



Pittsburgh
Section
Bulletin



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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, https://webinabox.vtools.ieee.org/wibp_home/index/r20037, has recent issues of the bulletin and lots of other useful information

• *Beck's Bytes*

Greetings! I hope you're all having a fantastic summer. This month, I'm pleased to announce that the Pittsburgh Section has a new local chapter of the Council of Electronic Design Automation (CEDA). It's a first for us in a number of ways. For one thing, this is our first chapter associated with an IEEE council rather than a technical society. A council is a group of societies working together in a broad technology area, and currently there are six of them in IEEE. This particular council is associated with Electronic Design Automation, and more info about it can be found at the link below:

<http://ieeeced.org/>

Another thing that makes the CEDA chapter unique is that it spans multiple sections. Besides being affiliated with us here in the Pittsburgh Section, it also includes the Central Pennsylvania and Philadelphia Sections as well. This gives the chapter a broad reach and an opportunity to engage many IEEE members across Region 2. I'd like to thank Dr. Xin Li at Carnegie Mellon who led the petition and garnered the support needed to form this chapter. Xin will serve as the chair of the new CEDA chapter. Please join me in welcoming Xin, and supporting him in his new role as he works to get this chapter off the ground.

I would also like to thank the PES/IAS and PELS chapters for hosting some very informative and enjoyable technical seminars in July. It's great to see such a large turnout at these events. I hope you had a chance to participate, but if not there are still more seminars in the works. Please watch the bulletin for details.

Last but not least, the Women in Engineering (WIE) affinity group chair is vacant. Please contact me if you or someone you know is interested.

Thanks, and have a great month!
Jim Beck,

IEEE Pittsburgh Section Chair, 2015

Section

Chair - Dr. Jim Beck, jebeck@ieee.org

Vice Chair -- Jim Lagree, JamesL.Lagree@Eaton.com

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Asst. Treasurer - Navid Binesh, navid.binesh@siemens.com

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Webmaster – Gerry Kumnik, g.kumnik@computer.org

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Gianfranco.Doretto@mail.wvu.edu

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Communications Society – Chair: Dr. Balaji Palanisamy,
bpalan@pitt.edu; Sec: Phil Cox, p.e.cox@ieee.org

Computer Society – Chair: Dr. Ralph Sprang,
rsprang@ieee.org

Components, Packaging, and Manufacturing
Technology/Electron Devices Societies – Russell Dudek,
russell.dudek.us@ieee.org; Treas.: Dr. Louis Hart

Engineering In Medicine & Biology Society
Chair: Dr. Wei Wang, wangwei3@pitt.edu

Electromagnetic Compatibility Society
Chair: Michael J. Oliver
emi@majr.com (814) 763-3211

Power Electronics Society – Chair: Dr. Kal Sen,
senkk@ieee.org

Power & Energy & Industry Applications Societies
Chair: Dave Vaglia, davevaglia@ieee.org; Past: Mey Sen,
senml@ieee.org 412-373-0117

Magnetics Society – Chair: Dr. Matt Moneck,
mmoneck@andrew.cmu.edu

Nanotechnology Society - Chair: Dr. MinheeYun
yunmh@engr.pitt.edu

Robotics Society – Chair: Gene Kern, geneKern@ieee.org

Signal Processing Society – Chair: Dr. Deniz Gencaga
d.gencaga@ieee.org

Society on Social Implications of Technology
Chair: Joe Kalasky, P.E., j.kalasky@ieee.org 724-244-1609

Council of Electronic Design Automation Chair: Dr. Xin Li,
xinli@cmu.edu

Affinity Groups

Young Professionals (formerly GOLD) – Chair: Matthew
Rehder mattrehder@gmail.com

Women In Engineering – Chair: Open

Committees

Professional/Career Activities (PACE)
Chair: Joe Cioletti, P.E., jcioletti@ieee.org

Student Activities – Dr. Irvin Jones, irjones@ieee.org

Membership Development – Steve Mozelewski,
Steve.Mozelewski@gmail.com

Publicity – Chair: Thomas Dionise, P.E.
ThomasJDionise@eaton.com (724) 779-5864

- ***Advancements In Illumination Controls***

Speaker: Brian Miedel and Blaine Forkner, P.E.
Location: Westinghouse Electric Company, 1000 Westinghouse Dr., Cranberry Township
Date: 18-August-2015 (Tuesday)
Time: 6:15-7:00 PM - Light Dinner 7:00-8:30 PM - Presentation, Q & A
Sponsors: PES/IAS chapters

Register: Please register on the IEEE IAS/PES Joint Chapters website by COB Monday August 17th, 2015. The IEEE IAS/PES Joint Chapters website is located at the following link: <https://meetings.vtools.ieee.org/m/35353>

Abstract: Brian and Blaine’s presentation will explore how lighting is an extremely visual part of building design as it influences occupants, energy, and architectural features. They will also cover updates to lighting design concerning luminaires, software, and controls. In addition to businesses, these lighting designs are also areas of interest for home applications such as Lighting Controls, Daylighting (Shading and Skylight), and Entertainment and Theatrical lighting. (Continued on next page)

Biography: Brian Miedel, Principal – Controls Department, Laface & McGovern. Brian has worked in the Lighting industry for 25 years in Electrical Distribution, ESCO (Energy Services Company) and as a Manufacturer Representative. Brian has been with LaFace & McGovern as the Lighting Control System Specialist/Department Manager for 13 years. Recently named Principal for the Agency.



Biography: Blaine Forkner – Forkner Engineering, P.E., LEED AP BD+C, Blaine Forkner received his B.S. in Electrical Engineer and Minor in Math from Virginia Tech in 2003. He is licensed to practice engineering in Pennsylvania and Virginia. His first job was designing traction power and catenary systems at HEERY/Burns Engineering in Landover, MD until 2006. He then worked at OWPR, Inc, through 2010 where he learned to design electrical building systems (power, lighting, fire alarm, phone, security, data, etc) for Higher Education, Municipalities and Federal projects. He then went to work as an associate for a MEP firm; BDA Engineering, Inc in West Homestead, PA. In earlier 2014, he launched Forkner Engineering to provide quality engineering consulting services throughout Pittsburgh.



Abstract Cont: New lighting software and products are constantly hitting the market. They will examine sample products to demonstrate photometrics and luminaire quality. They will also cover designing with constraints due to codes, such as ASHREA 90.1, IECC, IBC, NEC and NFPA.

LEED has had a sizeable impact on lighting design. They will take a look at the latest techniques for LEED and certification concerning sustainable building environments. They will also cover techniques for computer models and 3D rendering of light fixtures. Controls will be discussed concerning energy savings.

PDHs: If you would like to receive PDHs, please bring a copy of this announcement to this meeting and please contact Dave Vaglia for verification of your attendance. A non-Member who would like to receive PDHs is required to pay \$10 to IEEE Pittsburgh Section. A Member who would like to receive PDH is required to show membership ID.

DIRECTIONS TO WESTINGHOUSE ELECTRIC COMPANY, CRANBERRY

Directions from the South: Take 79 North to the route 228 east exit. Stay in right lane and drive by Marriott Hotel (on right). Turn right into Cranberry Woods facility and stay in left lane. Make first left into Westinghouse Headquarters and drive straight through roundabout. Please park in the visitors parking places that are located on either side of the entry road.

Directions from the East: Take the PA Turnpike (I-76) West following signs for Ohio / I-76 W. Take Exit 28 and follow I-79 N toward Erie. Stay in the entrance lane (right lane) and immediately take Exit 78, PA-228 Cranberry/Mars. Turn right onto PA-228 E toward Mars. Turn right onto Cranberry Woods Drive. Take immediate left at Westinghouse sign and drive straight through roundabout. Please park in the visitors parking places that are located on either side of the entry road.

• *Utility Scale Photovoltaic Solar Power*

Speaker: Siddharth Pant
Title: Engineering Manager, GE Power Conversion
Date: August 27, 2015
Time: Refreshments - 6:30 PM; Presentation - 7:00 PM
Place: Westinghouse Energy Center, 4350 Northern Pike, Monroeville, PA 15146

RSVP: **Required** at <https://meetings.vtools.ieee.org/m/35346> by August 23, 2015. If you are an IEEE member, you must enter your membership number. If you would like to receive PDH, please bring a copy of this announcement for verification of your attendance and your membership identification card. A non-Member who would like to receive PDH is required to pay \$10 to "IEEE Pittsburgh Section."

Organizer: Power Electronics Society (PELS)

Abstract: A combination of investment tax credits and lower costs has resulted in the rapid growth of the solar power generation industry in the last five years in the USA. Nearly 7000 MW of solar generation was installed in the USA in 2014. The majority of this growth has been due to growth in utility scale photovoltaic power production. Utility scale power plants are defined as power plants producing

relatively large power and whose electricity is sold to wholesale utility buyers and not end-use customers or used in-house. In the utility scale space, individual power plants of 500 MW and larger have come into operation within the past two years. Inverter voltages have rapidly increased from 600 Vdc to 1500 Vdc and inverters rated 4 MW and higher are now in operation. This presentation will give an overview of utility scale solar PV power generation. It will include PV modules and plant controllers with particular emphasis on the hardware and control in the inverters. The presentation will also cover some of the unique challenges of integrating solar PV, wind power and other solid state power converter energy sources into the utility grid.



Speaker: Siddharth Pant is currently Engineering Manager in the Solar group in the Power Electronics Products department at GE Power Conversion in Pittsburgh. With a BSME from the Indian Institute of Technology, Bombay, India, an MSME (Systems Engineering) from the State University of New York at Buffalo and an MSEE from the Johns Hopkins University, Siddharth has over 30 years' experience in the design and application of high power solid state power converters and drives. Siddharth started his career in the development department of the Power Electronics and Drive Systems division of Westinghouse Electric Corporation in Buffalo in the team developing large LCI drives. Still with Westinghouse, he moved to Pittsburgh

in 1987 and continued with the design and development of ac and dc drives.

With the acquisition of the Westinghouse drives business by AEG, and subsequently by Cegelec and Alstom, Siddharth transitioned to a project engineering and application design role. In this role he was a design engineer in many steel mill retrofit projects. He also served as the lead/project engineer for a number of large projects, including the 22x14 wind tunnel upgrade at NASA, Langley, the motor and generator test stand at EMD, LaGrange, and the upgrades of the main and auxiliary drives for the Canadian Coast Guard icebreaker Sir Wilfrid Laurier.

The spinoff of the Alstom power conversion group to Converteam led to line management responsibilities for Siddharth, where he was Chief Engineer, Drives and Power Systems. He later moved to the marketing department as Chief Engineer, Applications, where his primary duty was to provide technical support on new and advanced power conversion applications to the marketing and sales departments. It was in that role that Siddharth first got involved with solar photovoltaics five years ago, working with the customer and internal engineering teams to define the product requirements for, what was then, the largest mass deployed solar inverter in the world. When the proposal became an order, Siddharth was the technical lead for the team that designed the product which saw a successful deployment of nearly 1000 MW of inverters over three years.

When Converteam was acquired by GE in 2011, Siddharth became the Engineering Manager for the Pittsburgh R&D group, which developed solar inverters and ac drives. More recently, due to the large growth in the solar business, solar inverters and drives have been split up, and Siddharth is now Engineering Manager in the Solar group, where he and his team design new solar inverters and support existing inverters.

Siddharth has been a member of IEEE for the past 28 years.

DIRECTIONS TO WESTINGHOUSE ENERGY CENTER (MONROEVILLE)

From Pittsburgh take Interstate 376 East (Parkway East). Take Exit 84A to Monroeville. Cross Business Rt 22 at the traffic light and proceed on Rt 48 South (Moss Side Blvd) approx ½ mile (two traffic lights). The 2nd traffic light is at a 4-way intersection with a Marathon station on the right and a Sunoco station on the left. Turn left onto Northern Pike. Proceed approx 0.2 miles and turn right at the 1st traffic light onto Westinghouse Dr. Travel 0.7 miles (past the guard stand) to the 3 flags where the building's main entrance is located. Parking in the evening will be plentiful. Use the main entrance and check with the security guards inside. You will be directed to the proper room for your meeting.

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

• *IEEE Pittsburgh Section Summer Picnic*

Please join us for a picnic co-hosted by the Young Professionals and the Employment Network Affinity Groups in collaboration with the IEEE Student Chapter at the University of Pittsburgh. There will be food. There will be fun. Be there. Be sure to **RSVP** so we know how much food to buy. All members and guests are most welcome. If you have any questions or need additional details, you may email mattrehder@gmail.com.

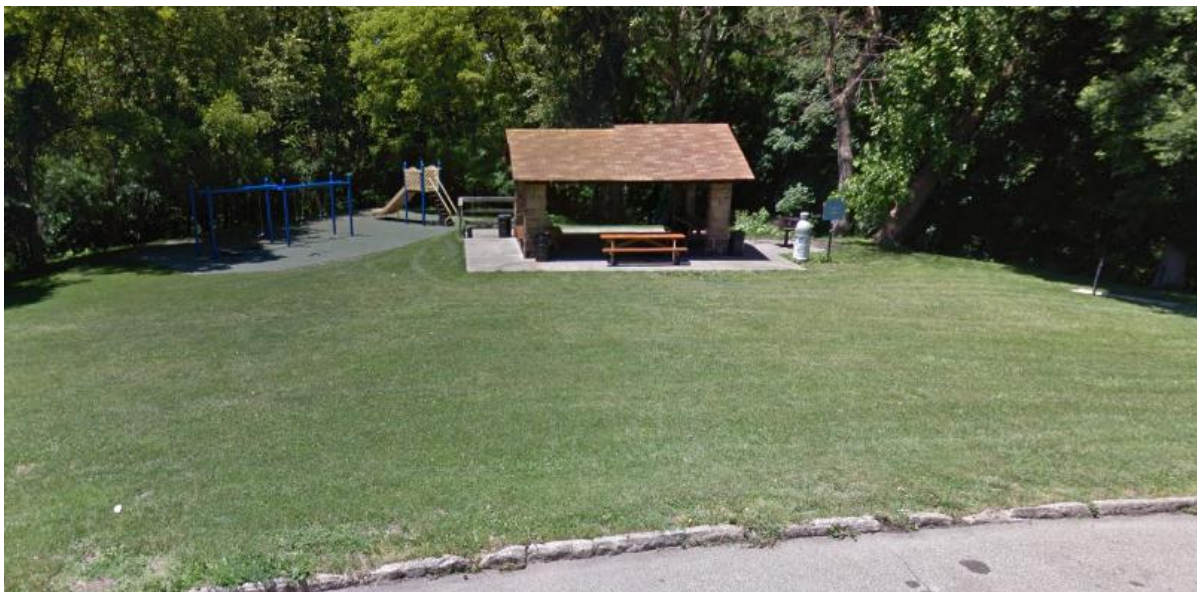
Date: Saturday, September 19

Time: Noon-6pm

Location: Schenley Park, Overlook Picnic Shelter.

RSVP by filling out this form no later than Sept 14: <http://goo.gl/forms/13cMzvIyED>

To find it, use Google Maps to navigate to these coordinates: [40.432060, -79.947247](#) (click the numbers to follow the link). The picnic shelter looks like this:



- ***Seeking Candidates for 2016 Pittsburgh Section Officers***

The election for the Pittsburgh Section officers will be taking place earlier than usual this year, in attempted conformance with IEEE wishes. I anticipate the ballot will be open for two weeks, starting at sometime late during the second half of September. We will conduct the election online, via IEEE vTools function, as we did last year. All section members will get notification via email when the ballot is open.

But – the first step is to get candidates for the five offices: Chair, Vice-Chair, Treasurer, Assistant Treasurer, and Secretary.

If you want more information about what the responsibilities are of these offices, contact one of the nominating committee members: Louis Hart, Joe Kalasky, Kal Sen, or Joe Cioletti. Our contact information is in the bulletin head: myself as immediate past chair, Joe K as chair of the Society on Social Implications of Technology, Kal as chair of the Power Electronics chapter, and Joe C as our PACE chair.

In brief, the Chair selects locations of the monthly executive committee meetings, represents Pittsburgh at meetings of IEEE region 2, and broadly tracks activities of the various chapters and affinity groups to make sure they are doing the things IEEE requires of them. The vice-chair assists the chair and covers those responsibilities when the chair is unable to do so, *e.g.* is on vacation. The treasurer, helped by the assistant treasurer, monitors the section budget and the budgets of the various societies and affinity groups. Thanks to some technical advances by IEEE, the treasurer's job has become somewhat easier than it was when I had that position a few years ago. The secretary prepares the agenda and minutes of the monthly executive committee meetings, and enrolls officers and group leaders with IEEE. Training in the officer positions is available through the IEEE website via <https://iee-elearning.org/CLE/course/category.php?id=11>

When the nominating committee has identified candidates, it will propose a ballot to the section Executive Committee at the monthly meeting on the 3rd Thursday in September. The Executive Committee will review the proposal, possibly request a revision, and itself vote on the slate of candidates.

If you have read any of my announcements of openings for leaders of technical society chapters or of affinity groups, you know I am convinced serving our section calls for some work, but not a great deal, and yields personal satisfaction, a goodly amount. If you have read this far – you would probably make a good section officer yourself! Talk it over with one of us of the nominating committee.

Louis Hart

- ***The City of Pittsburgh has taken a stand on high-skill immigration
(and it isn't good for engineers in the City or in our country)
A report from Russell Harrison, IEEE-USA Director, Government Relations***

Starting last year, Pittsburgh Mayor William Peduto began developing an aggressive program to attract immigrants to the City. In principle, this is a good idea, as cities with large numbers of recent immigrants tend to be more dynamic than other cities.

Unfortunately, Mayor Peduto's proposal has expanded beyond immigration to include an explicit call for more temporary workers, specifically H-1B visas. The Mayor's plan, Welcoming Pittsburgh, asks Congress to create more of the work permits, and the Mayor joined other cities on April 9th of this year to lobby Congress for more of the visas.

While sold as a way for companies to hire skilled foreign workers when American workers cannot be found, the H-1B visa is in fact frequently used to replace American workers with cheaper foreign workers. Earlier this year Southern California Edison, Walt Disney and Fossil each fired several hundred American IT workers and replaced them with H-1B workers. Companies saved between \$20,000 and \$40,000 in salary per worker, in addition to not having to pay for retirement and training of the new workers.

Nationally between 30,000 and 40,000 H-1B visas are used each year by companies that exploit the visas to replace American workers.

And now the City of Pittsburgh wants more. On June 5th, IEEE-USA Director of Government Relations Russell Harrison and Pittsburgh Section member Joe Cioletti met with representatives of Mayor Peduto to discuss the H-1B. At the meeting they learned that Mayor Peduto had organized a panel of citizens, consisting mostly of company presidents and immigration rights activists, to draft his Welcoming Pittsburgh plan. There were no engineers on the panel, and only two union representatives, both of whom objected to the inclusion of H-1Bs.

When asked if IEEE members could participate in future planning panels, the Mayor's staffer indicated that there would probably not be opportunities for us to do so. It was further said that the Mayor was unlikely to do anything to actively promote H-1B visas for another year or two. The staffer agreed to continue talking with IEEE members, and said that the engineers' input was welcomed.

Back in Washington, advocates for H-1B visas have been more aggressive. IEEE-USA learned last month that the tech companies have a plan for getting an H-1B increase through Congress this year. There is a \$2,000 fee attached to every H-1B visa. The money raised through this fee goes to improve our border security (at least in theory). The fee is due to expire on September 30th.

Tech companies plan to offer Congress a deal. They will support extending the fee, and even increasing it, in return for more H-1b visas. Combining a bigger fee with more visas results in millions in new revenue that can then be spent by legislators in next year's budget. And since the companies save \$20,000 to \$40,000 per visa per year, they don't mind a \$2,000 or even \$5,000 one-time fee.

The beauty of this plan is that the companies don't have to work through the regular immigration committees, where we have blocked them. Instead, they can work with appropriators - who usually don't know much about immigration law. Worse, because the provision will be, technically, a revenue law, getting rid of it once passed will be next to impossible.

IEEE-USA is moving aggressively to block this plan, and we have a few advantages. Most importantly, the Congressional budget process is badly messed up, yet Congress has to pass a budget. If we can help the appropriators understand that adding H-1B language to the bill will make it harder to get a budget passed, the language will be dropped. So, we have to make the debate complicated. To do that, IEEE-USA is going to hold an emergency Fly-In this fall specifically to target appropriators in Congress on September 28th & 29th. They are calling on all IEEE members who are concerned about plans to replace American engineers with cheaper foreign engineers – who will not be allowed to become Americans – to join them in Washington.

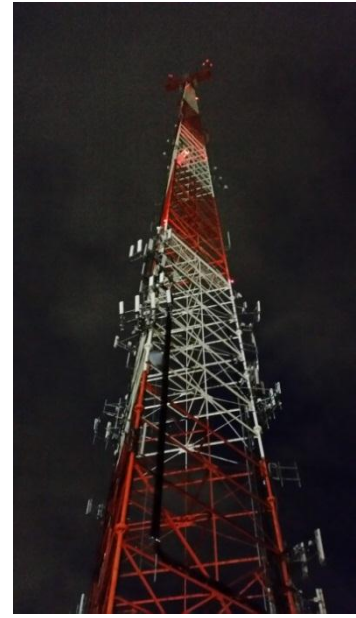
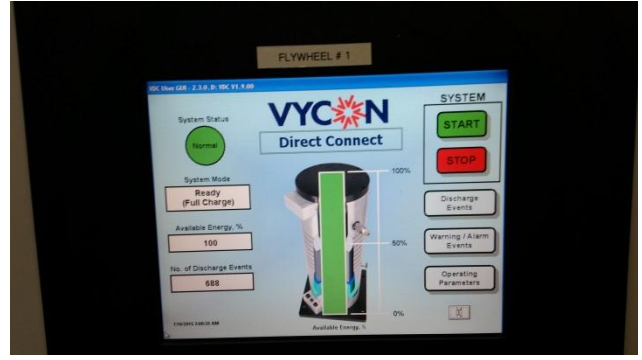
Fly-In participants will be trained starting on the afternoon of September 28th on immigration law and policy. Then on September 29th they will travel to Capitol Hill to meet with their legislators. These meetings will give you an excellent opportunity to explain how the H-1B program actually affects engineers.

In addition, the IEEE-USA asks that you please look for opportunities to raise this issue locally with any and all public officials in Pittsburgh, and with the press. Our elected officials will be holding Town Hall meetings this August. If you can make any, please do so and raise this issue. If you need/want help wording a question, let us know. If legislators hear from one or two people about this in August, they will flee from it in September.

If you have any questions about this, or want to register for the IEEE-USA Fly-In September 28 & 29, contact Russell Harrison at r.t.harrison@ieee.org.

- ***WQED Studios and Antenna Tour for Pittsburgh IAS/PES – July 9, 2015***





WOED Studios and Antenna Tour for Pittsburgh IAS/PES – July 9, 2015

The IEEE Pittsburgh Joint Chapters of the Power and Energy Society, and the Industrial Applications Society (PES/IAS) held a very positive and successful tour of the Pittsburgh WQED Television and Radio studios including the transmission tower antenna on the 9th of July, 2015. The tour brought together 29 attendee's (24 members and 5 guests) which included the young and old alike. Paul Byers (Director of WQED Engineering) provided a whirlwind tour of WQED that included an in-depth discussion on television and radio signals, power output, TV and Radio personalities, and over 60 years of amazing WQED history that included the one and only Mr. Rogers! You could see the focus of the group turn to Paul as Paul provided some insight into our favorite neighbor! Mr. Rogers was the same guy on TV as he was in real life!

The next part of the tour took the group to several different studios located throughout several different floors of the building. One stop on the tour lead to a wonderful conversation between the tour group and a special guest: Mr. Rick Sebak - of the WQED Pittsburgh History Series franchise. Rick is the producer of such WQED Pittsburgh hometown videos as "Kennywood Memories" and "Things That Aren't There Anymore". Rick also provided the tour group with a sneak peek into a new video that he is producing on the best "Pies" around – should be out in the Fall of 2015.

The last part of the tour included a trip to the top of Oakland, PA to visit the gigantic 689 foot transmission tower located next to the Peterson Events center. The antenna tour also included exploring the 1960's era two story brick building that handles the signal processing for the antenna. The building houses some newly updated digital electronics but vintage hardware is still in play and working just fine! Paul did not disappoint when he provided another round of in-depth knowledge on the signal processing building, the workings of the transmission tower, and the associated audio and video signals constantly being transmitted across the air waves above Pittsburgh! The tour began around 6:30PM and was scheduled to be complete by 8:45PM. The tour ran a wee bit little long and wrapped up around 10:45PM! – But was very well worth it!

- ***Welcome Our New Senior Member:***

Kumar Vineet

2015 Calendar – Meetings of IEEE Pittsburgh Section

	Jan	Feb	Mar	Apr	May	June	July	August	Sept	Oct	Nov	Dec
<u>Executive Committee</u>	15 TBD	19 Panera Forbes Ave, Oakland	19 Panera Bread Wilkins	16 Nemacolin	21 Panera- Blvd of the Allies, Oakland	18 Panera Bread Wilkins	16 The Spaghetti Warehouse	20 Panera Bread Wexford	17 Panera Blvd of the Allies	15 WVU -- TBD	19 Panera Bread Wilkins	17 Holiday Dinner -- TBD
<u>Section</u>		21 Engineer's Week	27 Science Fair		10-15 Intel Science Fair 15 – Annual Dinner				19 Picnic			
<u>Communications</u>				1 Gigabit Apps								
<u>Computer</u>			12 IoT									
<u>EMBS</u>												
<u>EMCS</u>				8 Testing EMC								
<u>Power Electronics</u>	21 DC Microgrid	24 Energy Lab.	26 Power Converter	23 EMC	28 Magnetics on PCBs	15 Trail Project	14 Electric Car	27 Solar Power				
<u>PES/IAS</u>		7 Memorial	18 Power Sys.	8 Testing EMC 16 Nemacolin		9 Convention Center	9 WQED Tour	18 Illumination		6-8 Plain Talk		
<u>Magnetics</u>												
<u>Robotics</u>						9 Convention Center						
<u>Sig. Processing CPMT/ED</u>												
<u>Social Impl Technology Upper Mon</u>				16 Nemacolin								
<u>Women in Eng'ing Life Mem.</u>												
<u>Young Pros</u>									19 Picnic			
<u>PACE</u>				24 Akustica		4 Russ Harrison						
<u>Student Act</u>				24 Akustica								