Almanack ◆IEEE

IEEE Philadelphia Section Website

Membership in the Following Counties
Pennsylvania: Bucks, Chester, Delaware, Montgomery and Philadelphia.
New Jersey: Burlington, Camden and Gloucester

November 2018   *(Entries are Hyperlinked: point+ctrl+click)*

Sun	Mon	Tue	Wed	Thu	Fri	Sat
				1	2	3
4	5 ***IEEE SPS DL**	6	7	8	9	10
11	12 ***WIE News**	13 ***ADCOM**	14	15	16	17
18	19	20 ***IEEE Section Night**	21	22	23	24
25	26	27	28	29	30 ***WIE Forum**	Dec 1st ***WIE Forum** ***SPMB 18**

INSIDE THE ALMANACK
(Entries are Hyperlinked: point+ctrl+click)

ALMANACK
 Published Monthly Nine Times per Year:
 January-May a Summer issue and September-December.
 Publisher: Peter.silverberg@ieee.org
 Editor: Michael.mayor.pe@ieee.org
 Section Office: sec.philadelphia@ieee.org
IEEE SECTION NIGHT
 Meetings are conducted on the 3rd Tuesday of the Month, eight times per year, January through May and September through November.
ADMINISTRATIVE COMMITTEE
 Meetings are conducted on the 2nd Tuesday of the Month: January through June and September through December. Members are welcome to attend the meeting only. Reserve a seat by calling Friday before the meeting. **Phone: 484-270-5136.**

IEEE SECTION NIGHT
Philadelphia Section Meeting Sponsored by the:
Engineering in Medicine and Biology (EMB) and Signal Processing (SP) Societies Chapters

When:
> **Tuesday, November 20, 2018**
> **Dinner at 6:00 PM,**
> **1st Speaker at 7:00 PM.**

Where:
> **Sheraton University City,**
> **3549 Chestnut St,**
> **Philadelphia, PA 19104**
> **(215) 387-8000**

Note: In the event of bad weather please call the Sheraton after 1:00 PM the day of the meeting and ask the front desk if the meeting has been canceled.

- *Meal Cost: $25 (students $15). The meal cost is $40 but it is subsidized by the IEEE Philadelphia Section.*

- *You can attend the talks only for free (with no dinner), however, we ask that you register.*

- *Parking is paid by the IEEE Philadelphia Section, make sure you have your parking ticket stamped at the meeting.*

Registration Link

Or call (484) 270-5136 or email the section office: sec.philadelphia@ieee.org

PROFESSIONAL DEVELOPMENT HOURS (PDH)
PDH Certificates are free for IEEE members. For non-members, the cost is $9 per certificate. You can pay during registration or by check at the meeting.

First Talk

Chaos Synchronization: Estimating Parameters of Noisy Complex Systems

Immanuel Freedman, Ph.D., SM-IEEE, MInstP

Abstract: In communications and in systems pharmacology, parametric models are constructed to predict outcomes. Chaos synchronization enables the time-domain tracking of noisy complex systems in both chaotic and non-chaotic states. Based on an Extended Least Squares objective function, adaptive chaos synchronization combined with Nelder-Mead search is shown to provide more accurate and reliable estimates of model parameters than Nelder-Mead search alone. Results are illustrated for chaos communication systems and mathematical models of pharmacology including the Kirschner-Panetta model of tumor growth and the endogenous cortisol system.

Biography: Immanuel Freedman, Ph.D. SMIEEE CPhys MInstP is an independent consultant in Systems, Signals, and Algorithms. He is also affiliated with the State University of New York at Buffalo Department of Pharmaceutical Sciences. He serves as the current Philadelphia Chapter Chair of the IEEE Communications and Information Theory Societies and as Vice-Chair of the IEEE P2673 Standards Working Group, developing a standard for patient digital biomedical data files with 3D topological mapping of macroanatomy and microanatomy for use in Big Data and Augmented Intelligence systems. He has served as Chair of the American Association of Pharmaceutical Scientists Pharmaco-Imaging Focus Group. He is licensed as a United States Registered Patent Agent and serves from time-to-time as an expert witness in patent cases. He has authored numerous publications and presentations including three encyclopedia articles on Video Compression.

Dr. Freedman obtained his Ph. D. degree in 1986 in Durham, England. Before receiving his Ph. D. degree, he was employed by the United Kingdom National Coal Board developing a mathematical method for early detection of coal mine fires and heating's based on an application of the multiple Sequential Probability Ratio Test to carbon monoxide data obtained via an underground tube bundle system. After completing his doctoral thesis on the Origin of Cosmic Rays, he turned his attention to Remote Sensing and Digital Photogrammetry as a Research Assistant at the University College, London developing a transputer-based system for automated photogrammetry and as a Research Associate at the University of Maryland Center for Automation Research developing a quadtree database of terrain models for the United States Navy.

Second Talk

Understanding Sensorimotor Circuit Function and Design through Neural Engineering.

Catherine R. von Reyn, Ph.D.,
Assistant Professor

School of Biomedical Engineering, Science and Health Systems, Drexel University

Department of Neurobiology and Anatomy, Drexel University College of Medicine

Abstract: Animals adapt their behavior according to specific sensory features present within their environment. How an animal's nervous system extracts and integrates sensory information to guide an appropriate behavioral response remains a major question in the field of neuroscience. Within recent years, a surge in the development of genetic technologies for probing and characterizing the nervous system has brought a new level of neural accessibility to answer this question. Here, I describe how we apply and develop neural engineering tools and take advantage of the relatively small CNS (approximately 200,000 neurons) of the fruit fly *Drosophila melanogaster* to map neural circuits driving sensorimotor transformations. We focus on highly conserved transformations: avoidance responses to objects approaching on a direct collision course. As a failure to recognize an approaching threat can be deleterious, animals from fruit flies to humans are capable of detecting approaching objects and employing rapid maneuvers to avoid collision or predation. Using whole cell electrophysiology and detailed behavioral quantifications, we uncover the sensorimotor circuits involved in avoidance responses and the algorithms responsible for transforming the visual information from an object's approach into an optimal motor strategy.

Biography: Dr. von Reyn received her PhD in Biomedical Engineering from the University of Pennsylvania where she investigated molecular mechanisms leading to neural circuit dysfunction after traumatic brain injury. She did her postdoc at Janelia Research Campus where she investigated the neural circuits underlying sensory to motor transformations in the fruit fly *D. melanogaster*. She joined Drexel University as an Assistant Professor in 2016 and heads the Neural Circuit Engineering Laboratory.

MESSAGE FROM THE CHAIR

Peter Silverberg, IEEE, LSM, P.E.

What are you doing that we don't know about? Months ago I wrote about volunteering in various STEM activities. We run the notices in the Almanack and on the web. Many of you might be doing it but keeping quiet. The section is quite decentralized and so there is no way to find out unless you tell someone. So, how about sending an email with a humble brag about your volunteering to me at psilverberg3@comcast.net.?

Last month I wrote about the Goutmann travel awards. I received an update from Barney Adler. To wit: The word is out about the extension of conference travel grants, in memory of Michel Goutmann, to graduate students working in the fields of Signal Processing, Communications, or Information Theory. At this time $500 grants have been promised to the two PhD-candidate graduate students to present their papers at the Asilomar Conference on Signals, Systems, and Computers, Oct 28- Oct 31 2018, in Pacific Grove California, co-sponsored in part by the IEEE Signal Processing Society:

http://www.asilomarsscconf.org/

The two PhD candidates are:

- Syed Ali Hamza, Villanova University. His paper is:
S. A. Hamza and M. Amin, Optimum Sparse Array Receive Beamforming for Wideband Signal Model.

and

- Ammar Ahmed, Temple University. His paper is:
Ammar Ahmed and Yimin D. Zhang, Distributed MIMO Dual-Function Radar-Communication System with Optimized Resource Allocation.

The second author in both cases is the associated faculty advisor.

The reservations system called vTools is not working right. To back up a bit – IEEE installed a program called vTools to make scheduling coordinated for all the entities. When you register for a meeting the program makes up the attendance list and also collects the money. Another part of the program hosts web sites. It is not just this section- it is all IEEE.

Late in September, vTools migrated to a "more secure server." If you have any computer experience, nothing goes smoothly. Service denial hit the IEEE Night of Oct. 19. Some members managed to register, others were locked out and had to call the office for help.

This should be fixed by the next IEEE Night, but I can't guarantee it. One thing you should be able to do once it works right is register for IEEE meetings as you travel. Locating a meeting seems to need a Google search first.

I have some useful information concerning a membership bargain. Brand new Members and reinstated Members will get 14 months for the price of 12. That is, dues will cover you until Dec. 2019. So, if you are upgrading, returning, or recruiting, you have a perk to offer. This applies to student levels but with some complications at graduation time.

Let me wish you all a happy Thanksgiving feast.

IEEE Philadelphia Section Receives an Award

2018 Membership Recruitment and Retention Performance

Membership Development goals are created for each Section for both recruitment and retention. Each Section has a unique goal based on different dynamics – whether the Section has had growth or decline, as well as the overall size and location of the Section.

2018 Outstanding Section Membership Recruitment and Retention Performance

Philadelphia Section

Delaware Valley Science Fairs (DVSF)

DVSF Information

Founded in 1949, The Delaware Valley Science Fairs, Inc., is a non-profit organization sponsored by area companies, foundations, universities and individual donors. One of the oldest and largest Fairs in the country, DVSF embraces a philosophy is that students learn science by doing science. In the process, students learn how to think and develop critical problem-solving skills that they will need for careers, college and citizenship. Our mission is to bring parents, teachers and industry together to stimulate and nurture young people so that they can grow and develop into contributing members of the community by providing the scientific work force needed for the future. We provide mentoring and teacher training to facilitate participation in this activity.

Learn More About Volunteering for DVSF

Call for Nominations-2019 Engineer of the Year

Kickoff event – Thursday, February 14

Young Engineers Social – Tuesday, February 19

Nominations must be submitted by one of the technical and professional societies in the Delaware Valley by Friday, October 20, 2018.

Click here for more information on 2019 Engineer of the Year Nominations

Call for Nominations – 2019 Young Engineer of the Year

Do you know an outstanding young engineer deserving of recognition?
Then YOU are invited to submit nominees for the 2019 Young Engineer of the Year (YEOY) Award.

Click here for more information on 2019 Young Engineer of the Year Nominations

Statistical Inference through Sparse Sensing
Dr. Geert Leus

IEEE Signal Processing Society - Distinguished Lecturer
Delft University of Technology, The Netherlands

When: *Monday, November 5, 2018 - 3:00 pm to 4:30 pm, Refreshments in the adjacent Mezzanine from 4:00 pm to 5:30 pm*

Where: *University of Pennsylvania, Wu & Chen Auditorium in Levine Hall.*

Attendance is free; however, we ask that you register: **Register Here**

Contact: Alejandro Ribeiro **aribeiro@seas.upenn.edu**

Abstract: Ubiquitous sensors generate prohibitively large data sets. Large volumes of such data are nowadays generated by a variety of applications such as imaging platforms and mobile devices, surveillance cameras, social networks, power networks, to list a few. In this era of data deluge, it is of paramount importance to gather only the data that is informative for a specific task in order to limit the required sensing cost, as well as the related costs of storing, processing, or communicating the data. The main goal of this talk is therefore to present topics that transform classical sensing methods, often based on Nyquist-rate sampling, to more structured low-cost sparse sensing mechanisms designed for specific inference tasks, such as estimation, filtering, and detection. More specifically, we present fundamental tools to achieve the lowest sensing cost with a guaranteed performance for the task at hand. Applications can be found in the areas of radar, multi-antenna communications, remote sensing, and medical imaging.

Biography: Geert Leus received the M.Sc. and Ph.D. degree in Electrical Engineering from the KU Leuven, Belgium, in June 1996 and May 2000, respectively. Geert Leus is now an "Antoni van Leeuwenhoek" Full Professor at the Faculty of Electrical Engineering, Mathematics and Computer Science of the

Delft University of Technology, The Netherlands. His research interests are in the broad area of signal processing, with a specific focus on wireless communications, array processing, sensor networks, and graph signal processing. Geert Leus received a 2002 IEEE Signal Processing Society Young Author Best Paper Award and a 2005 IEEE Signal Processing Society Best Paper Award.

He is a Fellow of the IEEE and a Fellow of EURASIP. Geert Leus was a Member-at-Large of the Board of Governors of the IEEE Signal Processing Society, the Chair of the IEEE Signal Processing for Communications and Networking Technical Committee, a Member of the IEEE Sensor Array and Multichannel Technical Committee, and the Editor in Chief of the EURASIP Journal on Advances in Signal Processing. He was also on the Editorial Boards of the IEEE Transactions on Signal Processing, the IEEE Transactions on Wireless Communications, the IEEE Signal Processing Letters, and the EURASIP Journal on Advances in Signal Processing. Currently, he is the Vice-Chair of the EURASIP Special Area Team on Signal Processing for Multisensor Systems, an Associate Editor of Foundations and Trends in Signal Processing, and the Editor in Chief of EURASIP Signal Processing.

LOCATION AND PARKING
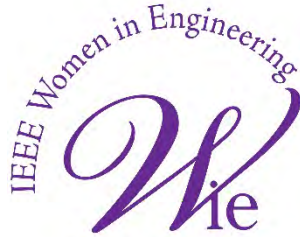
Levine Hall.
University of Pennsylvania
Address: 3330 Walnut St, Philadelphia, PA 19104
Phone: (215) 898-7246

University of Pennsylvania Parking
Chestnut 34
- **N.E. corner 34th & Chestnut Streets (enter off 34th, North of Chestnut)**
- **Hourly Parking:**
- **Monday – Sunday: 6:00 a.m. - 11:00 p.m.**
- **Flat Rates: Credit Card only at all times**
- **$19 6:00 a.m. - 10:00 a.m.**
- **$14 10:00 a.m. - 4:00 p.m.**
- **$11 4:00 p.m. - 11:00 p.m.**

IEEE Women in Engineering

IEEE WIE Report - Philadelphia Section
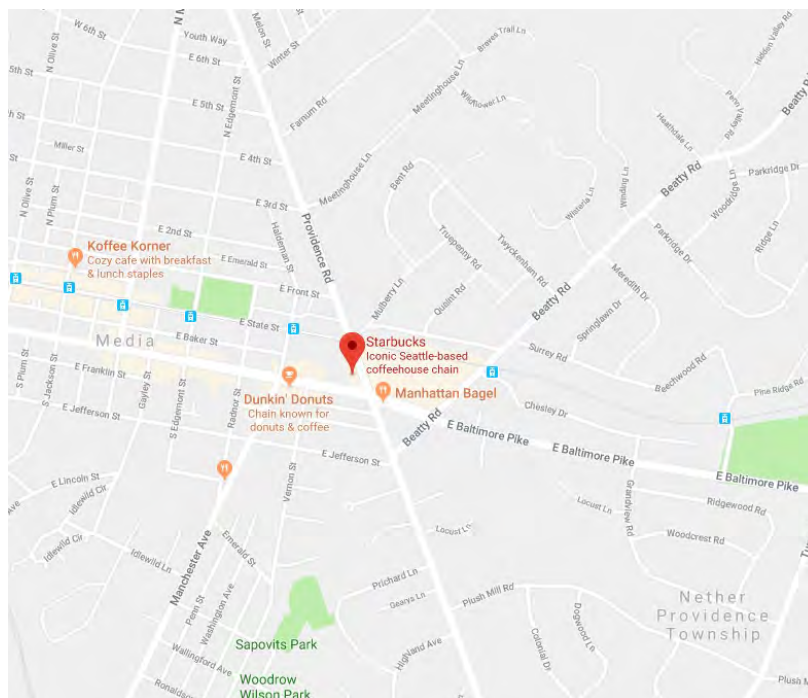
IEEE ADCOM Meeting - Submitted by Kate McDevitt, IEEE WIE Philadelphia Chair

Goals for 2018– Maintain active IEEE WIE chapter, increase members and volunteers, Increase STEM outreach.

Please note that the WIE monthly meeting has a new location

When: **Monday, November 12, 2018**

Where: **443 E Baltimore Ave., Media, PA 19063**
(ACME Shopping Center)

Senior Member Workshop

The Senior Member Workshop was held August 21 @ 6:00 pm - 8:30 pm at the Sheraton University City

Results will be published in the near future

The Philadelphia Section wants to increase the number of Senior Members in our section. We are setting up a workshop for the purpose of signing up new Senior Members. We gain, and you gain by advancing. What does it mean to be a Senior Member of the IEEE? The Senior Member grade is a way for IEEE members to receive recognition for their professional experience and significant performance in Electrical and Electronics Engineering and related fields, including: Computer Science and Information Technology, Physical Sciences, Biological and Medical Sciences, Mathematics, Technical Communications, Education, Management, Law, and Policy.

Email Address:

volunteer @futurecityphilly.org

(point+ctrl+click)

It's that time of year again. I can't believe it's October already! The school year is off to a great start for the Future City Competition. To date, 49 schools have signed up and have started designing their cities of the future.

The Philadelphia Regional Future City Competition is in urgent need of mentors and needs your help! If you have any time available to share your experience with students who are learning about what engineers and planners do, please consider volunteering!

The Future City Competition is a project-based learning program for 6th through 8th grade students around country that introduces them to the principles of engineering while allowing them to use teamwork and creativity to solve problems that face the world. The program helps advance STEM learning in Middle Schools in our region and encourages students to consider careers in engineering in the future. In recent years the regional competition has grown to include over 500 participating students and teachers in the Philadelphia area, but we are short on volunteer mentors. This is a great way to give back to the community and share your experience with the next generation of engineers!

Please consider volunteering as a mentor! Here is some helpful information:

1. **What is a Mentor?** – A Future City Mentor is a volunteer who is an engineer, planner or student who shares their experience, advice, guidance, and technical assistance to a group of students who are working towards completing the competition deliverables (SimCity virtual city, essay, model construction, and presentation). For more information about your role as a mentor go to:

   https://futurecity.org/participants/mentors.

2. **Where are Mentors Needed?** - Mentors are needed at Middle Schools throughout the Greater Philadelphia region. Currently, the following schools are in need of mentors:
   - Agora Cyber Charter School - Phoenixville, PA
   - Centennial School District - Southampton, PA
   - Charles Boehm Middle School - Yardley, PA

- Elizabethtown Area School - Elizabethtown, PA
- ET Richardson Middle School - Springfield, PA
- Fleetwood Area Middle School - Fleetwood, PA
- Gwynedd Mercy Academy Elementary School - Spring House, PA
- Little Town Christian Robotics Academy - Chester, PA
- Maria Kaupas Academy - Scranton, PA
- Mill Creek Elementary - Warrington, PA
- Mother Teresa Regional Catholic - King of Prussia, PA
- Mount Aviat Academy - Childs, MD
- New Hope Solebury Middle School - New Hope, PA
- St. Albert the Great School - Huntington Valley, PA
- St. Elizabeth Parish School - Uwchlan, PA
- St. Mary Interparochial School - Philadelphia, PA
- St. Peter's School - Philadelphia, PA

3. **Time Commitment** - The schools in need of mentors could use any help you can offer! There are plenty of ways to help, including meeting with the class in person, using technology such as Skype or GoToMeeting for virtual meetings, or corresponding via email. Normally, the teachers could use help every other week for the first month or two, then more frequently as the deadlines approach.

4. **Schedule** – Mentors are need as soon as possible, as these schools are already working towards their first deliverables in mid-December. The competition is held in on January 19, 2019 at Archbishop Carroll High School in Radnor, PA. Mentors are assigned on a first-come, first-served basis. Please let us know if you have a preference.

5. **Spread the Word** – These schools are in desperate need of help from engineers and planners! Please share this email with friends/coworkers who may interested. And please feel free to partner up with a colleague, coworker, or friend to work as a team in serving as co-mentors.

For more information on mentoring, please contact: Mike McAtee at:

mjmcatee@urbanengineers.com.

There are also volunteer opportunities on the day of the competition (January 19, 2019), including special awards evaluator, preliminary judge, and general volunteer. We also have a need for volunteers in advance of the competition, including virtual city judge and city essay

Karen R. McManuels, PE
Philadelphia Regional Volunteer Coordinator
kmcmanuels@aeceng.net
610-688-3980 x132

judge. If you are interested in getting involved, please sign up at:

http://www.futurecityphilly.org/fcvo-lops.html

Any questions please contact me via e-mail or phone. Please feel free to forward this e-mail to your friends, co-workers, and technical society members.

Check Out Last Year's Winner

2018 Queen of Angels
- 2nd Place: Downingtown Middle School
- 3rd Place: Lionville Middle School

Honorable Mention:
- St Andrew School
- Mount Aviat Academy
- Grey Nun Academy

People's Choice:
- Drexel Middle School

iPraxis

THE POWER OF VOLUNTEERING!

Through in-class mentoring, project-based learning, science fairs, and after-school programs, our iPraxis volunteers (Scienteers) help to increase knowledge and understanding of STEM subjects and the opportunities they provide.

iPraxis works to inspire middle school aged students in underserved Philadelphia communities to explore science, technology, engineering, and mathematics (STEM) by connecting them with professional scientists and providing hands-on learning experiences.

Our commitment to STEM education is the foundation of our programs and initiatives. We believe all students, regardless of their backgrounds, should be given the opportunity to learn how to investigate, problem solve, and create by putting their ideas into action. iPraxis brings together experts and students to explore how STEM is fundamental to everyday living and our future well-being -- from protecting the environment to curing illnesses.

iPraxis relies on volunteer STEM professionals and students, on donors and supporters, and on teachers, parents, and students to fulfill its mission.

iPraxis Website

iPraxis Newsletter

PHILADELPHIA SECTION PLANNING CALENDAR
Current Month: November 2018

Date	Activity
November	
Nov. 29-Dec. 1	WIE Forum USA East (White Plains)
November 2	Chairman starts to assemble ADCOM for next year
November 5	Signal Processing Chapter – Geert Leus
November 12	WIE Local Meeting
November 13	ADCOM - Introduce 2019 budget.
November 20	IEEE Section Night
December	
December 1	Application due for Region 2 Awards nominations
December 1	Signal Processing in Medicine and Biology Conference at Temple (Dr. Joseph Picone)
December 4	Multi- Society Meeting
December 11	ADCOM
December 11	Send sponsorship donation to Del. Valley Eng. Week
December 31	Last Day to pay 2019 dues

PHILADELPHIA SECTION PLANNING CALENDAR
Next Year 2019

Date	Activity
DATE	ACTIVITY
Jan 15	ADCOM
Jan 19	Future City judging
Jan 22	IEEE Night
Feb 12	ADCOM
Feb 14	Engineers Week kickoff event
Feb 19	DVEW Engineers Social
Feb 19	IEEE Night
Feb 28	Treasurer's Report to IEEE
March 12	ADCOM
March 19	IEEE Night
April 3	Science Fair judging (Oaks PA)
April 9	ADCOM
April 13	Awards Banquet
April 16	IEEE Night
May 1	New members get 8 months for the price of 6
May 14	ADCOM
May 21	IEEE Night
June 11	ADCOM
July 10-12	American Control Conference

PHILADELPHIA SECTION
NOTES

IEEE PHILADELPHIA SECTION OFFICERS

Chair: Peter M. Silverberg, P.E.: psilverberg3@comcast.net
Vice Chair: Mark Soffa: msoffa@kns.com
Treasurer: Robert Johnston: rlj1620@gmail.com
Secretary: Chris Vaile: cvaile@burns-group.com
Past Chair: Philip Gonski, P.E.: philip.m.gonski@ieee.org

ADMINISTRATIVE COMMITTEE (ADCOM)

ADCOM meets the second Tuesday of the month at the Sheraton University City, 3549 Chestnut St, Philadelphia, PA 19104. Members are welcome to attend. If you want to attend, reserve a seat by calling the IEEE Section Office by the Friday before the meeting.

DIECTORIES

ADCOM Members   SECTION Chapters   Chapter Chairs Responsibilities

ALMANACK STAFF

Publisher: Peter Silverberg, P.E.: psilverberg3@comcast.net
Editor: Michael Mayor, P.E.: michael.mayor.pe@ieee.org
News and notices contact: michael.mayor.pe@ieee.org

IEEE Philadelphia Section Main Office:

Bala Pointe Centre, c/o Greater Philadelphia Association Management Group
111 Presidential Blvd., Suite 231, Bala Cynwyd, PA 1004, Phone: 484.270.5136

sec.philadelphia@ieee.org

ADVERTISEMENTS – Contact: michael.mayor.pe@ieee.org.

The IEEE Philadelphia Section encourages placement of technical, professional, promotional and commercial advertisements. The Almanack is published ten times a year and is read by approximately 4,000 members in over 150 key industries.

The following rates are designed for the occasional advertisers. A more comprehensive set of benefits is offered in the Sponsorship Program (next page).

Almanack, Website, Email Blasts

One Month Full Page: $200.-

Three Months Full Page: $400.-

PHILADELPHIA SECTION
SPONSORSHIP PROGRAM

Contact: sec.philadelphia@ieee.org

	Platinum	Gold	Silver	Bronze
Cost per Year	**$3,500**	**$2,500**	**$2,000**	**$1,000**
Awards Banquet[1]	• Full Table- 10 tickets • Full page Awards Brochure • 6-ft Exhibit Table	• 6 tickets • Half page Awards Brochure • 6-ft Exhibit Table	• 4 tickets • Quarter page Awards Brochure • 6-ft Exhibit Table	• 2 tickets • Quarter page Awards Brochure
IEEE Almanack[2]	12 Months Full Page	9 Months Full Page	6 Months Full Page	3 Months Full Page
IEEE Website[2]	12 Months Full Page	9 Months Full Page	6 Months Full Page	3 Months Full Page
IEEE Email Blast[2]	12 Months 4 Times / month Full Page	9 Months 4 Times / month Full Page	6 Months 2 Times / month Full Page	3 Months 1 Time / month Full Page

NOTES

[1] **The Awards Banquet is held annually at the prestigious Union League of Philadelphia.** The Awards Banquet is a major social occasion, recognizing those honored by the Institute & the Section for their contributions & those honored by organizations with mutual interests of IEEE.

[2] **Advertisement(s) are prepared by the Sponsor and can contain links to the Sponsor's website and/or specific events.** Advertisement(s) can be different one for each month of benefit or the same for one or more months.

"Forward Thinking for a Sustainable Future"

Keystone Engineering Group, Inc. is a full-service professional engineering firm providing specialized designs for the Water and Wastewater Industry. We proudly keep the client central in our philosophy, operations and ideas.

Keystone provides a collaborative team environment where creative self-starters are encouraged to share their unique capabilities and talents, and continue their professional development. This lively productive setting allows our team to approach projects in innovative ways, and find personalized solutions for all our clients' needs.

We are searching for an Instrumentation and Controls Designer to join the team at our Frazer, PA office!

Instrumentation and Controls Designer

The Designer will have the opportunity to work collaboratively with Project Managers, Programmers, and Engineers to meet and exceed client expectations.

Contributions as a member of the Automation Design group include:

- Designing electrical wiring diagrams and control panel layouts
- Layout of PLC equipment, including digital and analog circuits
- Creating Bills of Material and choosing components for specific applications
- Constructing Input/Output (I/O) lists
- Creating and verifying As-Built and As-Installed drawings
- Building Instrumentation list and specifications

Tasks are performed primarily in the office, with occasional on-site visits.

The Designer role might be for you if you like to continually learn and improve processes, and possess:

- A Bachelor's or Associate's degree in Electrical Engineering, Engineering Technology, Applied Engineering with a Controls concentration, or Electronics Engineering, **with** one to three years of experience
- Knowledge and experience with AutoCAD Electrical 2012 or later versions
- A proficiency with instrumentation, control circuits, networking, Ethernet communications
- Experience in creating Point to Point and Loop Diagrams from electrical schematics
- Applicable knowledge of the UL 508a Code and NEMA Standards
- A working knowledge of 480VAC, 240VAC, 120VAC and 24VDC circuitry, including both Digital and Analog circuitry
- The ability to interpret Engineer specifications and contract drawings
- Knowledge of water/wastewater and associated processes is a plus
- Excellent communication, interpersonal, time management and problem solving skills
- Experience in Microsoft Office Suite: Word, Excel and Outlook

How to Apply:

Please email a Cover Letter and Resume to careers@kegi.net

Keystone Engineering Group, Inc.
590 E. Lancaster Ave, Suite 20, Frazer, PA 19355
www.kegi.net

Automation Engineer/PLC Programmer

"Forward Thinking for a Sustainable Future"

Keystone Engineering Group, Inc. has an exciting opportunity for an experienced Engineer to be a part of our Automation team in our **Frazer, PA and Hamilton NJ, offices**

Keystone Engineering Group, Inc. is a full-service professional engineering firm providing specialized designs for the Water and Wastewater Industry. We proudly keep the client central in our philosophy, operations and ideas.

Keystone provides a collaborative team environment where creative self-starters are encouraged to share their unique capabilities and talents, and continue their professional development. This lively productive setting allows our team to approach projects in innovative ways, and find personalized solutions for all our clients' needs.

Opportunities for the Automation Engineer include:

- Design, configuration, programming, and integration of complex control systems
- Take a leadership role in projects from concept through operational readiness
- Clearly articulate Keystone's services, and work effectively with multi-disciplinary teams to develop solutions for clients
- Conduct hands-on troubleshooting of field control systems
- Provide technical support in resolving equipment and process issues when necessary
- Work closely with clients to identify and create new business opportunities

Other talents and qualifications include:

- A Bachelor's degree in Engineering or Engineering Technology preferred, or a Bachelor's degree in a related field, with three or more years of experience in programming of PLC control and PC based SCADA systems
- A Professional Engineer's License or E.I.T. is a plus
- Proficiency with multiple manufacturers automation hardware and software, including but not limited to:
    - Allen Bradley hardware and software
    - Schneider: Unity Pro, Vijeo Designer, ProWorx32, Telepace Studio, ClearSCADA Host
    - Wonderware InTouch, System Platform, Historian
    - GE hardware and software
- Experience with Hard-wired, Wireless and Cellular Networking
- Knowledge of hydraulic (water) pneumatic controls, VPNs and cyber security is a plus
- Flexibility in adapting with changing and challenging situations
- Possess excellent communication, interpersonal, time management and problem solving skills
- Availability for occasional after hour client support, as well as overnight travel

How to Apply:

Please email a Cover Letter and Resume to careers@kegi.net

ITC 2018 Registration Open

Program Preview now Available

International Test Conference, the cornerstone of TestWeek™ events, is the world's premier conference dedicated to the electronic test of devices, boards and systems-covering the complete cycle from design verification, test, diagnosis, failure analysis and back to process and design improvement. At ITC, test and design professionals can confront the challenges the industry faces and learn how these challenges are being addressed by the combined efforts of academia, design tool and equipment suppliers, designers, and test engineers.

ITC 2018 will be held October 30 - November 1, 2018, in Phoenix Arizona at the Phoenix Convention Center.

The preliminary 2018 ITC Program is available at:

https://easychair.org/smart-program/ITC2018/

See the accepted papers and abstracts. More content, including invited sessions, panels, and keynote speakers will be posted when available.

Once you look at the program, register for ITC at our **registration page**

Then, reserve your hotel room at the **hotel reservation page.**

Looking forward to seeing you in Phoenix for the 49th **International Test Conference**.

Visit us on our Web Page, **http://www.itctestweek.org**

2018 IEEE WIE FORUM USA EAST
Call for Papers & Participation
November 29 – December 1, 2018 White Plains, NY

Presentation & Paper Topics

- Innovation: Emerging/Future/Disruptive Technical & Entrepreneurial
- Development: Communication skills in written and spoken word, effective dialog
- Empowerment: Women as leaders in education, industry, and government
- Work-Life balance: family systems traditions and changes
- Mentoring women leaders
- Leadership development
- Exploring the attrition gap

Submission Deadline

Presentation only: Title and topic abstract suitable for program (up to 150 words), and an extended abstract for evaluation (up to 2 pages)
Presentations with paper submission: Title and topic abstract suitable for program (up to 150 words), and publication-ready paper (up to 8 pages)
Deadline for all submissions: 25 July 2018

Submit abstracts: http://sites.ieee.org/wie-forum-usa-east-2018/cfp-abstract-submission/

For questions, email: R1R2WIEForum@gmail.com

IEEE Signal Processing in Medicine and Biology Symposium (SPMB18)

Saturday, December 1, 2018

Temple University, Philadelphia, Pennsylvania

IEEE SPMB18 is a regional symposium intended to provide a highly interactive forum where bioengineering and signal processing researchers can collaborate on emerging trends in signal processing. We expect approximately 125 researchers to attend. We specifically encourage graduate students to attend and present their thesis or dissertation research. This is an excellent opportunity to network with leading professionals in your field and to form new collaborations.

Signal processing plays a vital role in applications ranging from medical electronics to data mining of electronic medical records. The enormous amounts of data that can be acquired from devices are enabling a new generation of technology based on big data. This symposium is intended to bring together a wide range of professionals interested in applications of signal processing medicine and biology. The symposium is sponsored by IEEE-USA, IEEE Region 2, IEEE Region 2 Philadelphia Section, Temple University, the Neural Engineering Data Consortium and NYU Polytechnic School of Engineering.

The symposium will consist of two plenary talks, two oral sessions and two poster sessions. Exhibits and demonstrations are encouraged as well. Interested parties should contact the conference organizers at help@ieeespmb.org for further details. Please consult our conference archive for additional information about the history of this conference.

Symposium Topics:

Traditional signal processing topics include:

- Signal analysis (e.g., EEG, ECG, EMG)
- Medical imaging (e.g., MRI, fMRI)
- Machine learning, data mining and classification
- Big data resources and applications
- Signal processing methods in bioinformatics
- Linear, nonlinear, and adaptive filtering and prediction
- Time-frequency and non-stationary signal analysis

Applications of particular interest this year include:

- Electronic medical records
- Wearable healthcare devices
- Data mining and analytics in healthcare
- Security and reliability in wireless medical technologies
- Biomedical nanosensors and wireless technologies
- Biomedical instrumentation and electrical stimulation

If you have questions about the relevance of a planned submission, feel free to contact the technical committee at help@ieeespmb.org for guidance.

Paper/Abstract Submission:

Presenters may choose to submit to one of two peer-reviewed tracks:

(1) Paper: An original four to six-page paper for oral presentation.
(2) Poster: A one-page abstract that will be presented as a poster.

All papers and abstracts are indexed in IEEE Xplore (search for "IEEE SPMB").

Papers/abstracts can be submitted via email to submit@ieeespmb.org. Contributions must follow the approved conference formats. See IEEE SPMB Guidelines for more information.

Important Dates:

Paper Submission	Aug. 1, 2018
Notification	Oct. 1, 2018
Early Registration	Nov. 1, 2018
Final Program	Dec. 1, 2018

Organizing Committee:

General Chairs:
Joseph Picone (Temple)
Ivan Selesnick (NYU-Tandon)

Technical Program Chair:
Silvia Lopez (Blackfynn)

Program Chairs:
Nashwa Elaraby (Penn State)
Amir Harati (Jibo, Inc.)
Hansen Mansy (UCF)
Iyad Obeid (Temple)
Amrita Sahu (Altria)
Robin Tibor Schirrmeister (Freiburg)

Industrial Liaison:
Michael Mayor (IEEE SPS)

Publications Chair:
Georgios Lazarou (USA)

Local Arrangements:
Shawn Fagan (Temple)
Eva von Weltin (Temple)

Web: http://www.ieeespmb.org/2018

Contact: help@ieeespmb.org

2019 American Control Conference: Call for Papers

July 10-12, 2019, Philadelphia Marriott Downtown, Philadelphia, PA (USA) (**http://acc2019.a2c2.org/**)

Operating Committee

General Chair
Douglas A. Lawrence
Ohio University
dal@ohio.edu

Program Chair
Andrea Serrani
The Ohio State University
serrani.1@osu.edu

Finance Chair
Randal W. Beard
Brigham Young University
beard@byu.edu

Local Arrangements Chair
Garrett M. Clayton
Villanova University
garrett.clayton@villanova.edu

Publications Chair
Elisa Franco
University of California, Riverside
efranco@engr.ucr.edu

Publicity Chair
Sérgio Pequito
Rensselaer Polytechnic Institute
goncas@rpi.edu

Registration Chair
Se Young Yoon
University of New Hampshire
SeYoung.Yoon@unh.edu

Workshops Chair
Wei Zhang
The Ohio State University
zhang.491@osu.edu

Exhibits Chair
Dennis Williams
LyondellBasell
dennis.williams@lyondellbasell.com

Vice-Chair: Special Sessions
Rafael Fierro
University of New Mexico
rfierro@unm.edu

Vice-Chair: Invited Sessions
Aranya Chakrabortty
North Carolina State University
achakra2@ncsu.edu

Vice-Chair: Industry & Applications
Stefano Di Cairano
Mitsubishi Electric Research Laboratories
dicairano@ieee.org

Vice-Chair: Student Affairs
Anouck Girard
University of Michigan
anouck@umich.edu

The 2019 American Control Conference will be held Wednesday through Friday, July 10–12, at the Philadelphia Marriott Downtown, located in the heart of Center City, Philadelphia. Philadelphia is the birthplace of American democracy, and the home to the creation and signing of the Declaration of Independence and the Constitution. It is also the City of Brotherly Love and considered one of the most European-like cities in the USA, captured by the across-the-street Reading Market and little Italy neighborhood. The city features a cultural diversity of food (and also the original cheesesteak), exhibitions, and museums for all tastes throughout the year, as well as outdoor concerts and festivals during summer.

The ACC is the annual conference of the American Automatic Control Council (AACC), the U.S. national member organization of the International Federation of Automatic Control (IFAC). Society co-sponsors of the ACC are the American Institute of Aeronautics and Astronautics (AIAA), American Institute of Chemical Engineers (AIChE), American Society of Civil Engineers (ASCE), American Society of Mechanical Engineers (ASME), IEEE Control Systems Society (IEEE-CSS), Institute for Operations Research and the Management Sciences Applied Probability Society (INFORMS-APS), International Society of Automation (ISA), Society for Modeling & Simulation International (SCS), and Society for Industrial & Applied Mathematics (SIAM).

The 2019 ACC technical program will comprise presentations in regular and invited sessions, tutorial sessions, and special sessions along with workshops and exhibits. Submissions are encouraged in all areas of the theory and practice of automatic control.

> ### KEY DATES
>
> Manuscript Submission: September 17, 2018
> Acceptance/Rejection Notice: January 31, 2019
> Final Manuscript Submission: March 15, 2019

Call for Contributed Papers: Papers are invited in the form of regular manuscripts. There is no separate short paper format. Papers must conform to the submission policy, detailed on the conference web page. All manuscripts should be written in English, be in a 2-column format, and be 6–8 pages in length, with additional page charges applicable for pages 7 and 8.

Call for Invited Sessions: Invited sessions consist of 6 papers presenting a unifying theme from a diversity of viewpoints. Proposals must clearly describe the motivation and relevance of the session. Proposals must be accompanied by full versions of each paper, which will be individually reviewed together with the proposal itself.

Call for Tutorial Sessions: Tutorial sessions are a special category of invited sessions organized to provide an introduction to a topic of interest. The format is structured around the main tutorial paper (up to 12 pages) and talk (60 minutes) to bring the participants up to speed, followed by three 20-minute presentations (with or without papers of up to 6 pages each) to give a picture of the state of the art. Tutorial sessions involving strong industry and academic collaboration are highly encouraged.

Call for Special Sessions: Special sessions are focused events to spotlight emerging research areas, funding opportunities, and other topics of broad interest to the conference attendees. Examples include industry-led, research sponsor-led, education-themed, and history sessions.

Call for Workshops: Workshops to be held prior to the conference are solicited on all related topics. Proposals for workshops addressing novel control methodologies and nonstandard control applications, as well as workshops with strong tutorial value are encouraged.

Exhibits: Exhibitors are invited to showcase, demonstrate and market control-related publications, software tools, prototypes, educational products, services, and jobs. Exhibits are open throughout the conference to all attendees of the ACC.

Papers and session and workshop proposals must be submitted through the submission website. Submissions must conform to policies given on the conference website: http://acc2019.a2c2.org/

Looking forward to seeing you in Philadelphia