

October 2004

See us on the WEB at: www.ewh.ieee.org/r2/susquehanna**October 2004 Section Meeting****Wireless Surveillance System**

Date: Tuesday, October 12, 2004
Time: Dinner 6:30 PM
Presentation 7:30 PM
Dinner: Special Events Room
Room 139 (Behind Cafeteria)
First Floor (East Wing)
Olmsted Building
Penn State Harrisburg
Dinner Cost: Regular Members: \$15
Students: FREE
Location: Same as dinner location
Contact: (by email if possible)
Stan Telson
717-569-6579
E-mail: st@qspp.com

RSVP to Stan Telson, st@qspp.com, by 10/08/04 so we can get the catering count right.

Note: Dinner is \$15 for members and guests, and FREE FOR STUDENTS THIS MONTH - courtesy the Section. Students must reserve in advance and no-shows will be billed \$15 to cover the wasted food.

October's Program

Advances in wireless technology, battery chemistry, and miniaturization have made large-scale wireless data gathering systems practical. Wireless sensing no longer needs to be relegated to locations where access is difficult or cabling is not practical. Wireless data gathering can be cost effectively implemented in extensive applications that were historically handled by route running. Applied to Condition-Based Maintenance (CBM), wireless monitoring is a substantial advance in capability.

The October talk will detail the major issues surrounding the development of a wireless surveillance system for practical application in the factory environment. A wireless system must address the reliability of the wireless communication network, cost, battery life, ease of configuration, miniaturization and intelligence, all while retaining the accuracy and bandwidth of traditional sensors. A careful balance is necessary.

The presentation will be of use to both practicing engineers and students since it will cover theory, the practical aspects of the design process, and the specific application issues.

September Section Meeting

On September 14th, a record number (over 100) of members witnessed an exhilarating talk by Dr. Wood. The talk began with a short review on the status of the Hubble Space Telescope and the possible robotic servicing mission. Some pictures from the Cassini mission to Saturn were also shown.



Shown above is an assortment of some of the images the audience got to see at the meeting.

Dr. Wood began working with Mars images in the early 1960's at Lowell Observatory in Flagstaff Arizona. As a graduate student, he was employed two summers as research assistant to Earl C. Slipher who had spent his professional career photographing Mars and the other brighter planets. Then at NASA Goddard Space Flight Center in the late 1980's, Dr. Wood got to participate in building the Mars Observer Laser Altimeter (MOLA), which has produced the most amazing topographical map of Mars. Most recently, Mars Orbiter Camera (MOC) photographs from orbit show remarkable geographical features showing evidence for past flows of water. They also show dust devil tracks and have caught dust devils in action. Finally, the Mars Exploration Rovers Spirit and Opportunity show close-up evidence of hematite and stratigraphic rocks indicative of flowing water on small scale.

Our Honorable Speaker

Christopher McLean, Ph.D.(Penn State) is the Division Manager for the Techkor Division of Advanced Conversion Technology Inc. Dr. McLean has been involved in the design of instrumentation products and software for over 12 years.

His experience covers vibration, stress-strain, thermal, and fluid dynamics. He co-founded Techkor Instrumentation in 1993; it produces measurement products for industrial and military markets.

Techkor is a supplier of custom sensors and sensing systems for the measurements of strain, vibration, acceleration, position, temperature, pressure, load, force, frequency, RPM, and RMS. Techkor products are used by OEMs, engineers, maintenance personnel, researchers and problem solvers. For more information please see <http://www.techkor.com/>.

Directions to Olmsted Building

The entrance to Penn State Harrisburg is located on PA 230, West of Middletown.

From PA Turnpike (I-76): Get off at exit 19. Follow PA 283 East toward the Harrisburg International Airport. Follow signs for the airport and the college. Before entering the airport complex, take the exit for PA 230. Turn left at the junction of 230. Proceed on 230 East approximately 1 mile. The college entrance is on the left. As you travel inside the campus, take the fourth right that comes by (the one immediately after the Olmsted Building).

From Lancaster and points East: Take Route 283 West toward Harrisburg. Follow signs for the airport and the college. Before entering the airport complex, take the exit for PA 230. Turn left at the junction of 230. Proceed on 230 East approximately 1 mile. The college entrance is on the left. As you travel inside the campus, take the fourth right that comes by (the one immediately after the Olmsted Building).

From Harrisburg and points North: Follow signs for Harrisburg International Airport/283 East. Take 283 East to the Harrisburg International Airport exit. Follow signs for the airport and the college. Before entering the airport complex, take the exit for PA 230. Turn left at the junction of 230. Proceed on 230 East approximately 1 mile. The college entrance is on the left. As you travel inside the campus, take the fourth right that comes by (the one immediately after the Olmsted Building).

Once you park, you should be looking at the rear entrances of the Olmsted building. The special events room is in the East wing of the Olmsted building.

November Program New Date/Time Early Announcement

There has been wide interest in another tour of the Harley Davidson facility in York. In recent years this facility has created a new visitor/tour center and limited the times for tours to match production-active hours. Very recently they combined two production lines and have improved the tour from what was already a fascinating experience. However, Harley Davidson cannot accommodate an evening or late afternoon tour as there is no production on that shift and the visitor center is closed. As a result we are planning a noontime tour in November, in lieu of our evening section meeting. The confirmed date is an unusual Tuesday, November 23, 2004. This is an arrive-at 12:10 p.m., finish-by 1:30 p.m. schedule with lunch-on-your-own logistics, to try to make it work for as many members and students as possible up to a capacity of 54. Our tour start times are at 12:30 p.m. when the factory is back from lunch and in full production, but you must arrive early to complete procedures and have time to sit on the Harleys! Watch the November newsletter for important safety/security information and the required pre-registration deadline to ensure we can manage attendance.

Call for Section Nominations

Nominations are sought for Susquehanna Section Officer Positions for 2005. Nominations should be sent by no later than October 15, 2004 to Ed Simoncek at simoncek@ieee.org or Stan Telson st@qspp.com. Candidates should be Member grade or above in good standing with the IEEE. You may also discuss these positions with Larry Brown or Omid Ansary, who form the nominating committee. In the event of multiple candidates for any office, there will then be a ballot process in November. Nominations are sought for:

Section Chair
Section Co-Chair (Program Chair)
Treasurer
Secretary

Call for Faculty at Penn State Harrisburg

Faculty is needed at Penn State Harrisburg to teach the following courses for spring 2005:

EET 420W Senior Project Course

Meets Tue. & Thur. 8:00 AM to 10:50 AM

EET 412 Microcomputer Course

Meets Mon. & Tue. 6:15 PM to 9:00 PM

EET 433 Control System Analysis and Design

Meets Mon. & Wed. 6:00 PM to 9:00 PM

Classes start January 10, 2005 and finals end May 6, 2005

Interested people contact Jerry F. Shoup for more details at the following address:

Jerry F. Shoup, Ph.D.

Program Chairman EE & EET and Internship Coordinator for School of Science, Engineering, and Technology

W-256 Olmsted Building Penn State Harrisburg, Capital College

777 West Harrisburg Pike Middletown PA 17057-4898

Telephone: (717) 948-6114

Facsimile: (717) 948-6352

E-Mail: jfs1@psu.edu

2005 Engineers Week Award

Nominations are now being accepted for the 2005 National Engineers Week Awards to be presented by the Central Pennsylvania Engineers Week Council. The Engineers Week Council anticipates honoring three individuals who have made outstanding contributions to the engineering field with the following awards: Engineer of the Year, Young Engineer of the Year, Technical Achievement Award.

The awards will be presented at the National Engineers Week Banquet to be held on Thursday, February 24, 2005.

Nomination applications, including complete eligibility requirements for each of the awards, are attached. In addition, the applications are available to download from the Central Pennsylvania Engineers Week Council website (www.cpewc.org).

All applications must be received by November 24, 2004.

If you have any questions, feel free to contact Keith Markel, P.E., Chari - Awards Committee at 717-763-7212 ext 2765, or kmarkel@gfnet.com.

Useful Information Column

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Q/A-C Column

Do you have any questions or comments? Call, email or FAX it to our Chair at the above addresses.

Newsletter Mailing or WEB Page Notification

If you do not receive your Newsletter, please notify AB Shafaye mes121@psu.edu or Vittal Balasubramanian b.vittal@ieee.org. If you would like to convert from paper copy mailing of the Newsletter to WEB page delivery, please notify AB Shafaye, who serves as our Publisher.

Address Changes and Updates

There are several ways to correct member information with IEEE. They update their directory from the information you provide, and pass the changes to us monthly. Keeping your address information up to date will ensure accurate mailings.

- There is a WEB based interactive "change of address" form at: <http://services1.ieee.org/membersvc/coa/intro.htm>
- You can send an email to: address-changes@ieee.org
- Call IEEE Member Services at 1-800-678-IEEE
- Mail changes to
IEEE
445 Hoes Lane
P.O. Box 1331
Piscataway, NJ 08855-1331
- FAX changes to 1-732-981-9667

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