

Bulletin

IEEE Pittsburgh Section

November 2005 Volume 54, No. 15



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Contributors: George Crawford, Bob Grimes, Joe Kalasky, Dimitris Korakakis Prashant Krishnamurthy, Andrew Rydholm, Kal Sen, Ralph Sprang, Chuck Urso, and Dave Vaglia.

All announcements for publication in a particular monthly bulletin are due to the Editor by the 20th of the previous month. Monthly issues of the bulletin are posted on the web site www.ewh.ieee.org/r2/pittsburgh. The accuracy of the published material is not guaranteed. If there is any error, please bring it to the Editor's attention.

• From the Chair

Last month, I was on a 5-city speaking tour in China and India as an IEEE Distinguished Lecturer from the Power Engineering Society. Along the way, I made a stop in Hong Kong to attend the Industrial Applications Society (IAS) Annual Meeting and to receive the 2005 Outstanding Large Chapter Award on behalf of the IEEE IAS Pittsburgh Chapter. It is indeed an honor and privilege to be a part of this great event. I hope that the award-winning tradition continues with the incoming officers. I urge members to come forward and be a part of various Chapters.

The election of the 2006 Section officers is under way. I urge all members to vote. We have a great slate of candidates. The success of your professional society, IEEE, largely depends on the enthusiasm and leadership of the officers you elect.

The biographies of most of the candidates are published in this issue. The ballots were mailed to you via the US Postal Service. If you have not received your ballot by November 7, please let me know. The due date for returning your ballot is December 1, 2005. You may mail the completed ballot to the following address:

**Elena Schreiber Mailstop A135
Bombardier Transportation
1501 Lebanon Church Road
Pittsburgh PA 15236-1491**

OR, you may email your choice of candidates to **both** of the following members of the Nominating Committee.

Elena Schreiber

Email: elena.schreiber@us.transport.bombardier.com

Joe Kalasky

Email: JKALASK@alleghenypower.com

If you have any questions or ideas for our section, please do not hesitate to let me know. I can be contacted at senkk@ieee.org or (724) 696-1611.

Kal Sen

• Note from the October Editor

Due to my error, last month's Bulletin failed to include an announcement of the Communication Chapter's meeting on October 12, so notice of the meeting was sent via email to Pittsburgh Section members on October 5. At the meeting Professor Richard Thompson gave a presentation entitled, "Using Probabilistic Languages to Model Complicated Processes".

Jace Cochrane

Section

Chair – Dr. Kalyan Sen (Kal)
senkk@ieee.org (724) 696-1611

Vice Chair – Ralph Sprang
rsprang@ieee.org (412) 635-2663

Treasurer & Awards Co-Chair – David J. Vaglia, P.E.
davevaglia@ieee.org (412) 491-6944

Webmaster – Andrew Novotny
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Chapter Chairs

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Dr. Prashant Krishnamurthy
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Computer Chair and Section Secretary
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Engg. In Medicine & Biology
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Charles Urso, P.E.
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Magnetics: Dr. Ganping Ju
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Robotics Co-Chairs
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Dr. Ron Stone
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Signal Processing: Dr. Heung-No Lee
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UpperMon Subsection
Dr. Dimitris Korakakis
Dimitris.Korakakis@mail.wvu.edu
(304) 293-0405 x2512

Life Member Chair: Bob Grimes, P.E.
r.d.grimes@ieee.org (412) 963-9711
Vice-Chair – Wally Raisanen
wraisanen@reliableinstruments.com (724) 986-4467

Committees

Professional/Career Activities (PACE) Chair:
Joe Kalasky, P.E.
j.kalasky@ieee.org (724) 838-6492

Consultants Network Chair:
Dr. George Crawford, P.E.
gwc2@psu.edu (412) 675-9164

Membership Development Chair:
Elliott Levenson
elliott.levenson@us.army.mil (412) 303-3573

Conference Chair: Dr. Miklos Gyimesi
miklos.gyimesi@ansys.com (724) 514-1787

GOLD Chair: Andrew Rydholm
andrew_rydholm@yahoo.com (412) 261-3200 x281

Awards Co-Chair: Ray Valentine, P.E.
r.d.valentine@ieee.org (724) 733-5083

Publicity Chair: Thomas Dionise, P.E.
ThomasJDionise@eaton.com (724) 779-5864

• **Candidates for Pittsburgh Section Chairman**



David J. Vaglia, P. E.

- IEEE Member for 33 years
- Candidate selected by Nominating Committee
- Section Treasurer
- IAS/PES Treasurer (2 terms)
- Section Awards Co-Chairman (2 terms)
- Primary Delegate to Sections Congress
- Sponsor of recent tours/technical meetings at
 - Allegheny Power Operation Center
 - Meyersdale Wind Farm
 - Westinghouse Nuclear Plant Simulator
- Professional
 - 30 years experience in Electrical Engineering, and Information and Control Systems
 - Currently working at Westinghouse in control room design
- Education
 - BSEE and BA degrees from the Pennsylvania State University, MBA from the University of Pittsburgh, P.E. certification (Pennsylvania)

Campaign Statement – Our PES and IAS chapters both received the Best Large Chapter awards for 2004, a direct result of hard work by members and our leadership. While overseeing all duties of the Chair, I would like to pay particular attention to bringing in new members. There are student branches at our colleges and universities, but many student members disappear after graduation. We need to gain their interest and participation by establishing programs to help new members grow professionally and in the IEEE. I believe the nominating committee selected me for this position because I have worked successfully for our section in the past, and I look forward to the challenge of serving as Chair.



Ralph Sprang

- Senior Member IEEE
- Followed preferred progression of offices:
 - Secretary – wrote minutes, maintained records with national IEEE
 - Treasurer– accurately maintained and consolidated accounts, completed transition to electronic banking
 - Vice Chair (incumbent) – parliamentarian, liaison with other professional organizations
- Section involvement: Pittsburgh (5 years), Cincinnati (10 years), Baltimore (7 years)
- Professional
 - 20 years industry experience in analog, digital, and RF design and development
 - Project and program management
 - Industries: consumer electronics, industrial, telecommunications, and defense
 - Currently consulting on FPGAs, high speed logic, embedded systems, and Systems on a Chip (SOC)
- Education
 - BSEE Ohio State University, MSEE Johns Hopkins University, PhD candidate, University of Pittsburgh

Campaign Statement – We need strong, active, highly ethical leaders for our section. Over the last 5 years I have demonstrated my commitment to this section and these ideals through regular attendance at executive and chapter meetings and participation in IEEE-USA events. With experience in both industry and academia, I can effectively support both constituencies. Serving in all of the other officer positions taught the role and purpose of each function and provided the qualifications to serve effectively as vice chair. I will continue to demonstrate this high level of competence and dedication as Chair.

- **Candidate for Pittsburgh Section Secretary**



Charles Urso, P.E.

Charles V. Urso, P.E., RCDD, is a Senior Electrical Engineer at LLI Engineering, Inc. and a regional authority on low voltage cabling systems for fire alarm, data, security, communications and power distribution. He graduated Magna Cum Laude from Point Park College with a Bachelor of Science in Electrical Engineering. He is a Registered Communications Distribution Designer as well as a Professional Engineer registered in the state of Pennsylvania. Charles has been designing facilities for the construction industry for 18 years. He is experienced at analyzing complex projects and determining the most overall cost effective solution. As a Project Manager, his long-term clients include commercial, education, light industrial, manufacturing and telecommunication clients. He is experienced in illumination and power distribution for new and renovation projects. Charles is active in professional organizations such as BICSI (a telecommunications association) and IEEE in which he is a Senior Member. He is a veteran, having served in the US Army and US Army reserves for 11 years in aviation and electronics. He has expanded his technical knowledge through numerous Continuing Education classes.

- **Enabling Secure Communications in Sensor Networks**

Sponsor: Communications Society
Speaker: Dr. Mohamed Eltoweissy
Date: Friday, November 11, 2005
Time: Coffee and welcome: 2:00 - 2:30 PM Presentation: 2:30-3:30 PM
Place: Room 404 Information Science Building
University of Pittsburgh – Oakland Campus 135 N Bellefield Ave Pittsburgh 15213
RSVP: No RSVP is necessary

Abstract: Wireless networks consisting of low-power sensing devices are becoming a ubiquitous part of the computing landscape. The emerging applications of these sensor networks range from healthcare to warfare. Most of these applications require protection of sensitive information. However, developing security services (confidentiality, authentication, etc.) for sensor networks in a manner that meets the stringent resource constraints is challenging. This challenge is further complicated by the sensor network's ad hoc nature, intermittent wireless connectivity, large scale, and unattended deployment. As a result, sensor networks are highly vulnerable to physical node capture and other attacks that may compromise critical security data, including encryption keys used for confidentiality and authentication. In this talk, we present a dynamic group keying scheme for large-scale long-lived sensor networks consisting of low-end sensor nodes clustered around more capable gateway nodes. Our solution is built upon Exclusion Basis Systems; a combinatorial formulation of the group key management problem. The scheme distributes key management functionality among multiple nodes. Using cluster-based administrative keys, the scheme can localize the impact of attacks as well as considerably improve the efficiency of maintaining freshness of communication keys. A primary advantage is the scheme's resilience to both multi-sensor and gateway captures.

Speaker Bio: Mohamed Eltoweissy is an associate professor in the Bradley Department of Electrical and Computer Engineering at Virginia Tech and holds a courtesy appointment in Computer Science. Dr. Eltoweissy is founder and director of the Center for Cyber Assurance and Trust (Cycare). He has over 80 publications in archival journals, respected books and conference proceedings. Among his research contributions are service-centric architecture for sensor networks and stochastic models for the optimization of security protocols. Dr. Eltoweissy is a senior member of IEEE.

- **Medical Imaging: At the Interface of Medicine, Physics, and Engineering**

Sponsored by: Upper Mon Subsection Everyone is welcome.
Speaker: Dr. Susan Lemieux, West Virginia University
Date: Monday, November 7, 2005
Time: Refreshments: 4:45 PM Presentation: 5:00-6:00 PM
Place: Room G39, Engineering Sciences Building, West Virginia University
Evansdale Campus, Morgantown WV 26506
Parking: Parking is free at the time of the meeting. Use Lot 40 or 41 outside the
Engineering Sciences Building.
RSVP: It is not necessary to RSVP.

Susan Lemieux is an Assistant Professor of Radiology at West Virginia University. She is leading a research team exploring physiological imaging of the kidney and is actively involved in functional neuro-imaging research. Her other duties include involvement in the clinical operation of the WVU MRI scanners, teaching radiology residents, and teaching WVU engineering students.

- **Technical Job Placement Strategies - Interviewing**

Sponsor: Professional Activities Committee for Engineers (PACE)
Speaker: Mr. Mike Sylvester, Vice President, AllTek Staffing and Resource Group, Inc.
Date: Thursday, November 10, 2005
Time: 6:00 PM – 7:00 PM
Place: University of Pittsburgh, Oakland Campus, 360 Benedum Hall
Food: Complimentary pop and snack foods before and after the meeting
RSVP: Absolutely necessary. **Must RSVP by Nov 9.** See below.

In our continuing series offering employment strategy to IEEE Members, the Pittsburgh Section is pleased to announce that Mr. Mike Sylvester of AllTek Staffing and Resource Group, another major technical consulting firm in the Pittsburgh area, will make a specialized presentation to our section. Building on our successful August meeting about how to utilize technical staffing firms, Mr. Sylvester will emphasize the *Interview Process* both for attaining new employment and for upward mobility in your present firm. After months of effort to get an interview, it's possible to ruin your chances for the job in the first five minutes of that interview. Don't let it happen to you.

AllTek is strictly focused on filling professional technical positions, both contract and permanent, in the greater Pittsburgh manufacturing, engineering, and construction industries. All engineering and IT disciplines are served. This meeting is suggested for those Members who are unemployed, under-employed or seeking change.

Attendance is limited to the first 20 IEEE Members (any grade, any Section) who reserve space. New Member Applicants are also eligible to reserve a space, but must bring their completed application and a check for their membership fee to this meeting. Reserve your space by calling or emailing Joe Kalasky at (724) 838-6492 or j.kalasky@ieee.org by November 9. Please supply your name, telephone number, email address and IEEE Member Number. If you reserve and then cannot attend, please notify Joe Kalasky as we expect a waiting list.

• Arc Flash Hazards – Personnel Safety and NEC Implications

Sponsor: Power Engineering Society and Industrial Applications Society
Date: Wednesday, November 16, 2005
Time: Social and refreshments: 6:30PM Technical program: 7:00 PM
Place: Westinghouse Energy Center, Monroeville (Directions on page 7)
RSVP: Chuck Baker at (724) 722-6225 or bakercf@westinghouse.com

The details of this interesting meeting were still being determined at the time of bulletin publication. If you have any questions about the speaker or program, please contact Chuck Baker at the number or email above.

• GOLD – Graduates of the Last Decade ENGINEERING CAREER VITALITY AND SURVIVABILITY

Date: Monday, November 21, 2005
Speaker: Joseph A. Kalasky, P.E.
Time: 6:00 PM Cash bar and place meal order 6:30 PM Dinner 7:30 PM Program
Place: Holiday Inn, Rt 48, Monroeville
Meal Cost: IEEE Member= \$10 Non-Member= \$20 Member+Guest= \$25
RSVP: By Wednesday, **November 16** (412) 261-3200 x281 or andrew_rydholm@yahoo.com
Send check payable to “Pittsburgh Section IEEE” to: Andrew Rydholm
921 Chestnut Ridge Drive
Pittsburgh, PA 15205

The recent EE or IT graduate and in fact all EEs and ITs are in need of skills to continuously re-vitalize and actually survive in a dynamically changing career environment. Joe will summarize the issues, skills and faults that can make or break the best of careers today. This meeting will also serve as kick-off meeting for the newly formed IEEE Pittsburgh Section GOLD Committee. GOLD focuses on new engineers who received their degrees in the last 10 years. Bring ideas and issues for future meetings. (Professional, Sports, Social) Meet the new GOLD Chair Andrew Rydholm. Let’s network now!

About the speaker: Joe is a popular speaker, having spoken at local, regional, national and global IEEE events such as PACE Conferences and Sections Congress. Joe has always been an outspoken advocate of Engineers’ rights and career issues in the USA. He has been to the US Capital on behalf of IEEE to meet with US Senators and Congressmen about such issues as offshore outsourcing. He has spoken to IEEE Canada BoD in Edmonton on Canadian Provincial and Federal issues affecting Canadian engineers. Joe has held many offices within IEEE including: Member IEEE Board of Directors; Chair IEEE Global Industry Relation; Member IEEE Global GOLD Committee; Chair Pittsburgh Section; Member IEEE-USA Employment & Career Strategies; and Member IEEE-USA Government Activities Group. He is currently Chair of the Pittsburgh Section Professional Activities Committee (PACE).

Directions: From PA Turnpike (76) take Monroeville exit. After toll plaza, get in left lane for Business Rt 22 West. Take B. Rt 22 West for ¼ km. At first traffic light turn left onto Rt 48 South (Moss Side Blvd). Holiday Inn is on east or left side of Rt 48 behind Max & Erma’s.

- **Consultants Network Meetings**

If you are a consultant offering engineering services or thinking about becoming one, the Consultants Network (CN) is for you. Network with other consultants and be included in CN's on-line listing of consultants, which is used by companies in need of consultants.

The October meeting of the Consultants Network was a roundtable discussion. Those in attendance described their consulting business and experiences and got feedback from the group. Plans for a meeting on **Tuesday, November 22** are being finalized and will be emailed to all CN members. Contact George Crawford at (412) 675-9164 or gwc2@psu.edu to receive the email. The meeting will be held at the Westinghouse Energy Center. (Directions below.)

- **Life Members Meeting - Magnetic Storage**

Speaker: Dr. Mark Kryder
Date: Thursday, December 8, 2005
Location: Seagate Research Center, Strip District, Pittsburgh
Time: 1:00 PM Presentation 2:00 PM Tour of Lab

More details will be provided in the December bulletin, but save the day on your calendars now.

- **Job Opportunities**

The Pittsburgh Section of IEEE has been contacted recently by two employers who are looking for electrical engineers to work in the Pittsburgh area. Please go to our web site (URL is on page 1) and click on 'Job Opportunities' in the left column on the home page to learn more about these job openings.

- **Update Your Email Address**

The Pittsburgh Section relies on IEEE headquarters to maintain the list of email addresses of our approximately 3000 members. This list is used to distribute the Bulletin each month. If your email address changes, please notify IEEE headquarters in New Jersey, so that you can continue to receive the bulletin. Call 1-800-678-4333.

Directions to Westinghouse Energy Center (for November 16 and November 22 meetings)

From Pittsburgh, take Interstate 376 East (Parkway East). Take Exit 14A to Monroeville. Cross Business Rt 22 at the traffic light and proceed on Rt 48 South (Moss Side Blvd) approximately ½ mile (two traffic lights). The second traffic light is at a four-way intersection with an Exxon Station on the right and Sunoco station on the left. Turn left onto Northern Pike. Proceed approximately 0.2 miles and turn right at the first traffic light onto Westinghouse Drive. Travel 0.7 miles to the three flags where the building's main entrance is located. Parking in the evening will be plentiful. Use the main entrance and check with the security guards inside. You will be directed to the proper auditorium for the presentation.

If traveling the PA Turnpike, take Exit 57 (Monroeville). After the toll plaza, get in the left lane to get on Business Rt 22 West. At the first light, turn left onto Rt 48 South (Moss Side Blvd) and follow the above directions.

2005 Calendar Meetings of Pittsburgh Section of IEEE

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
ExecComm	20 Point Park Univ.	17 UPitt Oakland	17 CMU	21 UPG	26 Papa J's	16 UPitt Oakland	No meeting	18 D'Im- perio's	10 Settlers Cabin	24 WVU	17 UPitt Greensburg	15 D'Im- perio's
Section		19 Robot Car Race		28 History Dinner					10 Picnic			
Life Member	West'house Museum & Nuclear Pgm					23 Distributd Generation		18 Fuel Cells		20 Com- mercial Radio Birthplace		8 Magnetic Storage Seagate
Commu- nication			25 New Tech. for Tele. Mon.							12 Prob Languages Comp Pro	11 Secure Commun. in Sensor Netwk	
Computer			16 Nxt Gen Search Eng									
EMB										20 Design for User		
PES/IAS	26 Adaptive Identifica- tion	23 Rail Guns	30 Project Management	28 Electric Transmiss'n End of an Era	31 Wind Farm Tour	20 Robot Servicing of Hubble 29 Shield'g Theory	27 Electric Vehicles & Land Speed Record	26 Pirates game	28 Nuclear Control Room simulators	25 Life Safety in Industry	16 Arc Flash Hazards	
Magnetics			31 Half Metal Spin Torque	29 Magnetic Recording					29 Dynamic in micro & nano			
Robotics					5 Miniature Micro/Nano Robotics	20 Robot Servicing of Hubble						
Signal Processing				20 Wireless Ntwk Desig					13 Bounds in MIMO			
Upper Mon										3 Computer Forensics 24 UV emitters	7 Medical Imaging	
Consultants Network				26 Contract Employmnt	24 Consult Acct reqmt.	28 Non- disclosure Agreement	26 Networking		27 Starting Consulting Business	26 Roundtable	22 TBD	
GOLD					21 1st mtg							21 Career Vitality
Profess'nal Activities (PACE)								16 Using Tech Staff Firms			10 Inter- viewing	
Student Activities				15 GE Plant tour								

TBD = to be determined