



IEEE NEWS FOR November 2009

Jacob Z. Schanker, P.E., Newsletter Chair
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Rochester Section Meeting - Tuesday, November 3, 2009

The next Rochester Section business meeting is on Tuesday, November 3, 2009 at Noon, at the Shanghai Restaurant, 2920 West Henrietta Road, just south of the intersection with Brighton-Henrietta Town Line Road. All IEEE members are welcome to attend this meeting, meet your officers and have lunch for just \$3.00.

Rochester Section 2010 Officer Nominations

The nominations committee presented the following nominations for our officers in 2010. These have been approved by the Executive Committee.

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| Chair: | Alexander (Alex) Loui, Eastman Kodak |
| Vice-Chair: | Greg Gdowski, University of Rochester |
| Secretary: | John Kerekes, Rochester Institute of Technology |
| Treasurer: | William (Bill) Fowlkes, Eastman Kodak |
| Development & Awards: | Sean Garner, Corning |

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, 2009. 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 1, 2009 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, 2010.

The nominating committee was comprised of: David Qualich, Gene Saltzberg (Co-Chair), Gaurav Sharma (Co-Chair), Jayanti Venkatamaran, and Jim Ziobro (Advisor).

IEEE Geoscience and Remote Sensing Society - Nov. 4

The Western New York chapter of the IEEE Geoscience and Remote Sensing Society and the Chester F. Carlson Center for Imaging Science at the Rochester Institute of Technology jointly present a technical seminar, "Hyperspectral Eyeing of Heavenly Bodies -a Machine Intelligence Approach ' with Dr. Erzsébet Merényi, Research Professor, Department of Electrical and Computer Engineering, Rice University, Houston, Texas

Date: Wednesday, November 4, 2009

Time: 4 PM, Refreshments served at 3:30 PM

Location: Carlson Auditorium (Room 1125) of Chester F. Carlson Center for Imaging Science (Bldg 76), Rochester Institute of Technology

Abstract: Hyperspectral imaging provides powerful data for remote sensing scientific inquiries. At the same time, the high spectral dimensionality, the complex relationships among the spectral features, and the large number of material classes expected to be distinguished from these data, pose great challenges for information extraction methods. I will present results from terrestrial and planetary astronomy studies in which significant new knowledge was produced through clustering and classification of hyperspectral data with self-organizing neural machine learning. I will summarize the salient aspects of this paradigm – the focus of our research – which mimics the information processing of biological neural maps observed in the cerebral cortex, and enables to look at, and extract information from, large amounts of high-dimensional, complex data in ways traditional algorithms may not facilitate. I will also present capabilities on synthetic hyperspectral imagery from RIT, which takes algorithm validation to a whole new level.

Biography:

Erzsébet Merényi earned an MS in mathematics (1975) and PhD in computational science (1980) from Szeged (Attila József) University, Hungary. She is a research professor in the Electrical and Computer Engineering Department of Rice University, Houston, Texas. She was formerly a staff scientist at the Lunar and Planetary Laboratory, University of Arizona, and a research associate in the Cosmic Physics Department at the Central Research Institute for Physics of the Hungarian Academy of Sciences. She worked on numerical modeling of charged particle transfer in the Heliosphere (1980–1990), and on analyzing images of the nucleus of P/Halley from the (then) Russian Vega mission. Her mathematical custom restorations of the severely corrupted, once-in-a-lifetime images were published by the European Space Agency, and are in international archives (PDS, IHW).

Since 1991 Erzsébet has been focusing on analyzing spectral data for resource mapping and knowledge discovery from space missions and terrestrial remote sensing projects, including data from Clementine, the Imager for Mars Pathfinder, the Mars Exploration Rovers, telescopic measurements, and airborne hyperspectral sensors such as AVIRIS. Most recently she has been collaborating on inference of latent parameters (such as surface temperature and grain size) from high-resolution spectra, in preparation for the Pluto-Charon encounter by the New Horizon mission.

Her overarching research interest is in neural machine intelligence for manifold learning, structure discovery and precise classification, in complex, high-dimensional, highly

structured data such as hyperspectral imagery and medical data. Her research has been funded by several NASA programs, and by the Baylor College of Medicine. At Rice she also co-leads the machine learning effort in a large DARPA – Rice compiler development project.

IEEE Technology Management Council Workshop on Nov. 5

The Rochester Chapter of the IEEE Technology Management Council will present a special event, "Upstarts and Startups: Entrepreneurship Essentials and Rochester Experiences" on Thursday, November 5, 2009 at Rick's Inn, 898 Buffalo Road, Rochester 14624. The meeting begins with registration from 12:30 – 1:30 PM and concludes with a dinner featuring James Stoffel, former CTO of Eastman Kodak and an IEEE Fellow, from 6:00 – 7:30 PM.

See the full-page announcement of this meeting in this issue for complete details and registration information. Late registrations will be accommodated if possible.

IEEE EMC & Product Safety Engineering Planning Meeting

The Rochester Joint Chapter of the IEEE Electromagnetic Compatibility and Product Safety Engineering Societies will hold a business and planning meeting, for members only, on Wednesday, December 2, 2009. The meeting will begin at 6:30 PM at Mario's Italian Steakhouse, 2740 Monroe Ave, Rochester, NY 14618. RSVP by email to gene.saltzberg@ieee.org or by phone 585 381 1078 by November 18, 2009

Congratulations to our new Senior Members

Recently elevated to Senior Member are: Karl Hirschman and Lizhe Wang.

Of Interest – Free Technology Symposium at RIT on Nov. 5

The 2009 Freescale Rochester Technology Symposium (FRTS) is scheduled for Thursday, November 5 at the Rochester Institute of Technology's Center for Integrated Manufacturing Systems and the Louise Slaughter Building on campus. The free event brings together more than 200 customer design engineers, engineering professors and students, third-party tools partners, and executive managers for a one-day, multi-track training seminar. Register at: www.freescale.com/FRTS