

Pittsburgh Section

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A Joint meeting of IEEE (PES, IAS, PACE) and ASME Pittsburgh Sections

Offshore Outsourcing and Engineering Employment

Ron Hira, Ph.D., P.E.

Rochester Institute of Technology



The phenomenon of corporations moving high-technology jobs overseas is accelerating, and it is creating a palpable unease amongst current and future American technology workers. Examples of immediate impacts are readily available. Young people have already begun to shy away from majoring in computer science. And US technology workers are increasingly being asked to train their overseas replacements, a form of knowledge extraction that is euphemistically referred to as knowledge transfer. They have little choice because of the current state of the job market - jobs are scarce and wages are under pressure. The policy dialogue concerning outsourcing has been clouded by a portrayal of outsourcing as either a positive or negative for America. The reality of course is that it generates significant positive and negative effects.

Outsourcing advocates, very happy with the status quo, have sponsored and marketed a spate of studies to highlight the positives and downplay the negatives of outsourcing. They focus on a single objective: short-term economic efficiency. Many of these studies acknowledge the 'unfortunate but inevitable displacement of workers' as jobs are exported from America, but excitedly argue that it is simply a necessary side effect of progress. Others go as far as saying that the exporting of Information Technology (IT) jobs will actually create more IT jobs. This rosy view, shared by many corporate managers and economists, stands in stark contrast to how most technology workers view the situation. This talk will discuss what we know - or more importantly what we don't know - about outsourcing and describe many of the implications that are missed by outsourcing advocacy reports.

Dr. Hira is an Assistant Professor of Public Policy at Rochester Institute of Technology where he specializes in engineering workforce issues and technology policy. He is a recognized expert on offshore outsourcing.

Place: Engineers Society of Western Pennsylvania (ESWP)
337 Fourth Ave. Pittsburgh PA 15222
Intersection of Fourth Ave and Smithfield St.
Date: August 19th
Social: 6:00 PM
Dinner: 6:15 PM (Buffet dinner is \$23)
Program: 7:00 PM (No cost for attending program)

Reservations are required and must be made no later than August 17th. For more information or to register please contact Jennifer Montgomery at (724) 285-4761 (jennifer.montgomery@burthill.com) or S. Faruq Ahmed at (724) 285-4761 (ahmed@burthill.com). Please make checks payable to "IEEE Pittsburgh Section" and send them to:

Ms. Jennifer Montgomery, EIT
Burt Hill Kosar Rittelmann Associates
101 E. Diamond St
Butler, PA 16001

2004 PES Outstanding Chapter Engineer Award

The power Engineering Society of IEEE Pittsburgh Section seeks nominations from local PES members for 2004 **PES Outstanding Chapter Engineer Award**. The nominees will be judged based on their activities during the past two calendar years (2002 and 2003) in the following categories.

1. Number of awarded patents (one point for each; maximum 5 points)
2. Number of IEEE publications (one point for each; maximum 5 points)
3. Number of IEEE related presentations (one point for each; maximum 5 points)
4. IEEE PES Chapter member/officer/volunteer (one point for each; maximum 5 points)

Interested members may submit their nominations outlining the above points to the Committee Chair Harry Hagerty at hhagerty@ieee.org no later than August 31st. The decision of the Award Committee will be considered final. The winner will be recognized at a PES function later in the year.



Serial Communications
Tony Pollice, Advisory Engineer
Mark Bolha, Application Engineer
 ASI Robicon, Inc.



Different types of serial networks that are commercially available and their practical applications will be presented. Modbus, Modbus Plus, Device Net, Profibus, DH+, RIO and several other protocols are discussed in their common context of serial communications systems. The structure of star networks, point-to-point networks, token ring networks and RS485 standards are described along with the data structure and protocol for each. Hot back up and redundant PLC systems, what systems are available from various manufactures and some lessons learned on their practical implementation are also discussed.

Application of serial networks to power electronic systems and motor drives will be shown as examples. One application involves the operation of parallel motors on a conveyor system using Device Net to control all of the signal interfaces between drives. Another application is a power supply system that uses a hot back up approach for control redundancy as well as several different networks to communicate with field devices. A demonstration of how to set up a PLC network using a Profibus configuration tool and RS Network for Device Net are given.

Mr. Pollice received a B.S.E.E. degree from University of Pittsburgh in 1980. He has over 24 years of experience in applying computer controlled solutions to automatic test equipment, communication networks, and industrial controllers. Mr. Bolha has designed medium voltage VFD systems as well as AC and DC power supply systems using PLC based and serial communication system interfaces.

Place:	Westinghouse Energy Center, Monroeville
Date:	September 2 nd
Social:	6:30 PM
Program:	7:00 PM

This meeting will be of particular interest to the members who belong to the PES and IAS societies. For more information or to register, contact Keith Sueker at (412) 793-8909 or ksueker@att.net by August 26th.

Directions: From downtown Pittsburgh, take the Parkway East Outbound to Exit 14A (Monroeville). Cross the traffic light (Business 22) and proceed on Rt. 48 South for two traffic lights. Turn left onto Northern Pike. Proceed East ~ 0.2 miles and turn right at the first traffic light onto Westinghouse Drive. Travel 0.7 mile to the three flags where the main entrance is located. Parking in the evening will be plentiful in the large area in front of the building. Enter the main entrance. Check with the security inside. You will be directed to the proper auditorium for the presentation.

From PA Turnpike, take Exit 57 (Monroeville). After the toll plaza, get in the left lane (Business-22). At the first light, turn left on to Rt. 48 South and follow the directions shown above.



Take Me Out to the Ballgame



Enjoy a day at the ballpark with the IEEE. Join the IEEE Pittsburgh Section members and guests for a double header with Pittsburgh Pirates and the Houston Astros.

Place:	Pirates Cove at PNC Park (Sections 203, 204, 205)
Date:	September 9 th
Time:	First game: 5:05 PM Second game: 7:30 PM. Dinner: Begins at 5:30 PM. You may arrive as early as 3:30 PM.
Cost:	The dinner and game cost \$34.00, not including parking.

Reservations must be made no later than August 27th. Please contact Charles Urso at (412) 338-4871 or by email at curso@litechnologies.com.

Please make checks payable to "IEEE Pittsburgh Section" and send them to:
 5077 Lougean Avenue
 Pittsburgh, PA 15207.

Section Officers

Chair – Elena Schreiber
elena.schreiber@us.transport.bombardier.com (412) 884-7774

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

Treasurer – Ralph Sprang
rsprang@ieee.org

Secretary – John Twigg
jtwigg@ascent-systems.com
 (724) 387-2772

Chapter Chairs

Communication – Prashant Krishnamurthy
prashant@tele.pitt.edu
 (412) 624-5144

Computer – John Twigg
jtwigg@ascent-systems.com
 (724) 387-2772

Eng. in Medicine and Biology
 John Kalafut
 (412) 767-2400 ext. 3249
jkalafut@medrad.com

Industry App. – Kal Sen
senkk@ieee.org
 (724) 696-1611

Magnetics – Miklos Gyimesi
miklos.gyimesi@ansys.com
 (412) 268-2308

Power Eng. – Kal Sen
kalyan.sen@emd.curtisswright.com
 (724) 696-1611

Robotics - Guy Nicoletti
nicolett+@pitt.edu
 (724) 836-9922

Signal Proc. – Mike McCloud
mmccloud@engr.pitt.edu

Committees

Awards – Dave Vaglia
davevaglia@ieee.org
 (412) 344-5733

Bulletin Editor - Mike Boccabella
m.boccabella@ieee.org
 (724) 325-1776

GOLD – Paul Link
plink74@icubed.com

PACE – Joe Kalasky
j.a.kalasky@ieee.org

Directors

Hany Ammar
Ammar@cemr.wvu.edu
 (304) 599-1018

Phil Cox
p.e.cox@ieee.org
 (412) 820-1302

Larry Hornak
hornak@cemr.wvu.edu
 (304) 293-6371 ext. 515

Nigel McQuin
n.p.mcquin@ieee.org
 (412) 824-2165

Steve Swencki
steve.swencki@ieee.org
 (412) 893-3694



Mitigating the Effects of Voltage Sag and Flicker on Distribution Lines with Solid-State Switched Capacitors

Chris Sermon, P.E.
Power Quality Systems, Inc



Residential, commercial and industrial growth along long distribution feeders has increased the awareness and impact of poor power quality events such as voltage sag and flicker. Voltage sag and flicker can have a commercial and economic impact on both suppliers and users of electric power.

The distribution-class Static VAR Compensators (SVC) provides an economical and field proven solution to the problems of voltage sag and flicker. This presentation will provide an overview of the distribution-class SVC including power and control implementations, application considerations and application examples.

Mr. Sermon earned a B.S. in Applied Physics in 1979, and a MSEE degree in 1981 from the Georgia Institute of Technology. Chris joined Power Quality Systems (in West Mifflin, PA) in 2003 as a Senior Engineer. His duties and responsibilities include project management, application engineering and product development, for their medium voltage distribution-class Static VAR Compensators. Chris is a member of the IEEE and a Registered Professional Engineer in the Commonwealth of Pennsylvania.

Place: Westinghouse Energy Center, Monroeville
Date: September 23rd
Social: 6:30 PM
Program: 7:00 PM

This meeting will be of particular interest to the members who belong to the PES and IAS societies. For more information or to register, contact Dave Vaglia at (412) 491-6944 or davevaglia@ieee.org by September 16th.

Directions: For directions, please refer to the article on the 2nd page of The Bulletin.

IEEE International Symposium on Electrical Insulation September 19th through 22nd Indiana Convention Center Indianapolis, IN

The 2004 IEEE International Symposium on Electrical Insulation (ISEI 2004) conference is directed toward those who develop, test or use electrical insulation in electrical equipment. In the technical program, 140 papers from 31 countries will be presented. These papers will focus on the practical issues that are of a concern to those who work with transformers, rotating machines, cables, outdoor equipment and switchgear. Attendees will find answers to questions on what new insulation materials are available, as well as what new developments are being made in diagnostic testing and life extension. Poster sessions will be held on two evenings of the conference to address both practical application issues and research into new materials and test methods.

Shorts courses have been scheduled during ISEI 2004 that will provide basic information on a wide range of topics that will be useful to those new to the field, or who may need a better understanding of new materials and diagnostic techniques available.

Attendees will also have the opportunity to see the latest in electrical insulating materials, products and test equipment at the Engineering Manufacturing Expo 04 (EME 04). This Expo is located at the same facility as the ISEI 2004.

A number of working groups developing or revising IEEE standards related to electrical insulation as applied to rotating machines will also meet during the ISEI 2004. Attendees are welcome to attend.

Early registration is available through August 19th. For more information, or to register online, please visit www.deis.nrc.ca/isei2004.htm. IEEE members receive a discounted registration fee.

IEEE Pittsburgh Section 7th Annual Fall Picnic

Your entire family is invited to attend our 7th Annual IEEE Pittsburgh Section Fall Picnic. The Outlook Grove in South Park has been reserved for the day. The section will provide hot dogs, buns, condiments, and soft drinks. Each member that is attending is asked to bring a covered dish that will serve 10-12 people.

Activities are planned for children based on age and number of children attending. Also in store is a volleyball game for the adults. Please come out and join the fun. The picnic will start at 1:00pm, and food will be served around 2:00pm. Games and activities will begin after lunch.

Reservations are required so the correct amount of food can be purchased. Please contact Michelle Antantis by phone (412) 393-4912 or e-mail mantantis@dqe.com by September 13th to RSVP. When you call, please let us know how many will be attending, the number and ages of the children attending, and what covered dish you will bring.

Place: Outlook Grove, South Park
Date: September 18th
Time: 1:00 PM, Lunch served at 2:00 PM

Directions: From Downtown, take Route 51 South to Route 88 South. From the left lane, go straight onto Corrigan Drive. Follow Corrigan Drive through South Park until the road comes to a T. The Fairgrounds will be on the right. At the intersection, make a left onto Brownsville Road. Follow Brownsville for 2/10 of a mile. Make a left turn at the sign for Outlook Grove. Outlook Grove will be on the left.

