



IEEE Pittsburgh Section



Bulletin

July 2008 Volume 57, No. 7



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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*

Section Chair Comments

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

With the approaching Power Engineering Society (PES) meeting in July, the executive committee will not be meeting in July. Many of the executive committee members are involved with the annual meeting, so we decided to give them a break.

The PES meeting promises to be an interesting and informational meeting, even if you are not a power engineer or a PES member. It's not too late to register, so please consider participating.

One of the issues we discussed at the last executive committee meeting is how to better support women engineers. We feel that our Section could do more to involve and assist our female members, but we are not sure how. We did charter a Women In Engineering (WIE) affinity group, but the interest and participation level in that group has been less than hoped. Please think about how the Section can better reach and serve women engineer and share your thoughts with the executive committee. Please also consider getting involved, particularly if you are a woman engineer. There are several leadership positions that we would like to fill with women engineers, but men are also welcome to participate in WIE or any of the other programs and activities.

As always, I welcome comments, concerns, or feedback. Please let me know what is on your mind.

Ralph Sprang
Pittsburgh Section Chair
rsprang@ieee.org

Section

Chair & Awards Co-Chair – Ralph Sprang
rsprang@ieee.org

Vice Chair – John Twigg
itwigg@ascent-systems.com (412) 795-4444

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Treasurer – Joe Cioletti
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Immediate Past Chair – David J. Vaglia, P.E.
davevaglia@ieee.org (412) 491-6944

UpperMon Subsection
Chair: Dr. Dimitris Korakakis
Dimitris.Korakakis@mail.wvu.edu
(304) 293-0405 x2512

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-Chairs: Bob Brooks (see above), Dr. Zhi-Hong Mao
maozh@enr.pitt.edu (412) 624-9674

Electromagnetic Compatibility Society
Chair: Michael J. Oliver
emi@mair.com (814) 763-3211

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
Nicolett+@pitt.edu (724) 836-9922

Signal Processing Society – Chair: Dr. Heung-No Lee
hlee@enr.pitt.edu (412) 624-9677

Society on Social Implications of Technology
Chair: Joe Kalasky, P.E., j.kalasky@ieee.org (724) 838-6492,
Co-Chair: Andrew Rydholm, andrew_rydholm@yahoo.com
(412) 261-3200 x281

Affinity Groups

GOLD – Chair: Andrew Rydholm,
andrew_rydholm@yahoo.com

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

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

Committees

Consultants Network

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

Student Activities – Rajiv Garg, rajivg@computer.org

Membership Development – Karl Muller,
karlmuller@compuserve.com

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)

Communicate attitudes and approaches needed to respond to new workplace. Understand personal factors impacting adapting to new workplace.

What are your “critical variables”

- **9:45-10:00** **Break**
- **10:00-11:00** **Developing a career strategy for change** **H. Lindborg**
Developing, branding and presenting a successful career plan. Identifying and building your “value added.” Recasting your accomplishments
- **11:00-12:00** **Conducting a Creative job search** **H. Lindborg**
New ways find the right job and work opportunities. Networking, informational interviewing. Continuing education. Elevator pitch – tell me about yourself (EXERCISE)
- **12:00-1:00** **Lunch**
Keynote speaker **R. Lefevre, IEEE-USA President**
- **1:00-1:130** **Effective Writing** **C. McManes**
- **1:30-2:00** **Closing the Deal Part I** **T. Lahdhiri**
Resume Development
- **2:00-3:00** **Closing the Deal Part II** **T. Lahdhiri**
Understand interview process, what to expect, how to present yourself
- **3:00-3:15** **Break**
- **3:15-3:45** **Emerging Future Jobs** **E. Perkins**
Where news jobs are coming
- **3:45-4:00** **Conclusions -** **E. Perkins**
Wrap-Up and Program Evaluation

Speakers

- Ed Perkins is 2007-2008 chair of the IEEE-USA CWPC
- Greg Hutchins is an entrepreneur, management consultant and career coach.
- Henry Lindborg is a recognized expert in organizational program development and planning, management consultant and career coach.
- Russ Lefevre, IEEE-USA President
- Tarek Lahdhiri is the co-chair of the CWPC subcommittee on Career Issues.
- Chris McManes is Senior Public Relations Coordinator with IEEE-USA

• *Expanded Tutorial Offering*

- What:** Technical Tutorials Covering a Variety of Power Engineering Topics
- Why:** A Special Offer in Conjunction with the 2008 PES General Meeting
- Who:** For IEEE Pittsburgh Section Members Only
- Where:** Pittsburgh, PA at the David Lawrence Convention Center
- When:** July 20-24, 2008

The IEEE PES is holding a General Meeting in Pittsburgh from July 20-24, 2008 at the David Lawrence Convention Center. Eight technical tutorials will be offered covering a variety of power

engineering topics (listed below) with PDH credits issued by IEEE headquarters. Full details on CEU's, dates and descriptions are on the meeting website: <http://ewh.ieee.org/cmte/PESGM08/>. A special offer is being made to IEEE Pittsburgh Section members only to attend tutorials without registering for the meeting. Click here to see detailed course descriptions: [http://ewh.ieee.org/r2/pittsburgh/Extended Tutorial PES GM Article.pdf](http://ewh.ieee.org/r2/pittsburgh/Extended_Tutorial_PES_GM_Article.pdf)

If you **DO NOT** plan to attend the General Meeting but are interested in taking any tutorials, please fill out the registration form below and send it with payment as indicated. If you **DO** plan to register for and attend the General Meeting and will attend a tutorial, please utilize the PES meeting website to register on-line for tutorials and **DO NOT** use the registration form shown below. Contact Bob Slobodnik with any questions on the tutorials at rslobod@alleghenypower.com

Registration Form for Expanded Tutorial Offering

Class size is limited by the meeting rooms available, so register early to ensure your participation. Note: All registration fees below will go by \$25 up after June 24th. Fill out this registration form and mail with a check made payable to "IEEE Pittsburgh Section" to:

Jace Cochrane, PE
 1105 Grandview Ave
 Pittsburgh PA 15211

Name: _____
 Address: _____
 Phone Number: _____
 E-mail Address: _____

_____ T1 – Probabilistic T & D System Reliability Planning	\$ 225
_____ T2 – Distribution Automation	\$ 225
_____ T3 – Understanding Power Electronics in Contemporary Power Systems	\$ 175
_____ T4 – Power Electronics: Power Factor & Harmonics, VF Motors & Drives	\$ 225
_____ T5 – Wind Generator Modeling and Controls	\$ 225
_____ T6 – Static VAR Compensators	\$ 225
_____ T7 – Lightning Protection Technologies and Applications	\$ 225
_____ T8 – Design & Application of Power Circuit Breakers	\$ 225

Total \$ _____

- ***Plain Talk about the Electric Power System for the Non-Power Engineering Professional***

Three important courses offered by the IEEE Power & Energy Society (PES) in conjunction with the PES General Meeting, July 22-24, 2008, at the David L. Lawrence Convention Center, Pittsburgh, PA

Background:

The electric power system enables our economy and society to function. In some way everything that impacts our lives, from our homes, our businesses, our government and our critical infrastructure requires a dependable and economic supply of electricity. Although the electric power system was initially developed in the late 1800's and is considered the most significant engineering accomplishment of the 20th Century, it still is undergoing change; partly driven by technology, partly driven by economic forces and partly driven by governmental action. Yet many individuals, even those involved with the industry, do not fully understand how a power system operates and what technical changes might impact the system as it continues to evolve in the 21st Century.

Whether you work in the electric power industry or not, if you're interested in learning more about how the electric power system works, you now have the opportunity to gain the knowledge you need in a manner that you can understand. As an attendee you will gain insight into the concerns of engineers, the demands of regulators and consumer groups, and a perspective of how these factors play a major role in the operation of today's electric power systems.

Courses Offered

These three courses will provide you with the knowledge you need to help you work better and smarter:

- Power System Basic - Understanding the Electric Utility Operation Inside and Out
- Delivering Power to the Customer - Understanding the Planning and Operation of Today's Distribution System:
- The Grid - The Interconnected Electric Bulk Power System

Who Should Attend

Plan to attend if you are a utility board member or manager, business executive, power broker, power marketer, government official, regulatory or legislative staff member, public affairs administrator, legal counsel, member of a consumer group, member of the media, economist, accountant, an engineer not in the power field, or anyone else interested in learning about electric power systems.

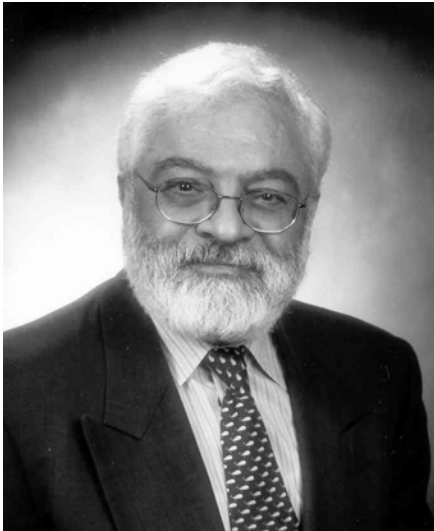
Registration information is available in the program brochure at the following link:

<http://ewh.ieee.org/cmte/PESGM08/announcements/PESGM2008PlainTalk.pdf>

- ***Lessons Learned from Post 8/13/03 Blackouts: An Educator's Point of View***

Speaker: Mo El-Hawary, IEEE Fellow, IEEE Distinguished Lecturer, Professor of Electrical and Computer Engineering, Dalhousie University, Halifax, Nova Scotia, Canada.
Date: Thursday, July 17, 2008
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 July 10, 2008
Organizers: Power Engineering Society/Industrial Applications Society.

The presentation will focus on the events surrounding the major Northeast North American blackout which interrupted electric power service to fifty million people in the US and Canada. The presentation will also highlight earlier and subsequent blackouts in North America and Europe. Technical causes and the lessons learned from follow-up system studies will be introduced. The discussion will then focus on the effect of the findings on how the power engineering curriculum might reflect these new findings. Opportunities for research and development will also be highlighted.



Mohamed E El-Hawary (F) has a B.Sc., University of Alexandria, and a Ph.D. in Electrical Engineering, University of Alberta. He received the 1999 IEEE Power Engineering Educator Award, and IEEE EAB Meritorious Achievement Award in Continuing Education.

Prof. El-Hawary served as Chair of the Power System Operations Committee, Life Long Learning subcommittee, the Operating Economics Subcommittee and a member of the Awards Committee of PES. He is Founding Editor, Power Engineering Letters, and Associate Editor for two PES Journals. He authored ten textbooks and monographs, is Editor of the IEEE Press Power Engineering Series, and Electrical Power Engineering, McGraw-Hill Encyclopedia of Science and Technology. He consults frequently and taught over 100 professional development offerings in numerous parts of the world.

Dr. El-Hawary is a member of the IEEE Fellows Committee, and served as a member of the 2006-2007 Publications Services and Products Board, and Editor-in-Chief of the IEEE Press. He served as Secretary of IEEE and member of the ExCom (2004-2005), Director Region 7 (2002-2003,) and member of the Board of IEEE (2002-2005). He was also chair of IEEE Main prize Paper Awards Committee, and the IEEE Awards Board.

He is a distinguished lecturer for the Power & Energy Society. He received the IEEE Canada McNaughton Medal and the IEEE Millennium Medal.

- ***Advances in HVDC Technology as applied to the Pacific HVDC Intertie***

Speaker: Wayne Litzenberger, IEEE Life Fellow, IEEE Distinguished Lecturer
Retired from Bonneville Power Administration
Date: Thursday, July 24, 2008
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 July 17, 2008
Organizers: Power Engineering Society/Industrial Applications Society.

The development of the Pacific HVDC Intertie (PDCI) is traced from inception in the 1960s to present day. The PDCI has undergone a number of changes and upgrades over the 36 years since its construction. The changes in the PDCI mirror the advances in HVDC technology over that period.



Wayne Litzenberger, a Life Fellow of the IEEE now serves as a consultant in HVDC and FACTS. He joined Bonneville Power Administration in 1968 and retired in 2007, having served primarily as a Project Engineer and Project Manager in HVDC and FACTS projects at BPA. Wayne has been very active in the Power Engineering Society, T&D and Substations Committees. He has contributed to several IEEE standards and is the author of numerous technical papers. From 2002 to 2004 he was the US representative to the CIGRE Study Committee B4 (HVDC and FACTS). He has participated in HVDC and FACTS panel sessions on a number of occasions discussing the history of HVDC and projects related to the Pacific HVDC Intertie.

DIRECTIONS TO WESTINGHOUSE ENERGY CENTER

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) approx ½ mile (two traffic lights). The 2nd traffic light is at a 4-way intersection with an Exxon station on the right. Turn left onto Northern Pike. Proceed approx 0.2 miles and turn right at the 1st traffic light onto Westinghouse Dr. Travel 0.7 miles (past the guard stand) to the 3 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 room for your meeting.

From 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.

• *Simulation of Wind Turbine Generators*

Speaker: Dr. Thomas E. McDermott, P.E., EnerNex Corporation
Date: Thursday, August 7, 2008
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 July 31, 2008
Organizers: Power Engineering Society/Industrial Applications Society.

Modern wind turbine generators (WTG) incorporate power electronic converters with advanced control and protection systems, to a degree that makes them behave unlike a traditional synchronous or induction generator. Wind plant design and integration studies require new models that handle these complexities. The presentation will first review the main components of a WTG, including the blade pitch controls, startup and shutdown, protection systems, and four general types of electrical interface:

- Type 1 – induction generator with capacitor steps
- Type 2 – induction generator with variable wound rotor resistance
- Type 3 – doubly-fed induction generator
- Type 4 – full power electronic interface

Simulation of these four types will then be illustrated using an electromagnetic transients program. Models for classical short-circuit, load flow, and stability programs will also be discussed and illustrated. This is an evolving area, with vendor concerns over proprietary data, user concerns over model benchmarking, and IEEE efforts to develop generic models all playing active roles. A customized, web-based simulator for distributed wind applications will also be presented with a case study, including voltage flicker, voltage control, and overcurrent protection design for a 1.65-MW wind turbine connected to a 12.47-kV distribution feeder.



Thomas E. McDermott (SM 1990) is a Senior Consulting Engineer with EnerNex, currently working in wind generation, distribution systems, lightning protection, custom software development and electromagnetic transient studies. He is currently Vice Chairman of the Distribution System Analysis Subcommittee, a U.S. delegate to IEC TC 57 Working Group 14, and has previously chaired the Pittsburgh Section IEEE and the Working Group on Estimating Lightning Performance of Transmission Lines. Tom is a registered professional engineer in Pennsylvania. He has a B. S. and M. Eng. in Electric Power from Rensselaer, and a Ph.D. in Electrical Engineering from Virginia Tech. In 2001, he presented a tutorial on "Power Electronics Simulation with SPICE" for the Pittsburgh Section, with an update in 2004. This presentation will be an extension of those earlier tutorials.

- ***A Night With the Pittsburgh Pirates and New York Mets***

Date: Friday, August 15, 2008
Time: Game starts at 7:05 PM
Place: PNC Park, North Shore, Pittsburgh
Cost: **\$16.00 per ticket**
Sponsors: **PES/IAS Chapter**
RSVP: By sending your check payable to “IEEE Pittsburgh Section” to Andrew Novotny, 514 Price Ave, North Braddock, PA 15104

Come out and enjoy a fun-filled evening at PNC Park with the members and friends of the Power & Energy Society, Industry Applications Society and the IEEE Pittsburgh Section. It will be Skyblast Strike Two Fireworks and Collective Soul in Concert after the Pittsburgh Pirates take on the New York Mets.

Be sure to reserve your seats early. Contact Andrew Novotny at (412) 351-4954, Work 412-963-5510 or Andrewnovotny@ieee.org if you have any questions.

- ***Creating Winning Products and Services through Ethnography and the Voice of The Customer***

Speaker: Julie Gulick and Dr. Ned Uber, MEDRAD
Date: Thursday, August 21, 2008
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 August 14, 2008
Organizers: Power Engineering Society/Industrial Applications Society.

Innovation and invention come from having engineers observe the customers in the customers' world, from uncovering problems that the customers cannot yet verbalize. When clever people watch customers struggle in their day to day work, the engineers can then develop new solutions that become blockbuster products or services. Come see how Medrad uses Ethnography and other tools to strive to continue their 25 year growth rate of 16% per year.

Speakers:

Julie Gulick is a Product Planner in the Marketing Department of the Molecular Imaging Group at MEDRAD leading product definition of new injector products via voice of the customer (including ethnographic research, interviewing, and surveying customers). Over her 15+ year career in the medical device industry she has held positions as design engineer, sales and marketing manager, product manager and product planner. Julie has B.S. and M.S. degrees in Engineering from Penn State University and an MBA from the University of Pittsburgh.

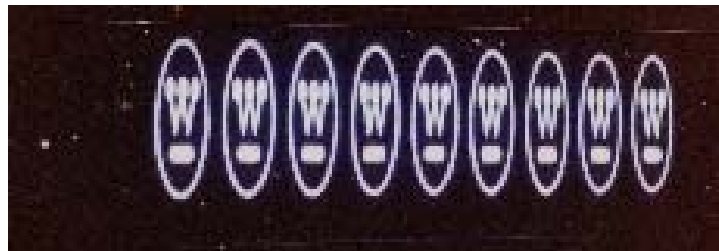
Dr. Ned Uber is a MEDRAD Fellow in the Corporate Innovations Department. In this role, Ned works with others to develop and patent ideas that represent entirely new product lines for Medrad. He provides technical expertise, team facilitation, and conducts ethnographic research for projects throughout the company. Ned has 25 years of experience in product development and research. He is an inventor on 40+ issued patents, with several more under examination. Dr. Uber has B.S., M.S., and Ph.D. degrees in Electrical Engineering from Carnegie Mellon University.

- ***New Senior Member***

Congratulations to Pittsburgh Section member, **Mark Chisholm**, who was promoted to a Senior Member of IEEE in May 2008.

- ***Historical Search: The Westinghouse Neon sign***

We are searching for any information on the once famous Westinghouse Neon sign that was located on the North side of Pittsburgh where PNC park now stands. The sign has been gone for over 10 years now and we are interested in any information on the control system, drawings, sequence algorithm, videos, etc. to possibly replicate the sign on a smaller scale for an IEEE research project. Should you have any information relating to this sign, please contact Joe Cioletti at jcioletti@ieee.org. Thanks!



2008 Calendar – Meetings of IEEE Pittsburgh Section

	Jan	Feb	Mar	Apr	May	June	July	August	Sept	Oct	Nov	Dec
<u>Executive Committee</u>	17 - 7pm Panera Bread Oakland	21 - 7pm Panera Bread Oakland	28 – 5:30pm UP Greensburg	17 - 7pm Panera Bread Oakland	22 - 7pm	19 - 7pm Panera Bread Oakland	No Meeting					
<u>Section</u>		16 Engineers Week table		24 History Dinner					6 Picnic			
<u>Communi- cations</u>		1 Contention Resolution			8 VoIP							
<u>Computer</u>		16 Robot car race										
<u>EMBS</u>			20 <i>Neural Engineering</i>	3 - Sensor- motor 17 – Bio- mechanics								
<u>EMCS</u>					21 Test Guide							
<u>PES/IAS</u>	16 - AdCom 6:00 PM 23 - Why not nuclear	20 - AdCom 6PM Panera Penn Center 13 – Intell. Buildings 27 - Electric Vehicle	12 -Thermal Systems 12 -2008 PESGM Loc. mtg; 26 –Improb. Universe	2 Obtaining PE License 9 - 2008 PESGM LOC mtg	7 - July 2008 PESGM LOC mtg 8 - Eaton Tour; 22 - Nuclear	7 Tutorial 12- 2008 PESGM Local mtg	9-loc. mtg 17Blackouts 20-24 PESGM 19- Career Survival 24 –HVDC Technology	7 Wind Turbines 15 Pirates 21 Ethnography				
<u>Magnetics</u>			5 Nanomagnetic bits	10 - Radiation pressure 24 - Spintronic								
<u>Robotics</u>												
<u>Sig. Proc.</u>												
<u>Social Impl Technology</u>			28 Utility Meter									
<u>Upper Mon</u>	28 Biomole. Detection Device	4 Radio Astronomy										
<u>Women in Eng'ing</u>	10 Inaugural Meeting											
<u>Life Mem.</u>												
<u>GOLD</u>												
<u>PACE</u>			28 Utility Meter									
<u>Student Act</u>												