



IEEE Pittsburgh Section



Bulletin

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

From the Chair

Greetings, friends. I trust you are all doing well.

The nominations committee has made their recommendations to the executive committee, and the executive committee has accepted those nominations. In the next couple of weeks you will receive a letter concerning the election candidates and process. Please note that this will be mailed through the postal service rather than emailed.

The polls for election of IEEE regional and national offices are also open. Please vote in these elections.

Ralph Wyndrum, 2006 IEEE-USA president and President of the IEEE-USA Innovation Institute, will visit our Section in December 2007 to explain how the Innovation Institute can help engineers in our Section. The tentative date is December 20, 2007, so please pencil in that date and plan to attend this Section meeting.

We will be finalizing the Section budget soon. If you have not already submitted budget requests, please submit them soon.

I appreciate the willingness of our volunteers to step in and do whatever needs to be done. Our Section could not function without the many volunteers, many of whom have served for years. If you appreciate the efforts of one of our volunteers, please drop me an email to let me know. IEEE provides awards and recognition for exceptional volunteers, and your comments help us identify those who should be nominated for awards.

We have enough volunteers to function, but members who wish to be more active and more involved are always welcome. Our Section grows through the introduction of new ideas and different perspectives, and perhaps your contributions will make the difference. Please consider serving your Section and sharing your ideas.

Ralph Sprang
Pittsburgh Section Chair
rsprang@ieee.org

Section

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rsprang@ieee.org

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Secretary – Joe Cioletti
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Chapters

Communications Society - Chair: Phil Cox
p.e.cox@ieee.org (724) 443-0566

Computer Society – Chair: John Twigg (see above)

Engineering In Medicine & Biology Society
Co-Chair: Bob Brooks
rbrooks@medrad.com (412) 767-2400 x3506
Co-Chair: Dr. Zhi-Hong Mao
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Electromagnetic Compatibility Society
Chair: Michael J. Oliver
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Power Engineering & Industry Applications Societies
Chair: Andrew Novotny
andrewnovotny@ieee.org (412) 351-4954

Magnetics Society – Chair: Dr. Ganping Ju
Ganping.Ju@Seagate.com (412) 918-7046

Robotics Society – Chair: Dr. Guy Nicoletti
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Signal Processing Society – Chair: Dr. Heung-No Lee
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Society on Social Implications of Technology
Chair: Joe Kalasky, P.E.
j.kalasky@ieee.org (724) 838-6492

Affinity Groups

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

Life Member – Chair: Bob Grimes, P.E.
r.d.grimes@ieee.org (412) 963-9711

Women In Engineering – Chair: Jennifer Ploskina
jenniferl.ploskina@eaton.com

Committees

Consultants Network

Professional/Career Activities (PACE)
Chair: Joe Kalasky, P.E. (see above)

Student Activities

Membership Development

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

2008 PES General Meeting Technical Program Chair – Dr. Kalyan Sen (Kal) senkk@ieee.org (724) 696-1611; General Chair - Dave Vaglia (see above)

- ***Practical Lessons from Wind Farm Collector Systems and Interconnections***

Speaker: Wanda Reder, P.E., IEEE Distinguished Lecturer
Date: Wednesday, November 7, 2007
Time: Social 6:30 PM, Program 7:00 PM
Place: Westinghouse Energy Center
RSVP: Dr. Kal Sen, P.E., senkk@ieee.org or 724-696-1611 by November 5, 2007
Organizers: Power Engineering Society/Industrial Applications Society.

Wanda Reder, Vice President of the Power Systems Services Division at S&C Electric Company, offers engineering, field service, and project management capabilities to utilities, developers and industrial customers. Prior to S&C, Wanda was the Vice President of T&D Asset Management at Exelon where she had responsibility for asset investment strategy, standards, engineering, planning, reliability and work management in Chicago and Philadelphia. Prior to Exelon, Wanda was the Vice President of Energy at Davies Consulting.

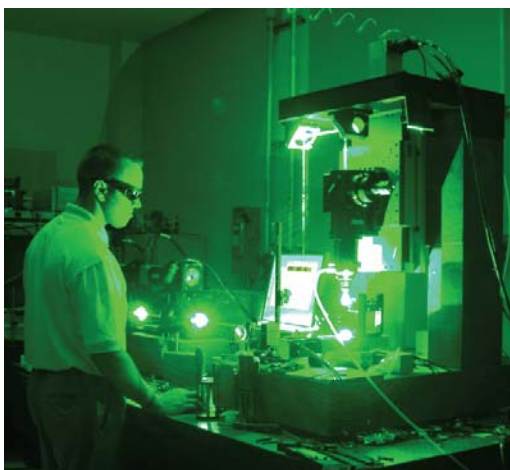
Wanda has been instrumental in leading S&C into the Wind energy market. She capitalized on S&C's expertise in contract development, substation and collector engineering and design, relaying, protection and coordination, SCADA, VAR management, and S&C's world class consulting and analytical services. Under Wanda's leadership, S&C now consults with the largest wind developers in the world; S&C has constructed the largest wind farm in Canada, and several wind generation facilities in the U.S.



Bio: Wanda received an Engineering Bachelor of Science degree from South Dakota State University and a Masters in Business Administration from the College of St. Thomas. Wanda has served on the IEEE Power Engineering Society Governing Board since 2002 and will be the IEEE PES President starting in 2008. Since 2004, she has been researching the maturing power industry workforce and the challenge to attract and educate the necessary talent for our industry. To maintain expertise for power system reliability within the context of large pending retirement attrition, her efforts have resulted in collaborations to address the challenge with NERC, NRECA, EEI, PSERC, and IEEE (naming a few) to bolster the industry image, rebuild power related curriculums and transfer necessary knowledge.

- ***Tour of [Penn State Electro-Optics Center](#)***

When: Tuesday, November 13, 2007, 3-5PM
Location: The meeting is at the Electro-Optics Center, 222 Northpointe Blvd. Freeport, PA 16229.
Cost: No charge. Snacks will be served!
Sponsors: Communications Chapter and PES/IAS Chapter. All IEEE members and their guests are welcome. Please note citizenship restriction below.
RSVP: **Required** to kxc24@psu.edu by November 3. **For this event only U.S. citizens will be allowed on the tour. Please confirm that you are a U.S. citizen in your RSVP.** If you are not a U.S. citizen, you are still welcome to join us for the poster session in the Conference Room.



Abstract: The Penn State Electro-Optics Center was created in 1999 under a cooperative agreement with the Office of Naval Research (ONR) and is managed by Penn State University. It promotes the development of electro-optic material, components, and systems needed to advance the state-of-the-art in electro-optic science and technology for US defense forces. The Electro-Optics Center partners with government and commercial customers. See the Electro-Optics Center's web site at <http://www.electro-optics.org> to learn more.

IEEE Pittsburgh has been trying for two years to arrange a tour for our members of this young facility, and it's finally here.

Topics included in the tour will be Sensor Design, Reliability and Failure Analysis, Laser Technology, and Fiber Optics and Photonics.

This will be a joint event with the Optical Society of America and the Spectroscopy Society of Pittsburgh. Normally their events and IEEE's events have no citizenship restrictions. However, in this case, only US citizens may participate in the tour. Non-US citizens are welcome in the Conference Room only.

Directions: The Electro-Optics Center is in Armstrong County, about 30 miles northeast of downtown Pittsburgh. From Pittsburgh take Rt 28 North for about 30 miles. Take Exit 18 for Slate Lick. At end of exit ramp turn right. Go about 0.2 miles and take the first left onto Northpointe Blvd. There are 2 stone pillars with a sign that says Northpointe at the turn. Go about one mile on Northpointe Blvd until you see a blue sign on the right for "EO". You'll see a red, two-story building on the right. Turn right onto Boyd Rd just past the red building. Take the first right into the parking lot. The phone number there is 724-295-7000. Call if you get lost.



- ***Magnetic Nanoparticles: Self-Assembly and Nanoscale Behavior***

Speaker: Prof. Sara A. Majetich, Carnegie Mellon University
Place: Seagate Research Center Auditorium
Date: Wednesday, Nov. 14th, 2007
Time: Social (w/ Lunch served): 11:45AM, Technical Program: 12:15PM

This meeting will be of particular interest to the members who belong to **IEEE Magnetics Society**, and others are also very welcome. Please RSVP to Ganping.Ju@Seagate.com to help us prepare the Pizza.

Directions to Seagate Research Center:

Seagate Research Center is located at 1251 Waterfront Place, Pittsburgh, in the Strip District, across from the Heinz History Center and next to the Convention Center.

Abstract: The magnetic behavior of a monodomain nanoparticle was first described by Stoner and Wohlfarth nearly sixty years ago, yet this simple system is frequently invoked in discussions of high-density magnetic recording media, magnetic refrigeration materials, and a host of biomagnetic applications. Here we will examine two cross-cutting themes of current research on magnetic nanoparticles: self-assembly and nanoscale magnetic behavior.

Different types of superstructure can be self-assembled from the same type of particles. In organic solvents, two-dimensional arrays with long-range order can be formed using Langmuir layer techniques. These monolayers are also used as nanomasks for crystallographically oriented thin films, which provide an alternative approach to preparing nanoparticle arrays for data storage media. Faceted three-dimensional single “grain” nanoparticle crystals are formed by colloidal crystallization methods. Magnetic field gradients can also be used to guide self-assembly. For example, gold-coated iron oxide particles can be used to image self assembly dynamics in aqueous media, in response to patterned magnetic elements, using plasmon scattering and dark field optical microscopy to track single particles. The ability to make magnetic nanostructures creates a need for new tools that enable us to visualize their magnetization patterns. Small angle neutron scattering provides average magnetic correlation lengths within three-dimensional assemblies, where correlations of hundreds on nanometers may be present at low temperature. Electron holography shows real-space magnetization patterns of magnetic monolayers, where vortices and transverse domain walls are present as low energy excitations. Scanning probe techniques have the potential for single-particle-per-bit magnetic information storage.



Sara Majetich received her A.B. degree in chemistry at Princeton University, and a Masters Degree in Physical Chemistry at Columbia University. Her Ph.D. was in Solid State Physics from the University of Georgia, and following that she did postdoctoral work at Cornell University. She has been a faculty member in the Physics Department at Carnegie Mellon University since 1990 and is now a full professor there. Her awards include the Ashkin Award for excellence in teaching, the Carnegie Mellon University Undergraduate Advising Award, and a National Young Investigator Award from the National Science Foundation. . She has three patents and over 100 publications. Her research interests focus on magnetic nanoparticles and nanocomposites and their applications.



- ***A Lyapunov Control Approach to Dynamic Bandwidth Allocation***

Speaker: Dr. David Tipper
Date: November 16, 2007
Time: 2:00 PM
Place: University of Pittsburgh, First Floor Conference Room, IS Building, 135, N. Bellefield Avenue, Pittsburgh, PA 15213

Abstract: Dynamic bandwidth allocation has been proposed in a number of communication network scenarios. In this talk, we present a novel control theory based adaptive capacity allocation scheme at the call level. The mechanisms aim to maintain the connection blocking probability around a specified target value by dynamically adjusting the allocated capacity. Based on a fluid flow model of the loss system, Lyapunov Stability theory is used to derive an adaptive capacity adjustment scheme which guarantees overall system stability around the target call blocking probability. Numerical results are given which show that the Lyapunov control based scheme is robust to load variations and performs better than some existing schemes in the literature.

- ***Local Committee Meetings for July 2008 PES General Meeting to be held in Pittsburgh***

We plan to continue to hold the meetings at the Boulevard of the Allies Panera Bread. The following date we scheduled for the next Local Committee meetings, so mark your calendars:

November 29

Everyone is enthusiastic about this opportunity to show off our IEEE section and city. Please consider helping in our preparation. Spouses are also needed to help plan and support the “Partners Program” which is being headed by Angela Vaglia (vagliaac@verizon.net).

Thanks for your support!

Dave Vaglia, P.E.
Chair, 2008 IEEE Power Engineering Society General Meeting
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412-491-6944 cell
vagliad@westinghouse.com

- ***Nomination of Officers for 2008***

Our September Bulletin announced that the Executive Committee elected a nominations committee to seek nominees for the officer positions of Chair, Vice Chair, Treasurer, and Secretary. We asked then, and again now for your input. The Nominating Committee for this year consists of Phil Cox, Joe Kalasky and myself, Dave Vaglia. Please send your nominations to me at the email address: davevaglia@ieee.org. To date, the recommendations for the positions are as follows:

Chair – Ralph Sprang to serve a 2nd year in this position;
Vice Chair – John Twigg to serve a 3rd year in this position
Treasurer - Joe Cioletti;
Secretary - Bob Brooks

Your feedback on the nominations is welcome.

- ***2007 PES Chapter Outstanding Engineer Award Announcement***



Karl Muller has over 25 years of experience in systems engineering, analysis and control of dynamic physical systems with emphasis in advanced control applications. His experience includes employment with Westinghouse at the Science & Technology Center, Westinghouse Nuclear Automation and at The Electro-Mechanical Division Tech Center (now The Curtiss-Wright Electro-Mechanical Corporation, Tech Center). He is a Professional Engineer licensed in PA, MA and NY. His professional affiliations include memberships in ISA, IEEE, AIChE and he is a reviewer of papers in control systems for the American Nuclear Society. He has M.S. and Ph.D. degrees in Electrical Engineering majoring in control theory from Syracuse University and a B.S. degree in Mechanical Engineering from Lafayette College.

Achievements During the years 2005 and 2006: Karl is an active member of the Power Engineering Society and Industry Applications Society Chapters of the IEEE Pittsburgh Section. For the PES/IAS Chapters, Karl served as the Membership Development Chair. He has also been a presenter for Chapter Meetings. His presentation, during this period, was entitled “Model-reference Identification Techniques”. At Westinghouse Electric Company LLC in Monroeville, Karl worked as a Consultant on two projects: the Ringhals-2 Nuclear Power Plant Modernization Project and the Westinghouse AP-1000 Nuclear Power Plant Design Project.

- ***Nominations for Outstanding Engineer Award***

The IEEE Power Engineering Society Chapter of the Pittsburgh Section is seeking nominations from local PES members for the 2008 PES Chapter Outstanding Engineer Award. The Outstanding Engineer Award is designed to recognize members of the Pittsburgh PES Chapter who have made outstanding contributions to their profession through their technical abilities. The nominees will be judged on the basis of their activities during the past two calendar years (2006 and 2007). Please nominate yourself or someone else by providing the following information:

Name, IEEE Membership Number, IEEE Grade, Professional Affiliations, Importance of technical contributions, Patents and/or proprietary designs and/or papers and/or technical presentations, Description and years of technical distinction and responsibility, Service to IEEE, Service to the engineering profession outside IEEE, and Recognition through other honors.

Nominations should be submitted to the chair of the PES Award Committee, Harry Hagerty, at hhagerty@ieee.org no later than January 31, 2008. The decision of the Award Committee is final. The winner will be recognized at the Pittsburgh Section's History Dinner in the Spring of 2008.

Local Job Opportunity

Sr. Controls Engineer low \$70's
Pittsburgh area equipment manufacturer
Degreed EE
5 years minimum controls engineering
Allen Bradley PLC exp
Contact:
Terry Richards, CPC
trcprec@apk.net
440-918-1800

2007 Calendar – Meetings of IEEE Pittsburgh Section

	Jan	Feb	Mar	Apr	May	June	July	August	Sept	Oct	Nov	Dec
Executive Committee	18 - 7pm Panera Bread Oakland	15 Panera Bread Oakland	15 Panera Bread Oakland	19 Panera Bread Oakland	17 Joe Mama's Oakland	21 Joe Mama's Oakland		16 Joe Mama's Oakland	20 Panera Bread Oakland	18 Panera Bread Oakland	15 Panera Bread Oakland	
Section		17 Engineers Week table	30 SciTech			28 History Dinner			15 Picnic North Park			
Communi- cations					8 Terahertz Imaging					19 WiFi In the US	13 EO Tour 16 Lyapunov	
Computer		17 Robot car race										
EMBS		28 Data Compression										
EMCS				17 Ferrites to Reduce Noise						25 MIL-STD- 461		
PES/IAS	3, 10, 17, 24, 31 PE Prep class 30 AdCom	7, 21, 28 PE Prep class 22 Early Power Frequencies	7, 14, 16, 21, 28, 30 PE Prep class 29 Pitt MBA programs	4, 11, 18 PE Prep class	9 AP1000 Control Rm Tour 31 High Res Grounding		12 AdCom	17 Pirates game	26 AP1000 Control Rm Tour	25 PES Gen. Meeting Cmte. 16 AdCom	7 Wind Farm 13 EO Tour	
Magnetics	17 Imaging Mag Surface			12 Ferrite Materials		12 Ultrafast Microscopy					14 Nano- particles	
Robotics									20 Lunch Greensburg			
Signal Processing	31 Magneto- encephalogra- phy					8 Quantization						
Social Impl of Technlgy				26 Ethics & Prof Engr	24 Home- based Power					19 Why not nuclear?		
Upper Mon			19 Commun. Train Contrl		8 Nano- materials					15 FECC Proc.		
Consultants Network												
Life Member		8 Wearable Computing							20 Lunch Greensburg			
GOLD										19 Why not nuclear?		
PACE				26 Ethics & Prof Engr	24 Home- based Power							
Student Activities												