PHILADELPHIA SECTION of the IEEE

Membership in these counties: Bucks, Chester, Delaware, Montgomery, Philadelphia, (PA)
Burlington, Camden, Gloucester (NJ)

Almanack

Vol. 59, No. 1 www.ieeephiladelphia.org **January 2014**

SECTION MEETING

Jan. 21, 2014
Dinner: 6 pm
Speaker: 7 pm
Sheraton University City Philadelphia
Meal Cost: $25.00 (students $15.00)
Parking cost paid by section

Michael Mayer, PE
Information and Communications Systems Security
Mr. Ron S. Holt and Mr. Randy Johnson
The Deitz & Watson Fire

Note: In the event of bad weather please call the Sheraton after 1pm the day of the meeting at 215-387-8000. Ask the front desk if the meeting has been canceled.

Inside the Almanack

November 2013

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1 New Year's Day	**2**	**3**	**4**
5	**6**	**7**	**8**	**9**	**10**	**11**
12	**13**	**14 Adcom**	**15**	**16**	**17**	**18 Raspberry Pi Course**
19	**20** MLK Day	**21 PES/IAS Lunch IEEE Night**	**22**	**23**	**24**	**25**
26	**27**	**28**	**29**	**30 Employment Network**	**31**	

Chair's Message
By Philip Gonski

I trust this issue of the Almanack finds everyone celebrating another healthy and prosperous new year. This past year marks the first time that the Philadelphia Chapter operated under the new bylaws imposed by IEEE Member and Geographic Activities (MGA) and I am honored to serve as the first Chair popularly elected by our members in recent memory.

While your vote confirms that the Administrative Committee is on the right track with the direction of the leadership of the section, I just wanted to take a minute to thank the real backbone of the Philadelphia Section: our long-serving, dedicated volunteers who contribute their time to host successful events, plan innovative meetings, and in general, give us the momentum to keep the wheels of our organization turning! Some of us might take this for granted, but I can tell you firsthand that our highly involved membership base is unique and should continue to be cultivated.

I commend Mark Soffa, our Past Chair, for his tireless efforts in 2013. It's easy to see Mark's accomplishments: he revived inactive chapters and recruited volunteers; he generated unparalleled enthusiasm for our sold-out Awards Night; he expanded our course offerings, all of which increased member involvement in Section activities. Because of Mark, more members have a personal connection to the IEEE and will stay involved for years to come. As you can plainly see, Mark's triumphs as Chair leave me with big shoes to fill.

I guess I've always had big shoes to fill, as both of my grandfathers were famous engineers. My paternal grandfather served in the "Black Sheep Squadron" during World War II and went on to invent the "Continuous Mining Machine"' and numerous other inventions for the coal industry. As a kid, I would frequently visit the Museum of Science and Industry in Chicago to see his inventions on display. My mother's father served in the Navy on Iwo Jima and Okinawa, and went on to invent the electric hospital bed, rotating barber pole, and electric bug light, to name a few of his inventions. Later in life, he helped write and regulate the Clean Air Act, and was one of the first Chairs of the EPA in Chicago. Growing up, I thought my grandfathers' stories of their engineering feats were the greatest. I still do.

So, as you can imagine, I'm eager to get started. I want to continue to host meetings in the suburbs and I'd like to get input on what topics are of greatest interest to our suburban members. With our new board members, I want to continue the great work that John Iannuzzi has done with organizing short courses. My plan is to have courses that provide for our wide range of membership needs as well as those who are in need of PDH & CEU credits. I plan to work with the board on generating ways to increase member involvement and ensuring that the Philadelphia Section's offerings meet the ever-changing needs of our members. Stay tuned for the upcoming Philadelphia IEEE Section's Entrepreneur and Career Workshop.

IEEE NIGHT

Philadelphia Section Meeting

Joint with: Engineering Management/Social Implications of Technology (EM/SIT) and Power Engineering/Industry Applications (PE/IA)

Date: Tuesday, January 21, 2014
Time: Dinner is at 6 pm. Program starts at 7 pm, and 8 pm.
Location: Sheraton University City, 36th and Chestnut, Philadelphia
Cost of dinner is $25.00 (students $15.00); meeting only is free (Real cost of dinner is higher, which is mostly subsidized by section)
Reservations are needed, call 484.270.5136 or email the section office.
sec.philadelphia@ieee.org or use vtools in the web site
Indoor parking is at location and paid by section. Bring ticket to be stamped.
Note: In the event of bad weather please call the Sheraton after 1pm the day of the meeting at (215) 387-8000. Ask the front desk if the meeting has been canceled.

Mr. Michael A. Mayor, PE,
Independent Consultant
Information and Communications Systems Security

The 21st Century has seen an explosion in the use of Digital Data where data containing personal identity, financial information, medical records, corporate business strategy and technical data as well as national defense data is stored and retrieved in digital form and transmitted over wireline and wireless communications links. Data Collection activities that were once the province of States targeting other Countries are now conducted by States, private and criminal organizations (and even private individuals) targeting all sources of private data. Starting with key concept definitions, proceeding through a brief historical background the presentation gives a survey of overall Information and Communications Systems Security, historical encryption methods and algorithms, data sanitization methods, recovery of erased data, wireline and wireless communications security, low signature RF Systems and future encryption trends and solutions like Quantum Cryptography.

Mr. Michael Mayor, PE has over 35 years of engineering experience and is currently an Independent Consultant providing Systems Engineering services in the area of Secure Communications, Communications Intelligence and Low Signature Communications and Surveillance Radar Systems. His consulting services include Waveform Design, RF propagation modeling and analysis, Spectrum Surveillance and Spectrum Sharing, Digital Receiver Design and Digital Signal Processing algorithms.

Formerly, he was Vice President (Advanced Technology Research) and Chief Scientist in the Aerospace/Communications Division of the ITT Defense Electronics Group. In this capacity he conducted Research and directed the development of secure Ground, Airborne and Space Communications and Communications Intelligence systems as well as selected Electronic Warfare and Electronic Countermeasures systems. This included RF Transceivers and electronic components, Cognitive Radio Systems, Digital Receivers, Digital Signal Processing algorithms, Emitter Geolocation systems and

encryption methods and algorithms. This research extended to the design and development of Free Space Optical (FSO) communications systems. He authored six patents in the areas of Spread Spectrum signaling systems and Digital Instrumentation to detect Electromagnetic Emissions.

Mr. Mayor is a Licensed Professional Engineer and holds an MSE from the Moore School of Electrical Engineering, University of Pennsylvania and a BSc in Mathematics from Villanova University. He is a member of the National Society of Professional Engineers (NSPE) a Senior Member of the Institute of Electrical and Electronic Engineers (IEEE), a member of the Armed Forces Communications and Electronics Association (AFCEA), the National Military Intelligence Association (NMIA) and the Association of Old Crows (AOC).

Mr. Ron S. Holt and Mr. Randy Johnson
The Dietz & Watson Fire
The Dietz & Watson warehouse in Delanco NJ caught fire September 1 and 2. The roof was burning under a massive solar panel installation. We were unable to extinguish the fire because the panels represent a hazard. With the help of eleven fire companies we were able to contain it to that building, although it burnt to the ground. We will talk about the fire and then about changes needed to building codes.

Ronald S. Holt Chief 1100 Delanco Fire Company
Volunteer Firefighter for 35 years
Chief for the past 3 years and for the year 2014
Fire Inspector for Delanco Fire District
Level 2 Fire Instructor NJ
Fire Subcode inspector for NJ
Randy Johnson Fire Official Delanco
Volunteer Firefighter over 35 years
Has held different positions up to Chief in several companies

IEEE PHILADELPHIA SECTION CONGRATULATES OUR NEW SENIOR MEMBER!

The last 2013 A&A Review Panel meeting was held on November 23 in New Brunswick NJ. We have an elevation to report. We congratulate our newest SM: Michael Maziarz who belongs also to the Power & Energy Society and the Vehicular Technology Society.

CONET Meeting News

By Baw Ch'ng

The IEEE Philadelphia Consultants Network (CONET, **www.PhilaCONET.com**) had a meeting on Tuesday, Dec. 3. The next CONET meeting shall be on **March 4, 2014**.

The Dec. 3 meeting featured a presentation by Mr. Greg Heller-LaBelle of The Colony Meadery on personal branding and marketing for consultants. Mr. Heller-LaBelle is a psychologist, entrepreneur, beer blogger, and beer brewer with extensive start-up experience in marketing and business development. Mr. Heller-LaBelle led a lively and informative discussion on the issues of branding, marketing, and the use of social media as they relate to the consulting business. Mr. Heller-LaBelle's presentation, and other past CONET presentations, may be accessed at **www.PhilaCONET.com**.

CONET was delighted to welcome new member Mr. Chris D'Ascenzo, an experienced engineering executive.

Meeting attendees were also regaled and challenged by a technical puzzler contributed by Mr. Roger Boyell, CONET's former chairman and a forensic engineer. The puzzler concerns a car crash where the root cause was suspected to be one of the car's electrical components that might have been defective. Attendees were presented with a similar car component and challenged on how they would demonstrate that it was indeed defective. Mr. Boyell illustrated how persistence led to a successful demonstration of how the component would fail and thus resolved the issue to his client's benefit.

Next Meeting: The next CONET meeting will be held on **Tuesday**, **March 4, 2014**. The featured speaker for Mar. 4 shall be Dr. Jonathan Allen, CONET's Recording Secretary and RF engineering expert. Dr. Allen will speak to RF power systems and their industrial uses such as semiconductor fabrication, thin film solar panels, deposition optical thin films, fast curing of adhesive, food processing, etc.

Kindly visit **www.PhilaCONET.com** for information on membership, up-coming meetings, pass meeting presentations, and to learn more about the wide range of consulting services offered by CONET consultants from CONET's online Consultant Directory.

Section notes

IEEE PHILA. SECTION OFFICERS 2014

Chair: Phil Gonski, P.E.; pgonski@gmail.com
Vice Chair, Adam Fontecchio, Ph.D.; afontecchio@coe.drexel.edu
Treasurer, Richard Primerano, Ph.D.; rap34@drexel.edu
Secretary, Leonardo F. Urbano Leonardo.f.urbano@gmail.com
Past Chair, Mark Soffa msoffa@verizon.net

Adcom meets second Tuesday of the month (Jan. 14) at the Sheraton University City. Members are welcome to attend. Reserve a seat by calling the office by the Friday before.

Almanack Staff

Publisher: Philip Gonski
Editor: Peter Silverberg
Asst. Editor: Volunteer needed
News and notices contact psilverberg3@comcast.net or 856.461.6615 or fax 509.461.6617
Deadline for the February issue is January 14, 2014
New & improved web site: www.ieeephiladelphia.org

ADVERTISE IN THE ALMANACK:

The Philadelphia Section of the IEEE encourages placement of technical, professional, promotional and commercial advertisements in the Almanack. The Almanack is published ten times a year and is read by more than 4,000 members with an average annual salary of over $70,000 in over 150 key industries. For more information, contact Peter Silverberg at 856.461.6615 or psilverberg3@comcast.net

Rates:
Full Page: 7.5x10: $100
3/4 Page: 7.5x7.5: $75
1/2 Page: 5 x 5: $50
1/4 Page: 2.5 x 5: $25
1/8 Page: 2.5 x 2.5: $12.50

Main Office: 11 Bala Avenue, Bala Cynwyd PA 19004, 484.270.5136
sec.philadelphia@ieee.org

Chapter Organization:

Philadelphia Section Joint Chapter, SP01/BT02/CE08 has co-chairs for 2014. Here is the contact information:

Michael A. Mayor, MSE, PE
Systems-Science PLLC
25 Jamie Circle
Gilbertsville, PA 19525
484-524-3264
<mike.mayor@systems-science.com>

Gail Rosen
ECE Dept.,
Drexel University
Philadelphia, PA 19104
215-895-0400
<gailr@ece.drexel.edu>

IEEE Philadelphia Section Hands On Workshop Presenting Raspberry Pi

A one-day IEEE Philadelphia Section Hands-On Workshop to introduce professionals to the Raspberry Pi – January 18. (Check with office for space availability. We are close to the capacity of the room.)

This one-day IEEE Philadelphia Section Hands-On Workshop is intended to introduce professionals to the Raspberry Pi, a Linux operating system (OS) based, credit-card-sized single-board computer developed by the Raspberry Pi Foundation with the intention of providing an inexpensive hardware and freeware software platform for continuing education, innovation and STEM outreach.

The Raspberry Pi computer system features a Broadcom BCM2835 system-on-a-chip (SoC) device which includes a 32-bit ARM1176JZF-S 700 MHz processor, analog audio output, VideoCore IV graphical processing unit (GPU), HDMI and composite video output, 512 MB of RAM, an SD card slot, two USB 2.0 and an 10/100 Mb/sec Ethernet port. It uses an SD memory card for booting and non-volatile program and data storage.

This Hands-On Workshop optionally includes the Raspberry Pi Model B system with a preconfigured 8 GB SD memory card and the text Raspberry Pi User Guide, Gareth Halfacree and Eben Upton. A USB keyboard and mouse and a HDMI video display will be provided for use during the Workshop.

The participants will have a hands-on opportunity to investigate the development of embedded systems using the Raspberry Pi, Raspian Linux OS, Python programming language and external hardware peripherals.

The low cost Raspberry Pi hardware and freeware software, including the simple Scratch programming language, provide an opportunity for professional to engage in STEM outreach.

Background Required: Knowledge of a conversational computer language (such as C) and operating system basics (such as Windows or OS X).

Intended Audience: Practicing Electrical Engineers, Computer Engineers and other professionals interested in continuing education, innovation and STEM outreach with new technologies.

Materials: It is recommended to bring a Laptop computer with Windows XP/Win 7 with WiFi and an RJ45 Ethernet jack for networking exercises. Optional but recommended is the Raspberry Pi hardware kit (purchased through IEEE and kept by student) or you can bring your own Raspberry Pi and accessories to the class.

The hardware kit ($80 value) includes:

1. Raspberry Pi Model B Revision 2.0
2. Pre-loaded SD Card (8G) Raspbian "wheezy"
3. Raspberry Pi Users Guide- Text- Gareth Halfacree
4. USB micro power supply, 5v, 1500ma
5. 3-foot Rj45 Ethernet cable.

You have the option of paying the price which includes the hardware, or purchase the kit on your own.

Location: College of Engineering, Temple University
12th and Norris Streets, Philadelphia, Pennsylvania 19122

Date: 18-January-2014
Time: 08:30AM to 04:30PM (8.00 hours)
Email meeting contact: IEEE Philadelphia Section Phone: 484-270-5136 11 Bala Avenue, Bala Cynwyd, PA 19004 E: sec.philadelphia@ieee.org | Web www.ieeephiladelphia.org
Cost: See web site.

Instructors

Dr. Dennis Silage

Biography: Dennis Silage is a Professor in the Department of Electrical and Computer Engineering at Temple University. He has a Ph.D. in Electrical Engineering from the University of Pennsylvania. He is a Life Senior Member of the IEEE and director of the System Chip Design Center www.temple.edu/scdc.

John Iannuzzi

Biography: John Iannuzzi is Principal Engineer at Core Technology Group, a test and measurement and custom electronics design company located in Chalfont, PA. He has a BS in Physics from Drexel University. He is a Senior Member of IEEE and a member of the 2013 Philadelphia Section IEEE Executive Committee.

PES/IAS Chapter Powers On

By Mike Reynolds, Chair - Philadelphia Section PES/IAS Joint Chapter

Over 30 attended November's PES/IAS Joint Chapter meeting at The Navy Yard, hosted by Penn State University. Will Agate, Vice President, Navy Yard Management & Development - Philadelphia Industrial Development Corporation, opened the three hour morning session presenting a brief history and vision seen for The Navy Yard. He then followed describing the Navy Yard's long-range 1,200 acre urban redevelopment project consisting of 282 buildings and the ongoing benefits of creating jobs for The City of Philadelphia region. Presently, Will and his team are in the process of developing a master sustainability and energy plan.

David J. Smith, Director, Energy Services with Burns Engineering Inc., followed; speaking on The Navy Yard Energy Master Plan, a comprehensive energy, infrastructure, technology and business plan that will help guide the historic Navy Yard into an energy efficient and sustainable modern "city within a city" by providing a practical real world model for electrical grids of the future. (See photo above)

Parhum Delgoshaei, Ph.D, College of Engineering at Penn State and Manager of Educational Programs at the Energy Efficient Buildings Hub, continued by speaking on the GridSTAR Center that was established in 2011 to support the advancement of the smart grid as a regional education and research resource. The morning concluded with a tour of the GridSTAR Center.

Mike Reynolds, PES/IAS Chapter chair, presented Certificates of Appreciation to the three excellent speakers and gifted them with the coveted chapter coffee mug.

The Navy Yard meeting capped off a great year for the Philadelphia Section PES/IAS Joint Chapter. Meetings start back up in January.

Ernest's Page *By Ernest Cohen, Ph.D.*

Computers

My second job after college brought me to the Delaware Valley to be a computer programmer at the Westinghouse steam turbine factory, then located in Lester, Pennsylvania. I knew nothing about computers before, but in my previous job, I had talked my way into spending time in the punched card room, and read manuals for IBM equipment.

The computer I "teethed on" was the IBM 650, a drum storage, which had far less power than the gadgets most of us now own. It did not perform floating point arithmetic, and all the applications at Westinghouse were engineering calculations, so all the programs were written using the Bell Labs interpreter. As the British mathematician, Turing, had proven in the 1930s, all general purpose stored program digital computers were equivalent, subject only to speed and storage limitations. The Bell Labs interpreter was a practical example of that: it converted a machine with 2000 words of storage into one with 1000 words of storage, but could do engineering calculations.

When IBM added floating point arithmetic and index registers to the 650, we no longer had to use the Bell Labs interpreter, but we had a large backlog of programs written in that language. So, I undertook the job of rewriting the interpreter to use the new hardware. Turing's work was no longer a theoretical concept to me but an intimate part of my work.

In recent years, I have begun to think deeply about computers. The human brain is a highly parallel computer, and we are aware of our own existence. What would it take for a compute to be truly aware of itself? Obviously, even a novice programmer can write a program that makes the machine out put, "I compute. Therefore, I exist;" but that would not be self awareness. Recently, at dinner, our son, Art, was discussing with our youngest grandchild, the following concept: "If all the logic connections in a human brain were duplicated with inorganic logic circuits, would it think like a brain?" Does Turing's proof apply to highly parallel computing systems, like the brain? Then, a PBS Nova TV program featured a demonstration of a hive of bees deciding where to relocate. The program suggested that this highly parallel decision making by entities with a low order of computing power individually performed as a powerful computer.

Not only are we aware of ourselves, but we are often aware of how others are thinking. We also have a sense of humor, and we make jokes as well as appreciate jokes made by others. What would it take to make a computer able to do these things? My guess is that it would take a highly sophisticated learning program. A human starts learning these things as an infant. If he or she is hungry or uncomfortable, and cries, then he or she is picked up and fed or has a diaper changed. What has to be built into the hardware so that a computer has similar needs and can learn how to interact with the world to have these needs satisfied? Our awareness of how other people or even animals are thinking seems to be built on an awareness of our own thinking. Turing's work does not seem to give an inkling of how to begin on such a project.

A religious question: if we could build such an inorganic machine would it have a soul?

IEEE Philadelphia Employment Network Group
Date: January 30, 2014
Time: 7:00 pm - 9:00 pm
Topic and Speaker: "General Meeting/Job Search Roundtable," moderated by George Butts
Meeting Agenda: Job search topics and open discussion roundtable.
Location: Room 709, 7th Floor, Bossone Enterprise Center 3128 Market Street, Philadelphia, PA 19104 (between 31st and 32nd Streets) on Drexel University's campus.
Cost: No Charge, refreshments will be available
Registration: Please register by Wednesday, January 29, 2014, by using vTools at https://meetings.vtools.ieee.org/meeting_view/list_meeting/22455
Parking: Nearby lots: (1) On the left side of Market Street just before 31st Street; (2) on the right side of Market Street, just past 31st Street; (3) from Market make Left on 36th to University City Sheraton garage. Public Transportation: SEPTA (Rail: 30th-Street Station; Subway and Trolley: The Market-Frankford Line (the Blue Line) stops at 30th and 34th Streets and all trolley trains (the Green Lines) stop at 30th and 33rd Streets.)

*** Join our group on LinkedIn for the latest updates and articles related to IEEE Employment around the Philadelphia Region - Search LinkedIn Groups for "IEEE Philadelphia Employment Network" ***

IEEE Philadelphia Section is looking for Awards Candidates for 2014

The IEEE Philadelphia Section Awards Committee needs your help in the process of nominating members (yourself included) to receive IEEE awards and medals to be recognized at the Annual Awards Banquet on April 23, 2014 at the Union League in Center City Philadelphia.

The committee is seeking the names and biographies of individuals whose meritorious achievements in one of the areas of IEEE interest - Electrical Engineering, Computer Science and allied branches of engineering, Arts and Sciences - deserve wide recognition.

Many significant contributions to the profession that originated in Delaware Valley companies and universities are yet to be promoted and properly recognized by the IEEE.

The IEEE also bestows recognition on its most outstanding members in the form of a Medal of Honor, IEEE Medals, Technical Field Awards, Service Awards, and Paper-Prize Awards.

The IEEE Philadelphia Section will help nominators and nominees in preparing forms, locating appropriate nominators, endorsing candidates for awards and medals, and sometimes serving as the nomination body. We strongly encourage members of our Section to contact the committee for information, nomination kits, and general assistance in the process.

The Various Awards Available For Nomination are:
Philadelphia Section Engineer of the Year Award
Young Electrical Engineer of the Year Award
Benjamin Franklin Key Award
Philadelphia Section Corporate Technology Innovation Award
To review the requirements for each award go to
<http://origin.library.constantcontact.com/download/get/file/1111316754496-52/Nomination+Requirements+Doc.pdf>

The awards committee will gladly furnish application forms to interested members, and help in preparing the application.

Submit ALL nominations by January 31, 2014 to:
IEEE Section Office, 11 Bala Avenue, Bala Cynwyd PA, 19004
Attn: Merrill W. Buckley, Jr., Awards Committee Chair

Think carefully about your fellow workers and about your own contributions. Don't be shy! We really need your help. Call with the name of a potential awardee; even your own.

For more information, please call the Section office at 484.270.5136 or send email to sec.philadelphia@ieee.org, or contact any member of the committee:
Merrill W. Buckley, Jr. 610.544.1876
Thomas Fagan 484.678.1078
Donald C. Dunn 856.227.2458
Dr. Victor Schutz 610.649.9331

IEEE PES Power & Energy Society®

Meeting of the Philadelphia Joint Chapter

IAS

IEEE Power & Energy and Industry Applications Societies

Topic: Different Types of UPS Systems

Speaker: **Justin Mazur, P.E. Consulting Engineer Specialist, Schneider Electric**

Date and Time: **Tuesday, January 21, 2014**
Lunch @ 11:45 a.m.; Presentation: 12:10 – 1:30 p.m.

Cost: **No Charge for Presentation**
$13 for buffet lunch ($10 for Full-Time Students)
Location: **KlingStubbins**
2301 Chestnut Street, Philadelphia, PA 19103
Public Transportation: SEPTA (Rail to 30th Street Station and/or Trolley to 22nd & Market Street)

Reservations: Register by visiting: www.ieeephiladelphia.org and click on "Section Meetings and Events" to register on v-Tools. If you have problems or cannot register online, e-mail or call
Jonathan Schimpf at jschimpf@burns-group.com or 215-979-7700, ext 7709, by 5:00 p.m., Monday, January 20, 2014 **(Specify if you want lunch – We pay in advance)**

Abstract: There is much confusion in the marketplace about the different types of Uninterruptible Power Systems (UPS) and their characteristics. Each of these UPS types will be defined, practical applications of each will be discussed, and advantages and disadvantages listed. With this information, an educated decision can be made as to the appropriate UPS topology for a given need. Many newer UPS systems have an energy-saving operating mode known as "Eco-mode" or by some other descriptor.

Another topic will be alternatives to lead-acid batteries, which are attracting more attention as raw material and energy costs continue to increase and as governments become more vigilant regarding environmental and waste disposal issues. We will compare several popular classes of batteries, compare batteries to both flywheels and ultracapacitors, and briefly discuss fuel cells.

The Speaker: Justin Mazur, PE is the Consulting Engineer Specialist for Schneider Electric's IT Business of Critical Power and Cooling. He is a specialist with over 19 years of Mission Critical Experience and 7 years with Schneider Electric.

********** A Certificate of Attendance will be available upon request **********

Chapter Chair: Mike Reynolds, Burns Engineering - mreynolds@burns-group.com (215-979-7700, ext 7717)
Vice Chair: Affan Abdullah, Sargent & Lundy, LLC - Affan.A.Abdullah@sargentlundy.com (302-622-7228)
Secretary: Jonathan Schimpf, Burns Engineering - jschimpf@burns-group.com (215-979-7700, ext 7782)
Treasurer: Tim McBride, Eaton Corporation -TimothyMcBride@eaton.com (610-497-6137)
Membership and Programs: Barney Adler, PECO - b.adler@ieee.org (215-731-3240)
Professional and Educational Activities: Rich Delp, Schiller and Hersh Associates - rdelp@schillerhersh.com (215-886-8947)
Programs and Public Relations: Bob Swayne, Burns Engineering - rswayne@burns-group.com (215-979-7700, ext.7781)
Join Our Group on LinkedIn! http://www.linkedin.com/groups?gid=3033618&trk=hb_side_g
Check out our website: https://sites.google.com/site/ieeepesiasphiladelphiachapter/
IEEE Philadelphia Section website: www.ieeephiladelphia.org