



*IEEE Pittsburgh Section*

# Bulletin



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- Nominate Outstanding Pittsburgh PES Engineer
- Advertise in the Bulletin
- Distinguished Lecturer Visits the 'burgh
- Distinguished Lecturer Visits China and Brazil

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Contributors: Kal Sen and Dave Vaglia.

*All announcements for publication in a particular month's bulletin are due to the Editor by the 20<sup>th</sup> 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](http://www.ewh.ieee.org/r2/pittsburgh) has past issues of the bulletin and lots of other useful information.*

## • *From the Chair*

As this is the end of my year as Chair, I want to thank all of our members for their support of our activities. I especially thank the Executive Committee members with whom I met each month to help plan and guide our Pittsburgh Section on its mission to better serve our members. Besides our Technical Chapter and Affinity Group leads, special recognition goes to:

Secretary – Charles Urso  
Treasurer – Harry Hagerty  
Vice Chair – John Twigg  
Past Chair – Kalyan Sen  
Bulletin Editor – Jace Cochrane  
Web Master – Andy Novotny.

It has been an honor and a very rewarding experience for me to serve you as the Chair of the IEEE Pittsburgh Section in 2006. I ask all of you to become more involved in our IEEE, whether through a technical Chapter, Affinity group, and/or the Pittsburgh Section. We can never have enough volunteers.

Our Section's outstanding accomplishments this year were many. The greatest was being chosen the Best Large Section in the IEEE for 2005 out of 300 sections worldwide. The Pittsburgh Section was chosen as being the most successful in fulfilling IEEE goals for our members.

Welcome with me the 2007 Section officers who will continue to strive to improve our Section's activities for the benefit of our members:

Chair – Ralph Sprang  
Vice Chair – John Twigg  
Treasurer – Harry Hagerty  
Secretary – Joe Cioletti

Check inside for details on this month's meetings. The ExCom will meet on December 14 at John Harvard's in Penn Center/Monroeville.

Happy Holidays to all. We hope to see more of you more often next year.

Best regards,  
*Dave Vaglia*

### Section

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### Chapters

Communications Society  
Chair: Phil Cox  
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Computer Society – Chair: John Twigg (see above)

Engineering In Medicine & Biology Society  
Chair: Bob Brooks  
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Vice 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: Charles Urso, P.E. (see above)  
Vice Chair: Andrew Novotny (see above)

Magnetics Society – Chair: Dr. Ganping Ju  
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Robotics Society – Chair: Dr. Guy Nicoletti  
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Signal Processing Society – Chair: Dr. Heung-No Lee  
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### Affinity Groups

GOLD – Chair: Andrew Rydholm  
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Life Member – Chair: Bob Grimes, P.E.  
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Publicity – Chair: Thomas Dionise, P.E.  
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## Short Circuit Calculations Course

**Training Dates:** Monday, 12-11-2006 and Monday, 12-18-2006 from 6 PM to 9 PM.

**Where:** **CJL Engineering in Moon Township;** Westpointe Corporate Center One;  
1550 Coraopolis Heights Road - Suite 340; Moon Twp., PA 15108

**Directions:** From the Parkway West outbound from Pittsburgh, take the Moon Business Exit, bear right off the Thorn Run Exit at the first stop sign, turn left at the next stop sign a few hundred feet away, and make the second left into Westpointe Corporate Center One's parking lot. You will be facing a 5-story red brick building across from the Nova Chemicals office building. Class will be on the 3rd floor (turn right when exiting the elevator on the 3rd floor)

**Cost:** \$80 (IEEE Pittsburgh Section Member); \$95 (non-Member) Check made payable to "CJL Engineering". Please send to the attention of Steve Musial at the above address.

**Instructor:** Steven R. Musial, II P.E.; Principal - CJL Engineering; Office Phone: 412-262-1220 Cell: 412-956-6448; smusial@cjlengineering.com

**Topics to be discussed:** Short circuit calculations using the point-to-point method, the per unit method and the ohmic method. This short course is primarily for electrical engineers who are interested in a better understanding of electrical power systems or for anyone who does electrical design work. It will also benefit anyone who is preparing to take the Professional Engineering Exam for electrical engineers. Please bring a scientific calculator to the course. At the end of the two evening seminar, each student will receive a certificate of completion worth 0.6 CEU's.

*a paid advertisement*

### • ***Outstanding PES Engineer Award***

The IEEE Pittsburgh Section Power Engineering Society Chapter is seeking nominations from local PES members for the 2007 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 (2005 and 2006). 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](mailto:hhagerty@ieee.org) no later than January 31, 2007. The decision of the Award Committee is final. The winner will be recognized at the Pittsburgh Section's History Dinner in the Spring 2007.

### • ***Advertise in the IEEE Pittsburgh Bulletin***

Reach over 2200 members of the IEEE Pittsburgh Section every month. The bulletin is issued on or about the 1<sup>st</sup> of the month, 12 months a year. Final copy must be submitted in an electronic form compatible with Word. The ad and payment must reach the newsletter editor by the 20<sup>th</sup> of the preceding month to be included in a particular bulletin. Prices are for one month.

| <u>Ad size</u>         | <u>Business</u> | <u>University</u> | <u>IEEE Member</u> |
|------------------------|-----------------|-------------------|--------------------|
| Full page (8-1/2 x 11) | \$250           | \$190             | \$190              |
| ½ page                 | \$130           | \$100             | \$100              |
| 1/3 page               | \$85            | \$65              | \$65               |
| ¼ page                 | \$65            | \$50              | \$50               |
| Business card size     | \$40            | \$30              | \$20               |

- ***Distinguished Lecturer Visits IEEE Pittsburgh Section***

On November 4, 2006, IEEE Pittsburgh Section had the privilege to host PES President John McDonald who is a PES Distinguished Lecturer and an IEEE Fellow. John gave a full-day tutorial on *Substation Integration & Automation* at the Westinghouse Energy Center. Kalyan Sen, Past Chair of IEEE Pittsburgh Section, hosted the meeting.

The purpose of this course was to familiarize the participants with all aspects of substation automation, from the components and integration architecture alternatives in the substation, to the utility enterprise (beyond the substation) for managing and leveraging the substation data to maximize its use. The term Intelligent Electronic Device (IED) was defined, and the different levels of substation integration and automation were discussed. The components of the integration and automation architecture were covered with respect to their technical issues. The reasons a utility would need substation automation were presented, and the methodology to build the business case for substation automation was given, including a sample case study. The characteristics and interface issues associated with Intelligent Electronic Devices (IEDs) were addressed, since the integration architecture is only as good as the integration capabilities of the IEDs themselves. This tutorial also covered the sensitive, controversial issues that needed to be addressed by a utility when implementing substation automation. Five different general vendor approaches to substation integration and automation were contrasted, providing tremendous insight into the decisions vendors had made in developing their products. The various industry groups writing standards in substation automation were discussed. Lastly, copies of related technical papers and articles were provided to the participants along with copies of the PowerPoint slides. The discussion was of interest to a wide variety of members and non-members alike.



PES Distinguished Lecturer John McDonald (middle) with the participants of his tutorial titled *Substation Integration & Automation*.

- *Distinguished Lecturer Travels*



Local IEEE Senior Member and Distinguished Lecturer Dr. Kal Sen traveled to China in August (pictured above) and to Brazil in November (pictured below) to give presentations titled “Recent Developments in FACTS Technology.” In China he spoke in Beijing, Shanghai, and Xi’an. In Brazil he spoke in Rio de Janeiro, Florianópolis, and Ilha Solteira.



## Calendar – Meetings of IEEE Pittsburgh Section

|                     | Jan              | Feb                                | Mar                                   | Apr   | May  | June  | July   | Aug   | Sept  | Oct   | Nov  | Dec                      |
|---------------------|------------------|------------------------------------|---------------------------------------|---|--|---|--|---|---|---|--|--------------------------|
| Executive Committee | 19 Point Park    | 16 Point Park                      | 16 U Pitt Greensburg                  | 27 Point Park   | 18 Panera Monroeville  | 15 Panera Oakland   | 20 Panera Oakland                                    | 24 Panera Oakland                                   | 21 Panera Oakland                             | 19 Morgantown   | 16 Harvard Monroeville                                       | 14 Harvard Monroeville   |
| Section             |                  | 18 Engr Wk table                   | 31 Science Fair                       | 20 History Dinner   |  |   | 19 Improving State of Engring in USA                 |   | 30 Dinner Cruise Gateway Clipper              | 11 Eng'g Ethics   |  |                          |
| Communications      |                  | 24 Random coding bounds            |                                       |   |  |   |  |   | 20 Verizon FiOS                               |   | 3 Growth Telecom Dev Cntry                                   |                          |
| Computer            | 18 Tour SunGard  | 18 Robot Race                      | 29 Applictn Moderniz                  | 19 <u>Outsourcing America</u>                                       | 17 Vision 20/10  | 21 Vision 20/10   | 19 Improving State of Engring in USA                 |   |   |   |  |                          |
| EMBS                |                  | 15 Transm data: body as cable      |                                       |   |  |   |  |   |   |   | 9 Basic Control Concepts                                     |                          |
| EMCS                | 31 FAQs          | 1 Path of Least Induc & EMF phobia |                                       |   | 11 EMC overview  |   |  |   | 20 New EU EMC Directive                       | 12 Testing for EMC Compliance                                   |  |                          |
| PES/IAS             | 25 P.E. License  | 13 Power Quality                   | 25 Grounding & Bonding course         | 6 CMU MBA program<br>20 History Dinner<br>26 FE review class starts | 31 HV ckt brkr design<br>3, 10, 17, 24, & 31 FE review class | 14 & 21 2005 NEC course<br>28 Inverters & motor insulation<br>7, 14, 21, 28 FE review class | 12 Roller coasters<br>5, 12, 19 & 26 FE review class | 11 Pirate game<br>2, 9, 16, 23 & 30 FE review class | 6, 13, 20 & 27 FE review class<br>7 AdCom mtg | 4, 11 & 18 FE review class<br>11 Optics & Heat Assist Recording | 1, 8, 15 & 29 PE Prep class<br>4 Substation Automation class | 6, 13 & 20 PE Prep class |
| Magnetics           |                  |                                    |                                       | 28 Beyond mag record limits   |  |   |  |   | 28 Spin Electronics                           | 11 Optics & Heat Assist Recording                               |  |                          |
| Robotics            |                  |                                    | 16 Next level                         |   |  |   |  |   |   |   |  |                          |
| Signal Processing   | 9 Sensor network |                                    | 22 Temporal role-based access control | 12 Gene regulatory networks   |  |   |  |   | 27 Multi-media Computing & Commun.            |   |  |                          |

## 2006 Calendar – Meetings of IEEE Pittsburgh Section (continued)

|                     | Jan                | Feb   | Mar | Apr                      | May                | June | July | August            | Sept                            | Oct  | Nov             | Dec |
|---------------------|--------------------|---|-----|--------------------------|--------------------|------|------|-------------------|---------------------------------|--|-----------------|-----|
| Upper Mon           |                    | 6 Interconn to Backplane<br><br>13 Fingerprint please<br><br>20 Magnet Resonance Microscopy |     |                          |                    |      |      |                   |                                 | 2 Optimal SINR in wireless<br><br>9 Progrmble analog ckts<br><br>16 Electric vehicles<br><br>23 Micro& Nano Fabrcn |                 |     |
| Consultants Network | 24 Expand business | 28 Business Meeting   | 28  | 25 Neural Networks       | 23 Legal questions | 27   |      |                   |                                 |  |                 |     |
| Life Member         |                    |   |     | 11 Intellectual property |                    |      |      |                   | 14 Ansoft business & technology | 19 Humanoid Creation   |                 |     |
| GOLD                |                    |   |     | 18 Engrs as attorneys    |                    |      |      | 8 Govt activities |                                 |  | 21 Penn Brewery |     |
| PACE                |                    |   |     | 18 Engrs as attorneys    |                    |      |      | 8 Govt activities |                                 |  |                 |     |
| Student Activities  |                    |   |     |                          |                    |      |      |                   |                                 | 11 Eng'g Ethics  |                 |     |

- *Keep Receiving the IEEE Pittsburgh Section Bulletin***

Sometimes members of the IEEE Pittsburgh Section report that they are not receiving their Bulletin announcement/link via email each month. Here are some troubleshooting tips.

- Is your IEEE membership still current? If not, you will not receive the Bulletin announcement/link.
  - Does IEEE headquarters list you in the Pittsburgh Section or another section? If you aren't in the Pittsburgh Section, you will not receive the Bulletin.
  - Does IEEE headquarters have your current email address? Did you change your email address recently?
- To check on or correct problems in any of these areas, call IEEE headquarters at 1-800-678-4333. Try to have your IEEE member number handy when you call.
- Is your spam blocker blocking the Bulletin announcement/link? You'll have to fix this yourself.