



IEEE NEWS FOR NOVEMBER 2010

Jacob Z. Schanker, P.E., Newsletter Chair
Rochester IEEE home page at: <http://rochester.r1.ieee.org>

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

Rochester Section Meeting - Tuesday, November 2, 2010

The next Rochester Section business meeting is on Tuesday, November 2, 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.

Nominations for 2011 Rochester Section Officers

Based on the recommendations of the section nominating committee, the executive committee approved the following nominations:

Chair:	Alex Loui (Eastman Kodak Co.)
Vice-Chair:	Bill Fowlkes (Eastman Kodak Co.)
Secretary:	John Kerekes (R.I.T.)
Treasurer:	George Sotak (ITT Geospatial Systems)
Awards:	Andrew Gallagher (Eastman Kodak Co.)

These represent the elective offices in the Rochester section. Other Executive Committee positions are filled by appointment of the Chair, with the approval of the Excom.

Our bylaws also allow for nominations for section officer positions to be made by petition, which must be received by November 1, 2010. To be valid, nominating petitions must be signed by twelve or more Rochester Section members of member grade or higher. Petitions may be mailed to the IEEE Rochester Section, c/o RES, 150 State Street, Rochester, NY 14614

If no valid petitions are received, the election will be by voice vote at the December 7, 2010 Section meeting. If any valid petitions are received, the election will be by mailed ballot sent to all members in the Rochester Section eligible to vote. A ballot included

with the Rochester Engineer mailing fulfils this requirement. Officers begin their terms on January 1, 2011.

2010 WNY Image Processing Workshop

The Western New York Image Processing Workshop (WNYIPW) is a venue to promote image processing research in our area and to facilitate interaction between academic researchers, industry researchers, and students. The workshop comprises a single track of oral presentations. The workshop, now in its 13th year, is jointly sponsored by the Rochester chapter of the IEEE Signal Processing Society and the Rochester chapter of the Society for Imaging Science and Technology. Please see <http://ewh.ieee.org/r1/rochester/sp/WNY10.htm> for more details and registration information.

Fees are kept to a minimum and are primarily intended to cover the costs associated with holding the workshop.

General Registration:	\$45
Student Registration:	\$25
IEEE or IS&T Membership:	\$25
IEEE or IS&T Student Membership:	\$15

IEEE Life Member Affinity Group

All Rochester Section Life Members are invited to participate in a luncheon planning meeting on Tuesday, November 2, 2010 at 1:00 pm, at the Shanghai Restaurant. Lunch will be free for the members attending. This meeting follows the regular monthly Rochester Section Meeting, which runs from 12 noon to 1 pm. Life Members are also welcome, as always, to attend that meeting as well.

At the Life Member meeting we would like to explore suggestions for future activities that are of interest to Life Members, possibly including activities such as: sharing professional experiences; publishing in The Rochester Engineer; contributing to and setting up an electronics display at events, such as E3 Fair, to attract young people into engineering, or at a museum; organizing plant visits and trips to regional sites of engineering significance; and anything else.

Life Member Affinity Group Chair Amedeo (Dave) Qualich requests that you call the reservations clerk at the RES, 585-254-2350, to let us know if you will be coming to this Life Member Planning Meeting, and if you will be coming at 12 noon to attend the Section Meeting first, or at 1 pm for the Life Member meeting only.

Technology Management Council

The IEEE Rochester Section, Technology Management Council, announces a stimulating, and highly relevant dinner and talk, and invites IEEE members and the public to participate. Bridging the disciplines of technology development and economics the talk "R+D Collaboration: An Economist's View of Business Implications" will be the topic at dinner on Friday November 12, 2010 starting at 5:30pm at Shadow Lake Country Club, Penfield. Prof. Minjae Song, of Simon Graduate School of Business, University of Rochester, will share insights of his in depth evaluation of the economics and business implications of R+D collaboration. Focusing on the notable example of Sematech, Prof Song explores the dynamics, effects on business strategy and case study details in this informative talk. Highlighting economic consequences is a critical area for IEEE members and others interested. Prof Song's talk will be in conjunction with a dinner and networking.

Please Reserve by November 5, 2010

For more details contact t.pian@ieee.org

Contact: ppklee@rochester.rr.com

Cost: \$15 (IEEE members)

\$25 (non members)

\$10 (IEEE student members)

Dinner buffet, cash bar, networking before dinner and after talk

Please contact Tom Pian t.pian@ieee.org or Paul Lee (paul.lee@itt.com) for further information on the TMC and its value to the Section and to the members.

IEEE Scholarships

The Rochester Section of IEEE awards two \$1500 scholarships each year in partnership with the Rochester Engineering Society Scholarship committee which usually awards six scholarships. Criteria for both of these scholarships is that the student has completed two years in an engineering, engineering technology, science, or technology program that is accredited by ABET, and has a GPA of 3.0 or higher. The student must be a resident of Monroe, Genesee, Livingston, Ontario, Orleans, Wayne, or Wyoming counties of New York, or enrolled in an ABET-accredited program in a college in these counties. The IEEE scholarship winner must also be a member of the student section of IEEE.

Applicants for scholarship need to have a personal interview with a member of the RES scholarship committee before the scholarship application deadline of January 21, 2011. An IEEE representative is on this committee. The scholarship application is available at www.roceng.org. Please publicize this scholarship to colleagues and people that you know who have children in college and might be eligible for this award.

IEEE Geoscience and Remote Sensing Society

Will presents a technical seminar, "Advancing waveform lidar sensing through improved understanding of complex signals for ecological applications such as structural unmixing, species classification, and biomass estimation." The speaker is Jan van Aardt, the Chester F. Carlson Center for Imaging Science, Rochester Institute of Technology.

Date: Monday, November 8, 2010

Time: Pizza and soda provided at 5:30 pm; Meeting and Presentation at 6 pm

Location: Carlson Learning Center (Room 1275), Chester F. Carlson Center for Imaging Science (Building 76), Rochester Institute of Technology

Abstract: Much effort has been expended towards assessment of vegetation structure, specifically for forest inventory and carbon sequestration purposes. Although structure can be quantified remotely using both passive and active sensing, characterization of *detailed* structure, important to conservation of structural biodiversity, remains elusive. However, remote sensing modalities such as imaging spectroscopy and waveform light detection and ranging (lidar) have emerged as candidates for addressing these needs. A waveform research group within RIT's Chester F. Carlson Center for Imaging Science evaluated whether species-specific assessment of woody and foliar biomass, crown structure, and woody cover can be mapped at various scales using these remote sensing technologies. Data from the Carnegie Airborne Observatory were collected for a land use gradient that spans degraded-to-conserved areas in the savannas in and around the Kruger National Park, South Africa. The first step included development of a robust processing approach for waveform lidar data, which included smoothing, deconvolution, and angle correction for off-nadir pulses. A data fusion approach to species classification and waveform-based quantification of woody biomass and structure at the tree- to landscape scales followed next. Classification results (53-74% overall accuracies) varied by species and were influenced by phenological and within-species variation, while structural quantification was driven by the management regime of a particular land use. The group was able to develop tree-, landuse-, and landscape-level models that describe the structural variation in the system. These efforts will contribute to addressing the challenge of how to best quantify structural diversity, its variation across landscapes, and its change due to management and climate impacts.

Biography: Dr. Jan van Aardt obtained a BSc Forestry degree (biometry and silviculture specialization) from the University of Stellenbosch, South Africa. This was followed by a Hons. Forestry degree with a remote sensing and Geographical Information Systems (GIS) specialization, also from the University of Stellenbosch. Dr. van Aardt then completed MS and PhD Forestry degrees at Virginia Polytechnic Institute and State University, Blacksburg, Virginia - these degrees respectively focused on hyperspectral and light detection and ranging (lidar) applications in forestry. Hyperspectral, lidar, and multi-temporal sensing form the core of his efforts, with various ecosystem and forestry projects, e.g., land quality and global change (multi-temporal), forest and savanna structural assessment using discrete and waveform lidar systems, and estimation of foliar chemistry and vegetation state (hyperspectral) projects. He currently is an Associate

Professor in the Chester F. Carlson Center for Imaging Science at the Rochester Institute of Technology, following stints at the Katholieke Universiteit Leuven as post-doc and the Council for Scientific and Industrial Research, South Africa, as research group leader.

IEEE Rochester EMC-PSE-EMB Societies Joint Chapter Meeting

Date: Wednesday, November 10, 2010.

Time: 6:00 Networking and Refreshments; 6:30 – 7:30 pm Presentation

Location: Rochester Institute of Technology, Engineering Hall, a.k.a. Building 17 or ENG, Room 1545 (lower level). An RIT campus map can be found at:

<http://facilities.rit.edu/campus/maps/>

Topic: Major IEC 60601-1 Medical Electrical Equipment, 3rd Edition, changes (Why 90% of medical devices fail)

RSVP: by Nov. 8 to Gene Saltzberg at 585 381 1078 or gene.saltzberg@ieee.org.

Speaker: Presented by Michael Brousseau, Engineering Team Leader - Medical, Intertek Testing Services NA, Inc.

Cost: Free

Abstract: IEC 60601-1:2005 (third edition) Medical Electrical Equipment - Part 1: General requirements for basic safety and essential performance will replace the second edition (1988) in Canada and the European Union in June 2012. The FDA follows in 2013.

The new IEC 60601-1:2005 standard:

- Introduces the concept of Essential Performance
- Risk Management per ISO 14971 is required
- Risk management File must be submitted with safety type testing
- Covers aids for disabled persons
- Covers equipment for use without "Medical Supervision"
- Changes requirements for electrical isolation for operators
- Introduces Touch Current and Total Patient Leakage Current
- Changes temperature limits for applied parts
- Incorporates the former IEC 60601-1-1 and IEC 60601-1-4 collaterals
- Consists of 17 clauses, 390 pages (edition 2 was 59 clauses, 250 pages)

Speaker Biography: Michael Brousseau is the engineering team leader for the medical team in the Intertek Boxborough lab. He has 15 years of experience in safety compliance and 13 of them have been exclusively medical. He has helped thousands of clients make their way through the pitfalls of meeting the requirements of the standards, from the largest medical manufacturers to start up companies.

RIT IEEE Computer Society Student Branch

The RIT IEEE Computer Society Student Branch is planning on having an Android development seminar at RIT in January 2011. A RIT professor will discuss mobile design rules as they pertain to the Android platform and a short workshop following the presentation will provide an introduction to the Android development environment and implementation techniques. The exact date and time of the seminar will be announced next month.

Any questions can be addressed to ieee.cs.rit@gmail.com

Product Safety Engineering, Electromagnetic Compatibility & Engineering in Medicine and Biology Society Presents

Todd R. Konieczny, Staff Engineer, Safety, and Corporate Laser Safety Officer, Intertek Testing Services NA Inc.

Meeting: Wednesday, November 10, 2010
6:00 PM Networking and Refreshments
6:30 – 7:30 PM Presentation

Location: Rochester Institute of Technology
Building 17, Room 17-1545, Lot J, elevator to LL or stairs.
One Lomb Memorial Dr
Rochester, NY 14623
Campus Map: facilities.rit.edu/campus/maps/general/general.pdf

Title: Major IEC 60601-1 Medical Electrical Equipment, 3rd Edition, changes (Why 90% of medical devices fail)

Outline: IEC 60601-1:2005 (third edition) Medical Electrical Equipment - Part 1: General requirements for basic safety and essential performance, will replace the second edition (1988) in Canada and the European Union in June 2012. The FDA follows in 2013.

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Speaker Biography: Todd Konieczny is the Product Safety Staff Engineer at Intertek Boxborough. He has 12 years experience in safety compliance testing, including 7 years with medical products. He is also the Intertek NA Corporate Laser Safety Officer. He has helped numerous clients gain worldwide certification for their products to the CSA, CENELEC EN, IEC, and UL standards. He holds a BSEE from Penn State. He is a member of AAMI, IEEE and IEEE PSE Society, NFPA and NEC Code Panel 12, and the Laser Institute of America.

RSVP by November 8, 2010 (arrange food and beverages)

To: Gene Saltzberg - gene.saltzberg@ieee.org or 585-381-1078

Cost: Free