



IEEE Pittsburgh Section



Bulletin

October 2007 Volume 56, No. 10



Included in this issue:

- Forward Error Correction Coding
- Analysis of Citywide Municipal WiFi
- MIL-STD-461E/F requirements
- “Why Not Nuclear?”
- Meetings for 2008 PES General Meeting
- Student Research- Poster Competition
- Freshman Mentoring Seminar
- 2008 Robot Car Contest Coordinator
- New Senior Members
- PACE Conference Report
- IEEE Ethics Meeting in Ireland
- Distinguished Lecturer Travels
- Passing of Distinguished Fellow Member

Editor of this issue: Philip Cox, p.e.cox@ieee.org (724) 443-0566.

Contributors: Prashant Krishnamurthy, Joe Kalasky, Andrew Rydholm, Matthew Valenti, Bob Grimes, Ralph Sprang, Mike Oliver, Jace Cochran, Matt Fetterman, Kal Sen and Dave Vaglia.

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.

In spite of the somewhat cold weather, we had a good turnout for the Section picnic. It was good to see you all, both familiar faces and some new folks. Several people at the picnic expressed interest in becoming more involved in our Section, so watch the bulletin for more information as they introduce new ideas and activities.

The nominations committee has made their recommendations to the executive committee, and the executive committee has accepted those nominations. Look for a letter in the U.S. mail in the next couple of weeks concerning the election candidates and process.

Our Section Vice Chair, John Twigg, and I attended the annual PACE meeting in early September. The focus of this conference was innovation, and we brought back a lot of interesting ideas. A report is included in this bulletin.

One result of discussions at the conference is that Ralph Wyndrum, 2006 IEEE-USA president and President of the IEEE-USA Innovation Institute, will visit our Section 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.

Our Section could not function without the many volunteers doing whatever needs to be done, many of whom having served for years. If you appreciate the efforts of one of our volunteers, please drop me an email with your comments to let me know. IEEE provides awards and recognition for exceptional volunteers.

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

Section

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

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

Secretary – Joe Cioletti
ioesph@cioletti.com (724) 516-3897

Treasurer – Harold Hagerty, P.E.
hhagerty@ieee.org (412) 492-0943x226

Webmaster – Gerry Kumnik, gerrykum@ieee.org

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-Chair: Bob Brooks
rbrooks@medrad.com (412) 767-2400 x3506
Co-Chair: Dr. Zhi-Hong Mao
maozh@engr.pitt.edu (412) 624-9674

Electromagnetic Compatibility Society
Chair: Michael J. Oliver
emi@majr.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
Nicoletti+@pitt.edu (724) 836-9922

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

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
jennifer.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)

- ***Forward Error Correction Coding and Transmission Processing for Satellite Communications***

Date: Monday, Oct. 15, 2007
Time: 5:00-6:00 PM
Location: 113 Mineral Resources Building, West Virginia University
Speaker: Dr. Lin-Nan Lee, Hughes Network Systems
Contact: RSVP not required; contact Matt Valenti for directions valenti@ieee.org

Abstract

We begin with a brief review of some key advances in satellite communications driven by progress in the technologies of forward error correction coding and transmission processing. Next, we will discuss the current focus of forward error correction and signal processing research to enable more ubiquitous application of broadband communications via satellites, including some of our recent efforts to close the gap between practical engineering and Shannon theory prediction. We will then touch upon some of the interactions among technology, markets and regulatory constraints that will influence the future development of satellite communications. [More info...](#)

Dr. Lee is a Fellow of IEEE.

- ***Analysis of Citywide Municipal WiFi in the US***

Speaker: Kuang-chiu Huang, Ph.D. Candidate, School of Information Sciences

Date: October 19th, Friday
Time: 2.00 p.m.
Place: Room 501, IS Building, 135, N. Bellefield Avenue, Pittsburgh PA 15213

Abstract :

The maturation of mesh technology enables municipalities to extend the coverage of their WiFi projects from local area networks to ones that are citywide. Compared with hot-spot and hot-zone projects, which are available only in limited areas, citywide WiFi projects offer the benefits of almost ubiquitous availability for the residents. However, their capital requirements, and operational risk are higher, so a careful analysis is required for any municipality before engaging in city-wide WiFi. [More info...](#)

- ***"WHY NOT NUCLEAR?"***

Speaker: Joseph T. Cioletti, PE., Principal Engineer, Westinghouse Electric Company
Date: Friday Evening October 19, 7 PM
Time: 7 PM, Social: 6:30 PM
Location: Conference Center Room 1175 Benedum Hall, University of Pittsburgh.
Cost: No Charge but RSVP Required by Wednesday Oct 17
Sponsor: Society for Social Implications of Technology (SSIT) and Graduates of the Last Decade (GOLD)
Organizers: Joe Kalasky, j.kalasky@ieee.org, 724-838-6492
Andrew Rydholm, arydholm@ansoft.com, 412-261-3200 X281

Abstract: Commercial nuclear power has always been a controversial topic in the media, especially since Three Mile Island and Chernobyl. Over the last several decades, changes throughout the industry have provided advancements in safety and operating efficiencies, making nuclear power a safe, economically viable and sound option for our energy future. The purpose of this presentation is to lay out the facts in a reasonable manner that shows a clear-cut case for expansion of nuclear power plants in the US.

- ***MIL-STD-461E/F requirements and techniques***

Speaker: Mr. Steve Furgeson , V.P. Operations of Washington Laboratories
Date: Thursday, October 25, 2007
Time: 6:30 PM Reception 7:00 PM Presentation
Place: Westinghouse Energy Center, Monroeville
Cost: No charge
Sponsor: EMCS Chapter
RSVP: **Required** to Mike Oliver at emi@majr.com or (814) 763-3211

Abstract: The MIL-STD-461 standard establishes interface and associated verification requirements for the control of the electromagnetic interference (emission and susceptibility) characteristics of electronic, electrical, and electromechanical equipment and subsystems designed or procured for use by activities and agencies of the Department of Defense. Such equipment and subsystems may be used independently or as an integral part of other subsystems or systems. This standard is best suited for items that have the following features: electronic enclosures that are no larger than an equipment rack, electrical interconnections that are discrete wiring harnesses between enclosures, and electrical power input derived from prime power sources. This standard should not be directly applied to items such as modules located inside electronic enclosures or entire platforms. The principles in this standard may be useful as a basis for developing suitable requirements for those applications. Data item requirements are also included. [More info and directions...](#)

- ***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 dates we scheduled for the next Local Committee meetings, so mark your calendars:

October 25

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

412-374-6513 office

412-491-6944 cell

vagliad@westinghouse.com

- ***Mentors Needed for U/P Greensburg Freshman Engineering Seminar***

Your participation is needed if you are interested in telling freshman engineering students about the challenges of the engineering profession. Any one in the IEEE Pittsburgh Section that can invest a Friday afternoon with the students is welcome.

Dr. Guy Nicolletti, Chairman Robotics Society, nicolett@verizon.net and Bob Grimes, Chairman LM Group, r.d.grimes@ieee.org are organizing participation in the University of Pittsburgh Greensburg Campus freshman engineering mentoring program. This is an opportunity for experienced engineers to sit down with two groups of 20 to 25 freshman engineering students in informal discussions about general engineering, social, and management topics. No preparation is needed, just your participation to answer questions and to tell these freshman students about your experiences. Each session is approximately one hour and is held on Friday at 1 and 2PM on the Greensburg campus.

Contact either Guy Nicolletti nicolett@verizon.net or Bob Grimes r.d.grimes@ieee.org if you are interested.

- ***Student Research- Poster Competition***

The [Western Pennsylvania Section of the Optical Society of America \(OSA\)](#) is sponsoring a Poster Competition for undergraduate and high school students, for students to present the research work that they have done.

We invite all of our typical OSA members to attend (please RSVP to DZILIC@iup.edu). We hope that you will let your students know about this opportunity. Students are asked to contact us by **October 15** (contact DZILIC@iup.edu), to let us know of their intent to present a poster. We will award **\$1300 in prizes**. Also the students will have the opportunity to network with regional optics professionals.

Thanks to: [OSA](#), [Spectroscopy Society of Pittsburgh](#), [IEEE Communications Society](#) and [IUP](#) for supporting this event.

Location: The meeting is at Northpointe Campus (*not the main campus in Indiana*), Indiana University of Pennsylvania, 167 Northpointe Blvd. Freeport, PA 16229. Directions can be found here: <http://www.iup.edu/armstrong/directions.pdf> or call 1-800-889-0872 for directions

- ***2008 Robot Car Contest Coordinator***

A volunteer is needed to coordinate the 2008 Robot Car Contest in February 2008. If you are interested, contact Gerry Kumnik at (412) 487-1430 or g.kumnik@computer.org.

- ***New Senior Members***

Congratulations to the following members of the Pittsburgh Section who were promoted to Senior Membership in IEEE in August 2007:

Leonardo Baloa
Marshal Liner
Radu Marculescu
Matthew Valenti
Stephen Wetzell

- ***PACE Conference Report***

In early September, Ralph Sprang and John Twigg attended the annual PACE (Professional Activities) conference as the Section PACE representatives. Joe Kalasky, our official PACE representative, was unable to attend. The focus of this conference was innovation. Four different presentations were offered every 90 minutes throughout the conference. The presentation topic categories were "Rising

Above the Gathering Storm”, “Employment and Career Services”, “Professional Awareness Program”, and “Skills Development”. Ralph and John both provided full reports of the conference, with much information relevant to our section, which you can read on the members activities webpage, by clicking [here](#).

- ***IEEE Ethics Meeting in Ireland.***



Note: Joe Kalasky, (3rd from L) our PACE and SSIT Chair, has dinner in Dublin, Ireland with the Officers of the U.K. / Ireland IEEE Section during his IEEE Ethics Committee there.



Joe Kalasky and Daniel Yeung of the IEEE Hong Kong Section meet with IEEE Members at the University College of Dublin.

- ***Distinguished Lecturer Travels***

Local IEEE Senior Member and Distinguished Lecturer Dr. Kal Sen, P.E. traveled to Pakistan and India during July/August to give presentations titled “Recent Developments in FACTS Technology.” He spoke at the newly formed PES Chapters in Islamabad and Bangalore. He was an invited speaker at the Workshop on *Grid Security in Open Access Regime* at the Institute of Technology of the Benaras Hindu University in Varanasi. Lastly, he gave a presentation to the students of the Indian Institute of Technology in New Delhi. [Click on pictures for more.](#)



- ***Passing of Distinguished Fellow Member***

It is with deep sadness we note the passing of Frank "Tony" Furfari.

Frank A. Furfari, 92 of Southpointe, Canonsburg, PA formerly of Forest Hills, PA passed away Wednesday, September 5, 2007 at his home.

He was born February 14, 1915 in Morgantown, WV, the first born child of the late Domenic and Josephine Catalano Furfari.

After graduation from WVU in 1938 with a B.S. degree in Electrical Engineering, Tony started his career with Koppers Coal Company at its Federal Division Mines.

In 1940 Tony joined Westinghouse Electric Corporation in Pittsburgh, Pa. as an electrical service engineer. Tony held numerous engineering and management positions over his stellar 40 year career with Westinghouse retiring in 1980 as Manager of Electric Service at Corporate Headquarters.

Mr. Furfari was an active member of IEEE (Institute of Electrical and Electronic Engineers) and held numerous national positions in the Industry Applications Society. He served as the president of IAS in 1976, received the Outstanding Achievement award in 1979, elected to IEEE Fellow in 1980 and received the Distinguished Service Award in 1998. He also served as Editor of the IAS Newsletter from 1984 until 1994. [Read more...](#)

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			
Section		17 Engineers Week table	30 SciTech			28 History Dinner			15 Picnic North Park			
Communi- cations					8 Terahertz Imaging					19 WiFi In the US		
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.		
Magnetics	17 Imaging Mag Surface			12 Ferrite Materials		12 Ultrafast Microscopy						
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												