

## Session Topic 8 -- Molecular Electronics, Inorganic Nanowires, Nano Crystals, and Quantum Dots

Chairs: Anvar Zakhidov, University of Texas at Dallas  
 Yaw Obeng, National Institute of Standards  
 Anna Sheka, University of Texas at Dallas

### TUESDAY, Room M8

Paper ID	Time	Title	Authors & Affiliations
PID600609	10:00 - 10:30	<i>Synthesis and Properties of Templated Si-based Nanowires for Electrical Transport</i>	Jae Ho Lee, University at Albany - SUNY, USA; Phillip H. Rogers, University at Albany - SUNY, USA; Michael A. Carpenter, University at Albany - SUNY, USA; Eric T. Eisenbraun, University at Albany - SUNY, USA; Yongqiang Xue, University at Albany - SUNY, USA; and Robert E. Geer, University at Albany - SUNY, USA
PID577241	10:30 - 11:00	<i>InP Nanowire Diodes on Quartz Substrates</i>	Sagi Mathai, Hewlett-Packard Laboratories, USA; Nobuhiko P. Kobayashi, University of California Santa Cruz, USA; Xuema Li, Hewlett-Packard Laboratories, USA; Joseph Straznicky, Hewlett-Packard Laboratories, USA; Shih-Yuan Wang, Hewlett-Packard Laboratories, USA; Michael R.T. Tan, Hewlett-Packard Laboratories, USA; Denny Houg, Hewlett-Packard Laboratories, USA; and R. Stanley Williams, Hewlett-Packard Laboratories, USA
PID596475	11:00 - 11:30	<i>Optimal Control over the InAs Nanowire Growth for System Integration and their Structural and Transport Properties</i>	Shadi Dayeh, University of California, San Diego, USA; Darija Susac, Simon Fraser University, Canada; Peng Chen, University of California San Diego, USA; Yi Jing, University of California San Diego, USA; Karen Kavanagh, Simon Fraser University, Canada; Edward Yu, University of California San Diego, USA; and Deli Wang, University of California San Diego, USA
PID596409	11:30 - 12:00	<i>Scanning Capacitance Characterization of Potential Screening in InAs Nanowire Devices</i>	James Jeremy MacDonald Law, University of California, San Diego, USA; Shadi A. Dayeh, University of California, San Diego, USA; Deli Wang, University of California, San Diego, USA; and Edward T. Yu, University of California, San Diego, USA
	<b>12:00 - 2:00</b>	<b>Lunch</b>	
PID596380	2:00 - 2:25	<i>Influence of surface stress on the bending nanowires with different boundary conditions</i>	Carmen Lilley, University of Illinois at Chicago, USA; and Jin He, University of Illinois at Chicago, USA
PID595713	2:25 - 2:45	<i>Synthesis, Properties, and Photocatalytic activities of PbS/TiO<sub>2</sub> nanotubes</i>	Chalita Ratanatawanate, Department of Chemistry and the Alan G. MacDiarmid NanoTech Institute, USA; and Kenneth Balkus, Department of Chemistry and the Alan G. MacDiarmid NanoTech Institute, USA
	<b>2:45 - 3:00</b>	<b>Break</b>	
PID596609	3:00 - 3:30	<i>Tuning the Polarity of Si-Nanowire Transistors Without the Use of Doping</i>	Walter Weber, TUM, Germany; Paolo Lugli, TUM, Germany; Lutz Geelhaar, Nanmlab, Germany; Luca Lamagna, MDM, Italy; Marco Fanciulli, MDM, Italy; Franz Kreupl, Qimonda, Germany; Eugen Unger, Qimonda, Germany; Henning Riechert, Qimonda, Germany; and Giuseppe Scarpa, TUM, Germany

PID595718	3:30 - 4:00	<i>Zinc Oxide Nanowire Networks for Macroelectronic Devices</i>	Husnu Unalan, University of Cambridge, UK; Pritesh Hiralal, University of Cambridge, UK; Yan Zhang, University of Cambridge, UK; Sharvari Dalal, University of Cambridge, UK; Daniel Kuo, University of Cambridge, UK; William Milne, University of Cambridge, UK; and Gehan Amaratunga, University of Cambridge, UK
PID551881	4:00 - 4:30	<i>Neuroarchitectronics and Neuromorphological Molecular Processing Platforms</i>	Sergey Lyshevski, RIT, USA
<b>WEDNESDAY, Room M8</b>			
PID596445	9:00 - 9:45	<i>A Strategic Review of Recent Progress in Metamorphic Quantum Well Based Heterostructure Electronic Devices</i>	Partha Mukhopadhyay, Indian Institute of Technology, Kharagpur, India; Palash Das, Indian Institute of Technology, Kharagpur, India; Saptarshi Pathak, Indian Institute of Technology, Kharagpur, India; Sudip Kundu, Indian Institute of Technology, Kharagpur, India; Edward Yi Chang, National Chiao Tung University, Taiwan; and Dhruves Biswas, Indian Institute of Technology, Kharagpur, India
	<b>9:45 - 10:00</b>	<b>Break</b>	
PID549628	10:10:45	<i>Spatially Extended Spinning Quantum Systems</i>	Pier Paolo Civaleri, Politecnico di Torino, Italy; Marco Gilli, Politecnico di Torino, Italy; and Michele Bonnin, Politecnico di Torino, Italy
PID554232	10:45 - 11:15	<i>Design, Fabrication and Characterization of High-Performance Silicon Nanowire Transistor</i>	Qiliang Li, George Mason University, USA; Xiaoxiao Zhu, George Mason University, USA; Yang Yang, George Mason University, USA; Dimitris Ioannou, George Mason University, USA; Hao Xiong, National Institute of Standards and Technology, USA; John Suehle, National Institute of Standards and Technology, USA; and Curt Richter, National Institute of Standards and Technology, USA
PID551809	11:15 - 12:00	<i>Quantum-Effect Multi-Terminal Molecular Electronic Devices</i>	Sergey Lyshevski, RIT, USA
	<b>12:00 - 2:00</b>	<b>Lunch</b>	
PID618288	2:00 - 2:45	<i>Lithographically Defined Si Nanowire Field Effect Transistors for Biochemical Sensing</i>	Wenchuang (Walter) Hu, University of Texas at Dallas, U.S.
	<b>2:45 - 3:00</b>	<b>Break</b>	
PID553766	3:00 - 3:30	<i>The Integration of Molecular Electronic Devices with Traditional CMOS Technologies</i>	Nadine Gergel-Hackett, National Institute of Standards and Technology, US; Askia Hill, National Institute of Standards and Technology (summer undergraduate researcher), US; Christina Hacker, National Institute of Standards and Technology, US; and Curt Richter, National Institute of Standards and Technology, US
PID551870	3:30 - 4:00	<i>Characterization of Physical Defects and Fault Analysis of Molecular and Nanoscaled Integrated Circuits</i>	Sergey Lyshevski, RIT, USA
PID554669	4:00 - 4:45	<i>Steps towards fabricating cryogenic CMOS compatible single electron devices for future quantum bits</i>	K. Eng, Sandia National Laboratory, United States; G. A. Ten Eyck, Sandia National Laboratory, United States; L. Tracy, Sandia National Laboratory, United States; E. Nordberg, University of Wisconsin-Madison, United States; K. Childs, Sandia National Laboratory, United States; J. Stevens, Sandia National Laboratory, United States; J. R. Wendt, Sandia National Laboratory, United States; M. P. Lilly, Sandia National Laboratory, United States; and M.S. Carroll, Sandia National Laboratory, United States

<b>THURSDAY, Room M8</b>			
PID565227	9:00 - 9:25	<i>Comparison of Current-Voltage Characteristics of Carbon Nanotube and Nanowire FETs</i>	Alireza Kargar, Shiraz University, Iran
PID597503	9:25 - 9:45	<i>Radiation Hard Silicon Nanowire Field Effect Transistors</i>	Loucas Tsakalagos, General Electric - Global Research Center, USA; Peter Losee, General Electric - Global Research Center, USA; Joley Balch, General Electric - Global Research Center, USA; Alexander Bogorad, Lockheed Martin Commercial Space Systems, USA; William Taft, Lockheed Martin Commercial Space Systems, USA; Justin Likar, Lockheed Martin Commercial Space Systems, USA; and Roman Herschitz, Lockheed Martin Commercial Space Systems, USA
<b>9:45 - 10:00 Break</b>			
PID554683	10:00 - 10:30	<i>Error-Power Tradeoffs in QCA Design</i>	Saket Srivastava, University of South Florida, USA; Sudeep Sarkar, University of South Florida, USA; and Sanjukta Bhanja, University of South Florida, USA
PID554695	10:30 - 11:00	<i>Sequential Circuit Design in Quantum-dot Cellular Automata</i>	Praveen Venkataramani, University of South Florida, USA; Saket Srivastava, University of South Florida, USA; and Sanjukta Bhanja, University of South Florida, USA
PID578520	11:00 - 11:30	<i>A tight binding study of strained reduced confinement potentials in identical and non-identical InAs/GaAs vertically stacked quantum dots</i>	Muhammad Usman, Purdue University, USA; Shaikh Ahmed, Southern Illinois University, USA; and Gerhard Klimeck, Purdue University, USA
PID596443	11:30 - 12:00	<i>Synthesis and Field emission Characteristics of Ga<sub>2</sub>O<sub>3</sub> Nanorods with Ultra-Sharp Tips</i>	Yavuz Bayam, UC Davis, Sakarya University, USA, TR; Logeeswaran VJ, UC Davis, USA; Aaron M. Katzenmeyer, UC Davis, USA; Rebecca J. Chacon, UC Davis, USA; Michael C. Wong, UC Davis, USA; Charles E. Hunt, UC Davis, USA; and M. Saif Islam, UC Davis, USA
<b>12:00 - 2:00 Lunch</b>			
PID595707	2:00 - 2:25	<i>Electronic Characteristics of Bacteriorhodopsin</i>	Karl Walczak, Michigan Technological University, United States ; Daw Don Cheam, Michigan Technological University, United States ; Don Lueking, Michigan Technological University, United States ; Paul Bergstrom, Michigan Technological University, United States ; and Craig Friedrich, Michigan Technological University, United States
PID596551	2:25 - 2:45	<i>High Current Density and Failure Mechanism in Epitaxially Bridged Silicon Nanowires</i>	Jeff Wurz, University of California-Davis, USA; Logeeswaran VJ, University of California-Davis, USA; Ataur Sarkar, University of California-Davis, USA; and M. Saif Islam, University of California-Davis, USA
<b>2:45 - 3:00 Break</b>			
PID594580	3:00 - 3:30	<i>Electrical Properties of Cu Nanowires</i>	Qiaojian Huang, University of Illinois at Chicago, USA; Carmen Lilley, University of Illinois at Chicago, USA; Matthias Bode, Argonne National Laboratory, USA; and Ralu Divan, Argonne National Laboratory, USA
PID618442	3:30 - 4:15	<i>Electrical and Photoinduced Transport Properties of Atom and Molecule Encapsulated Carbon Nanotubes Created by Plasma Processing</i>	Rikizo Hatakeyama, Tohoku University, Japan; Toshiro Kaneko, Tohoku University, Japan; and Yongfeng Li, Tohoku University, Japan