandar Joshi, Missouri University of Science and Technology, USA
PID596330	3:45 - 4:30	<i>Testable Reversible Latches for Molecular QCA</i>	Himanshu Thapliyal, University of South Florida, USA; and Nagarajan Ranganathan, University of South Florida, USA
<b>THURSDAY, Salon B</b>			
PID596589	10:00 - 10:45	<i>Single-Electron Transistor--Tunable Tunnel Barrier Based Non-Volatile Memory</i>	Shiv Meka, Texas A&M University; and Jorge Seminario, Texas A&M University
PID596388	10:45 - 11:30	<i>The Effect of Device Parameter Variations on Programmable Majority Logic Arrays</i>	Harika Manem, Polytechnic University, United States; Kiran Dadhira, Polytechnic University, United States; and Garrett Rose, Polytechnic University, United States
	<b>12:00 - 2:00</b>	<b>Lunch</b>	
<b>Poster Session (Tuesday 2 - 2:45pm)</b>			
PID553004	Poster	<i>CMOL-based Cellular Neural Networks and Parallel Processor for Future Image processing</i>	Wancheng Zhang, Institute of Semiconductor, Chinese Academy of Sciences, China; and Nan-jian Wu, Institute of Semiconductor, Chinese Academy of Sciences, China
PID552675	Poster	<i>Alginate Microspheres Comprising Multilayered Assemblies of Cresol Red and Polyelectrolytes Towards an Optical Urea Biosensor</i>	M. Swati, IIT Bombay, India; and R. Srivastava, IIT Bombay, India
PID551376	Poster	<i>Single-Electron Arithmetic Circuits for Sigma-Delta Domain Signal Processing</i>	Tsubasa Katao, Hiroshima City University, Japan; Yoshinao Suzuki, Hiroshima City University, Japan; Hisato Fujisaka, Hiroshima City University, Japan; Takeshi Kamio, Hiroshima City University, Japan; Chang-Jun Ahn, Hiroshima City University, Japan; and Kazuhisa Haeiwa, Hiroshima City University, Japan
PID596535	Poster	<i>Design of Digital Signal Processing Modules with Nanoelectronics</i>	Weiguo Tang, University of Connecticut, USA; and Lei Wang, University of Connecticut, USA