



IEEE NEWS FOR MARCH 2011

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(Always check the web PDF edition for late changes and additions)

Rochester Section Meeting - Tuesday, March 1, 2010

The next Rochester Section business meeting is on Tuesday, March 1, 2010 at Noon, at the Shanghai Restaurant, 2920 West Henrietta Road, just south of the intersection with Brighton-Henrietta Town Line Road.

Any IEEE member is welcome to attend and to participate, or just to observe. Lunch is only \$3 for IEEE members. No reservation or RSVP is needed, just show up.

Annual Joint Chapters Meeting is Tuesday, March 29

Tuesday, March 29, 2011 at the RIT Inn & Conference Center, 5257 W. Henrietta Road.

Registration and refreshment:	4:30 – 5:30 PM
Chapter Technical Presentations:	5:30 – 6:30 PM
Networking (cash bar):	6:30 – 7:00 PM
Dinner & Keynote Presentation:	7:00 – 9.30 PM

The keynote speaker will be Stephen D. Senturia, Professor of Electrical Engineering, Emeritus, Massachusetts Institute of Technology, Former Chairman and Chief Technology Officer, Polychromix. His presentation will be "*MEMS: Where Everything You Ever Learned Is Relevant.*"

RIT IEEE Computer Society Chapter News

Congratulations to the IEEE Computer Society Student Branch held a very successful Android App Development Seminar on January 13th. Thanks to the presenters, Professor Jeff Sonstein and Chris Decker, for their interesting presentation to about 175 attendees.

The IEEE Computer Society Rochester Chapter is looking forward to the talk by Dr. Tsuhan Chen, director of the School of Electrical and Computer Engineering (ECE) at Cornell University, at the Joint Chapters Meeting on March 29. He will be speaking about 3D TV on iPhone and Android.

IEEE Geoscience and Remote Sensing Society Meeting at JCM

Title: Remote Sensing of Geohazards in the African Rift Valley

Speaker: Dr. Anthony Vodacek; R.I.T.

Brief Abstract: Earthquakes, volcanoes, landslides, and even a gas-charged lake make the African Rift Valley a region of intense environmental change and many geophysical hazards. This talk describes several of these hazards and how a variety of remote sensing methods operating in the optical, infrared, and microwave spectral regions can be applied to assess and monitor these complex systems.

IEEE EMC and PSE Joint Chapter presentation at JCM March 29

Title: EMC Susceptibility: Case Studies On Systemic Performance Verification and Best Design Practices

Speaker: Amy Rivera, Principal Engineer, AMR Product Consulting Inc.

Abstract: In recent years, Electromagnetic Compatibility (EMC) has been a focus of many regulations in the Medical, Informational Technology, Automotive, Aerospace and Defense industries due to inadvertent product performances. Accurate and timely transmission of digital data and electronic information is essential to the effectiveness and safety of electro-mechanical devices and systems. With the advancement in technology and proliferation of RF-generated wired and wireless devices, the integrity of data and information transmitted and product responses in a coexistent environment may be compromised. It is crucial to examine and demonstrate the immunity of a product from potential electro-magnetic threats in the environment by definitive systemic performance verification.

Speaker Biography: Amy Rivera is principal at AMR Product Consulting Inc., a comprehensive Product Compliance Engineering Consultancy specializing in global compliance to EMC/EMI, Product Safety, and RoHS/WEEE regulations. Previously, Amy was a Senior Electrical Engineer with Ortho-Clinical Diagnostics, a Johnson & Johnson company. She was responsible for all EMC/EMI and Product Safety Compliance Engineering activities within OCD. As a Subject-Matter-Expert, Amy provided consultancy to other Medical Device & Diagnostics and Consumer groups of J&J. Amy has over 20 years of hands-on product design, development, and testing experience in the Medical Device & Diagnostics, ITE, and Aerospace & Defense industries at several Fortune 100 & 500 companies. She has developed and successfully implemented numerous Design-for-Compliance strategies, training programs, and Quality Processes further advocating product reliability, efficiency, cost-effectiveness, timeliness to market, and sustainability.

Amy is *Process Excellence Six-Sigma* certified. She is an active member of the IEEE and the Society for Women Engineers(SWE).

IEEE Communications Society talk at the 2011 JCM March 29

Topic: "Interdisciplinary Research in Networking: A Perspective from NSF"

Speaker: NSF program manager Dr. Sajal Das

IEEE EDS Chapter talk at Joint Chapters Meeting

Title: Engineering Photovoltaics

Speaker: Santosh K. Kurinec

Abstract: Over the last several decades, photovoltaics (PV) has been an on again and off again type of technology for engineering community while scientific laboratories and niche industries worldwide have remained diligently committed in achieving higher efficiencies and lower costs. The economic and political will has been deferring photovoltaics as the technology for the future. The attention is on to PV once again and it is the time for engineering community to take the challenge that semiconductor industry took since the development of the first integrated circuit. The growth of innovative techniques that enabled the integrated circuit technology to become efficient in high volume manufacturing of extremely small and complex systems on large substrates sets up a sound base for the PV industry. Between the two, they share a common substrate – silicon and common thin film deposition techniques. Photovoltaic contrasts itself from CMOS in being relatively simpler in device physics, relaxed in lithography and particle contamination controls. However, it differentiates in applications that require large area end products, much larger than the flat panel displays, and at be available at lower costs. Even though the PV industry inherits an experienced workforce trained in defining and following the roadmap driven by the Moore's Law, engineering education needs to address developing the next generation of PV engineers. The talk will discuss the principles and technology of emerging frontiers of PV and how semiconductor manufacturing can offer lessons and solutions.

Biography: Santosh K. Kurinec is a Professor of Electrical & Microelectronic Engineering and former Department Head of Microelectronic Engineering at Rochester Institute of Technology (RIT). She is a Visiting Scholar at IBM T.J. Watson Research Center, New York. She received Ph.D degree in Physics from University of Delhi, India. She came to the US to participate in the Alternative Energy Technology program funded by the USAID during the eighties. Prior to joining RIT in 1988, she was Assistant Professor of Electrical Engineering at Florida State University/Florida A & M University College of Engineering in Tallahassee, FL. Her current research activities include photovoltaics, non volatile memory, III-V on Si, tunnel devices, and magnetic thin films. She has been actively engaged in outreach for promoting engineering education. She is Fellow of IEEE, Member, NY Academy of Sciences, APS, Associate Editor of IEEE Transactions on Education and an IEEE EDS Distinguished Lecturer.

Congratulations to our 2011 IEEE Fellows

Congratulations to Lalit K. Mestha of Xerox Corporation, for contributions to digital printing systems control, and to Santosh Kumari Kurinec of R.I.T. for leadership in integrating innovative microelectronics research in engineering education.

Brain Teaser – did you solve it?

You will recall that last month's brain teaser was: A customer at a 7-11 store selected four items to buy, and was told that the cost was \$7.11. He found it curious that the cost was the same as the store name, so he inquired as to how the figure was derived. The clerk said that he had simply multiplied the prices of the four individual items. The customer protested that the four prices should have been *added*, not *multiplied*! The clerk said that that was OK with him, but when he added them, the result was still the same: exactly \$7.11. What were the prices of the four items?

The answer is the four items were priced \$1.20, \$1.25, \$1.50 and \$3.16. These add up to \$7.11, and their product is also \$7.11. This is the only solution. It never hurts to be vigilant at the checkout counter.

Congratulations to a new Senior Member

Mrityunjay Kumar was elevated to Senior Member at the January meeting of the IEEE Acceptance and Advancement Committee.



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Keynote Speaker: Stephen D. Senturia

Professor of Electrical Engineering, Emeritus,
Massachusetts Institute of Technology
Former Chairman and Chief Technology Officer, Polychromix



MEMS: Where Everything You Ever Learned Is Relevant

On October 9, 2009, NASA crashed a rocket engine into the moon and then sent an instrument package into the crash zone to look for water in the plume of debris. On November 13, NASA announced the finding of “buckets of water.” The primary evidence was derived from spectra measured with a MEMS-based near-infrared spectrometer manufactured by Polychromix. The development of this spectrometer has roots dating all the way back to the work of Harvey Nathanson, Kurt Petersen, Henry Guckel, Roger Howe, and countless others. This talk will illustrate how the many threads of knowledge: electromechanical actuator design, material science, fluid mechanics, optical and optomechanical design, low-power electronics, advanced algorithm development, even supply-chain management – all contributed to this singular success. This is just one of many paradigms demonstrating how, when you are dealing with MEMS-enabled products, “everything you ever learned in your life is relevant.”

Parallel Technical Presentations (5:30 – 6:30 PM)*

<i>Geoscience and Remote Sensing Society</i>	Dr. Anthony Vodacek	Rochester Institute of Technology	Remote Sensing of Geohazards in the African Rift Valley
<i>Computer Society</i>	Prof. Tsuhan Chen,	Dir. SECE, Cornell U	Facial Recognition.
<i>Signal Processing Society</i>	To be announced	To be Announced	To be Announced
<i>EMC/PSE</i>	Amy Rivera	AMR Product Consulting Inc.	EMC Susceptibility: Case Studies On Systemic Performance Verification and Best Design Practices
<i>Microwave Theory & Techniques</i>	To be Announced	To be Announced	To be Announced
<i>Communications Soc.</i>	Dr. Sajal Das	NSF program manager	Interdisciplinary Research in Networking
<i>Technology Management Council</i>	Panelists: Ram Dhurjaty, Sam Ghosh, Steve Senturia, Mark Fiscella, Kerry Van Iseghem		Panel discussion: Mid career Entrepreneurship

*No charge for attending technical presentations. Reservation / registration not required.

Dinner Selections

New York Strip Steak

Ten Ounce, Peppercorn Rubbed with Roasted Sliced Portabella Mushrooms

Cedar Plank

Salmon

Maple Bourbon Glaze Or Teriyaki with Wasabi

Vegan Grilled Vegetable Napoleon

Layers of Peppers, Eggplant and Portabella Mushrooms on Steamed Rice, Chimichurri Drizzle

All dinners include salad, dinner roll basket, coffee, tea, and dessert

Reservations (required for dinner): Register on-line (pay-pal accepted) or contact william.fowlkes@kodak.com

Dinner: \$25.00 (IEEE members), \$35.00 (Non-members), and \$10 for Student members.

Further details and on-line registration at: <http://rochester.r1.ieee.org/jc11>