



## IEEE ROCHESTER SECTION NEWS FOR NOVEMBER 2007

Jacob Z. Schanker, P.E., Newsletter Chair

E-mail: [j.schanker@ieee.org](mailto:j.schanker@ieee.org)

Rochester IEEE home page at: <http://www.r1.ieee.org/~roch>

---

### Rochester Section Meeting Tuesday, November 6, 2007

The next Rochester Section business meeting is on Tuesday November 6, 2007 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 reservations or RSVP is needed, just show up.

### IEEE Geoscience and Remote Sensing Society Chapter Meeting

**Date:** Friday, November 9, 2007

**Time:** 4:30 - 5:15 PM Open house at Remote Sensing Lab (with refreshments)

5:30 - 6:30 IEEE GRSS Chapter meeting and technical presentation

**Location:** Remote Sensing Lab, 864 Natural Sciences Complex, University at Buffalo, Buffalo, NY 14260 For map see <http://www.buffalo.edu/buildings/building?id=nsc>

Chapter meeting place: 4 Knox Lecture Hall, University at Buffalo, Buffalo, NY 14260.

<http://www.buffalo.edu/buildings/building?id=knox>

**Speaker:** Dr. Bea Csatho

**Title of presentation:** "Monitoring Earth-Surface Dynamics with ICESat Satellite Laser Altimetry"

*Abstract:* NASA's Ice, Cloud, and land Elevation Satellite (ICESat), the first laser altimetry satellite orbiting the Earth, was launched in 2003. ICESat is the benchmark Earth Observing System mission for measuring ice sheet mass balance, cloud and aerosol heights, as well as land topography and vegetation characteristics.

This presentation will introduce the Geoscience Laser Altimeter System (GLAS), the main sensor of the ICESat satellite, and review the main achievements of the ICESat mission. It will describe research at the University at Buffalo and at the Ohio State University, namely (1) activities related to the calibration and validation of ICESat measurements; (2) the development of a novel fusion scheme that uses ICESat laser points to establish a reference frame enabling rigorous registration of aerial and satellite imagery; (3) the generation of a new DEM of the Greenland Ice

Sheet and (4) monitoring cryospheric changes in Greenland and Antarctica. Potential use of ICESat laser altimetry for monitoring Great Lakes water level, snow depth distribution and forest biomass will also be discussed.

**About the speaker:** Dr. Bea Csatho has over 25 years experience in remote sensing, geophysics, GIS and glaciology. She is currently an Assistant Professor at the Department of Geology, University at Buffalo, SUNY, where she teaches remote sensing and GIS. Her recent research, supported by NASA and NSF grants, focuses on climate change in the polar regions. Her projects include investigations of glacier and ice sheet mass balance, geomorphology and structural geology, development of data processing methods for satellite and airborne laser altimetry and multisensor fusion. Dr. Csatho is a science team member of NASA's Ice Cloud and land Elevation Satellite (ICESat) mission. She has participated in 7 expeditions in the polar regions. She currently uses satellite altimetry to monitor glacier dynamics in Antarctica and participates in the GNET program that develops a network of continuous GPS stations to study crustal motions in Greenland.

More information is available at the Western New York Chapter IEEE GRSS Website:

[http://ewh.ieee.org/r1/new\\_york/grss/](http://ewh.ieee.org/r1/new_york/grss/).

### **31st Annual EDS/CAS Activities in Western New York Conference**

The conference will be on November 7, 2007 at the Xerox Auditorium, Gleason Building, Rochester Institute of Technology.

The focus of this conference is to bring engineers and researchers together to share information on a wide variety of topics related to microelectronic devices and systems, allowing one to become acquainted with others of similar interest in nearby locations.

This year the conference will return to RIT. The conference presentations begin at 11AM, including two invited talks and six contributed talks. There will be a noon lunch and afternoon coffee break, and a poster session reception will follow the contributed talks. See the conference website listed below for the conference registration and latest updated information.

<http://www.microe.rit.edu/eds.html>

#### **Invited Speakers:**

Our first invited speaker is Prof. Ioannis Kymissis from the Electrical Engineering Department at Columbia University. His research focuses on thin film devices and systems, and he will be presenting on "Organic Field Effect Transistors: How to make them, and an application which uses them."

Our second invited speaker is Dr. William McColgin, a Research Fellow in the Image Sensor Solutions division of Eastman Kodak Company. He will be presenting on "Dark Current Spectroscopy: Using Image Sensors for Research."

EDS Conference Chair is Dr. Karl D. Hirschman, Microelectronic Engineering Department, Rochester Institute of Technology. Phone 585 475 5130.

### **IEEE Upstate NY Workshop on Communications, Sensors, and Networking '07**

**Date:** Friday, November 9, 2007

**Time:** 8:30am-5:00pm

**Location:** Goldstein Student Center, Syracuse University, Syracuse, NY

**Web site:** <http://www.ecs.syr.edu/research/snw/>

**Workshop Pre-registration Deadline:** November 2, 2007

The IEEE Upstate NY Workshop on Communications, Sensors, and Networking '07 offers an opportunity for engineers and researchers to share ideas in the area of communications, wireless communications, sensors, wireless sensor networks, and networking. This year the workshop combines the 4th IEEE Upstate NY Workshop on Communications and Networking in Rochester with the 5th IEEE Upstate NY Sensor Network Workshop held in Syracuse. Topics of interest include recent advances in all areas of communications, Internet, wireless and sensor networks. The workshop is co-sponsored by the Joint Chapters for Communications and Aerospace of the IEEE Syracuse Section and of the IEEE Rochester Section.



MEETING ANNOUNCEMENT &  
CALL FOR ABSTRACTS

*31st Annual EDS/CAS  
Activities in Western New York Conference  
November 7, 2007*

*Xerox Auditorium, Gleason Building  
Rochester Institute of Technology  
Rochester, NY*

The focus of this conference is to bring engineers and researchers together to share information on a wide variety of topics related to microelectronic devices and systems, allowing one to become acquainted with others of similar interest in nearby locations. This year the conference will return to RIT. The conference presentations begin at 11AM, including two invited talks and six contributed talks. There will be a noon lunch and afternoon coffee break, and a poster session reception will follow the contributed talks. See the conference website listed below for the latest updated information.

*Invited Speakers: (see our website for bios & abstracts)*

Our first invited speaker is Prof. Ioannis Kymissis from the Electrical Engineering Department at Columbia University. His research focuses on thin film devices and systems, and he will be presenting on “Organic Field Effect Transistors: How to make them, and an application which uses them.”

Our second invited speaker is Dr. William McColgin, a Research Fellow in Image Sensor Solutions (ISS) of Eastman Kodak Company. His career has largely been in solid-state imaging, and he will be presenting on “Dark Current Spectroscopy: Using Image Sensors for Research.”

*Call for Abstracts:*

Abstracts are being solicited for contributed talks and poster presentations, especially those which promote research and development activity in Western New York consisting of the greater Buffalo, Rochester, Ithaca and Syracuse areas. Abstracts must be received by October 19<sup>th</sup> for contributed talks, and by October 26<sup>th</sup> for posters. Submission can be done electronically via email to [kdhemc@rit.edu](mailto:kdhemc@rit.edu) using MS-Word or pdf formats.

*See the website listed below for the conference registration and the latest agenda updates!*

*EDS Conference Chair: Dr. Karl D. Hirschman  
Microelectronic Engineering Department  
Rochester Institute of Technology  
Ph. 585-475-5130  
<http://www.microe.rit.edu/eds.html>*

*Visit our EDS website at:*



present

## Re-Live the Movie "The Matrix": From Harry Nyquist to Image-Based Rendering

*Prof. Tsuhan Chen*

*Carnegie Mellon University, Pittsburgh, Pennsylvania*

**Date:** Tuesday, November 27, 2007

**Location:** The Laboratory for Laser Energetics Auditorium - 240 East River Road, Rochester, NY 14623

**Time:** 6:30-7pm Pizza and Socializing, 7pm-8pm Technical Presentation

**SPS Announcements + Venue Map:**

<http://ewh.ieee.org/r1/rochester/sp/location.html>

**RSVP:** John Handley (John.Handley@xerox.com) for pizza count

### Abstract

We In recent years, the field of visual computing has observed a convergence of image processing, computer vision, and computer graphics. Multiview imaging represents one central theme of the convergence. Now widely used in applications ranging from special effects (e.g., in the movie "The Matrix") to 3D object tracking, multiview imaging has become an essential tool for creating informative visualization and effective 3D analysis. In this talk I will introduce recent research on sampling, reconstructing, and relighting multiview images. I will present our mobile camera array, composed of 48 mobile platforms each carrying a video camera. These mobile cameras respond to 3D scenes and position themselves for the most effective 3D analysis.

While discussing the mechanism for sampling the 7-dimensional plenoptic function, we will reveal the connection between multiview imaging and the Sampling Theorem discovered by Harry Nyquist almost 80 years ago!

### Speaker Biography

Norimichi Tsuhan Chen has been with the Department of Electrical and Computer Engineering, Carnegie Mellon University, Pittsburgh, Pennsylvania, since October 1997, where he is currently Professor and Associate Department Head. From August 1993 to October 1997, he worked at AT&T Bell Laboratories, Holmdel, New Jersey. He received the M.S. and Ph.D. degrees in electrical engineering from the California Institute of Technology, Pasadena, California, in 1990 and 1993,

respectively. He received the B.S. degree in electrical engineering from the National Taiwan University in 1987.

Tsuhhan served as the Editor-in-Chief for IEEE Transactions on Multimedia in 2002-2004. He also served in the Editorial Board of IEEE Signal Processing Magazine and as Associate Editor for IEEE Trans. on Circuits and Systems for Video Technology, IEEE Trans. on Image Processing, IEEE Trans. on Signal Processing, and IEEE Trans. on Multimedia. He co-edited a book titled Multimedia Systems, Standards, and Networks.

Tsuhhan received the Charles Wilts Prize at the California Institute of Technology in 1993. He was a recipient of the National Science Foundation CAREER Award, from 2000 to 2003. He received the Benjamin Richard Teare Teaching Award at the Carnegie Mellon University in 2006. He is elected to the Board of Governors, IEEE Signal Processing Society, 2007-2009. He is a member of the Phi Tau Phi Scholastic Honor Society. He is Fellow of IEEE, and a Distinguished Lecturer of the Signal Processing Society.