



Valley Engineer Newsletter

October, 2016

UPCOMING PROGRAMS

- November 22, 2016, Lutron Electronics Company Tour, Coopersburg
- December 15, 2016, Holiday Party, Morgan's Restaurant, Allentown
- February 11, 2017, Mathcounts®, Southern Lehigh High School, Center Valley
- February 24, 2017, LVEC Engineer's Week Banquet, Holiday Inn, Breinigsville



**PENNSYLVANIA SOCIETY
 OF
 PROFESSIONAL ENGINEERS**

**LEHIGH VALLEY CHAPTER
 (ORGANIZED 1935)**

PRESIDENT'S MESSAGE

Alfred Gruenke, PE
 October, 2016

The new scholarship donor year has begun, and so has our fundraising efforts for our Scholarship Fund and MATHCOUNTS. Again, we ask our local businesses and individuals to contribute to this worthy effort. And again, I have emotional highs and lows as the season progresses. Will the established contributors continue to step up? Have I, or our organization, done anything to annoy them? Will new contributors enter the fold? Some sponsors have had economic downturns; how will that affect their contributions?

Most of our previous contributors have been contacted and solicitation information has been sent to them, and checks have already been received. It's difficult to establish if the first contributor was Bridge Gap Engineering, or Lehigh White Cement, with a \$500.00 contribution via PayPal. The latter is a new contributor, so special thanks to Larry Rowland for his efforts!

The donor letter is attached at the end of this Newsletter. Please consider having your firm, or you, donate to this worthy cause.

Important future events for our Chapter are as follows: November 22, Lutron Electronics Company Tour; December 15, Holiday party; and MATHCOUNTS, February 11 at Southern Lehigh High School.

Continued on page 2

I consider engineering to be a noble profession. Whether spoken or unspoken, the purpose of engineering is to use scientific and mathematical principles to create a practical object, for the betterment of the community-at-large. Our new President of PSPE, John A. Nawn, PE, FNSPE, from the Delaware Chapter, has written an excellent article in the PE Reporter on the necessity of professional licensing, and attacks by various state legislatures to water down (dumb down?) licensing requirements, or to eliminate them entirely!

The only involvement most of us have with the National Society of Professional Engineers is our annual dues. But our Lehigh Valley Chapter is part of the Pennsylvania Society of Professional Engineers, and the National Society of Professional Engineers. There are state societies in all of the 50 states, each of which have unique licensing requirements.

John makes the case that the purpose of professional licensing is to ensure that significant engineering projects have to involve competent engineers. Licenses ensures competency. Bridges should not fall down and power lines should transmit power. A mere engineering degree (or less) is not enough. Quoting John, "I do not ever remember taking a pledge or swearing an oath to protect public health, safety and welfare when I received either of my engineering degrees. I did, however, agree to hold public health, safety and welfare paramount above all other considerations when I became a professional engineer."

John lays out a plan to increase the relevance and "clout" of Professional Engineers by becoming more active on all levers, especially in the politically sphere.

"As professional engineers, we recognize the existence of a higher purpose to what we do. You could say, therefore, that we have a duty to the public to strengthen our organization, to speak louder and collectively protect the professional practice of engineering in the Commonwealth.

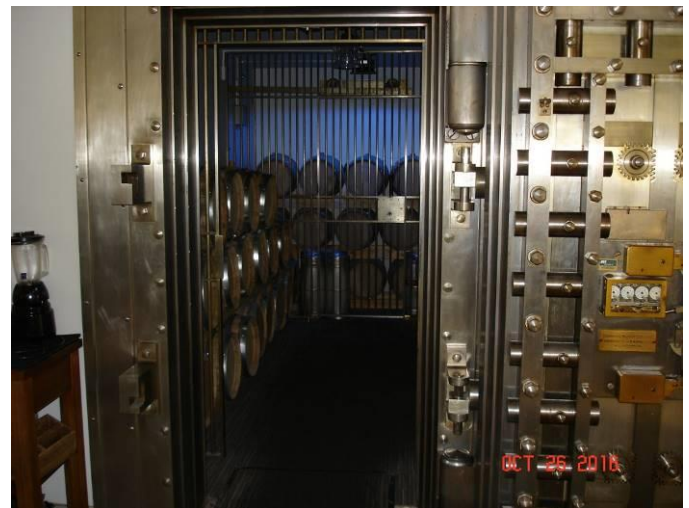
"This is a call to action. I am assembling the militia as we meet in the shadow of Valley Forge in the cradle of our very liberty. Stand with me. Stand with us. And help change the discussion."

Please go to <http://www.pspe.org/pspe-news/2016-pspe-presidential-address/> for the complete article.

Social Still Tour

Situated on the South side of East 3rd Street in South Bethlehem, across from and between what was once Bethlehem Steel headquarters and their Engineering building, stands a square, small, neo-classical building that looks like a bank, solid and respectable. That's because it used to be a bank, the Gosztonyi Savings and Trust, built in 1919, the beginning of Prohibition. The building has been placed on the National Register of Historic Places. John and Rozi Gosztonyi were from Slovakia, and served the diverse ethnic groups that was South Bethlehem and Bethlehem Steel. Rozi Gosztonyi in 1921 became the first woman bank president in Pennsylvania.

The only remnant of its use as a bank is the vault, now used to store whiskey barrels.



Whiskey barrel storage. There is more barrel storage in the basement.

The building now houses Social Still, making and serving hand crafted distilled spirits on-site, and a restaurant.

Around 25 LVPSPE members and guests toured the distillery on a cool autumn evening, enthusiastically guided by the owner, Adam Flatt. Adam comes from a wine-making family. He also owns Franklin Winery in Bangor. His mother, Elaine, gave a rousing presentation to the Chapter a few years ago, in the Brew Works building in Bethlehem.

Continued on page 3

Adam produces vodka, gin, rum, bourbon, and rye whiskey on the premises. He prides himself on his Bethlehem and regional heritage. 80% of the raw material, wheat, corn and rye, is from local farmers. Malted barley is imported from Ireland. The grain comes in fifty pound bags and has to be carried by hand. There is no forklift or a loading dock.

Every step of the process is manually controlled. There are no computer controlled valves, heat exchangers, or automatic timers. Adam puts marks on the valves to duplicate previous settings. Consequently, there is an individuality to each batch of spirits. Quoting Adam, "You can't do this without science, but you can't do it well without art."

The process is generally simple. Grain and yeast and water are mixed, and allowed to ferment in a tank. When the alcohol content is around ten to twelve percent, the alcohol kills the yeast and the process stops. The mixture is then heated in the still, which looks remarkably like a fractional distillation column as used in the petroleum and cryogenic industries. The alcohol is boiled off, and then condensed. Flavoring is added for the various products.



The vodka distillation tower, behind the bar.

Colored spirits are produced by storing the clear liquor in white oak barrels which are charred on the inside. This can take years. The barrels may be used only once. Adam then uses the used barrels in his winery to age wine.

Water is added to reduce the alcohol content. Fortunately, Bethlehem has outstanding city water, a remnant of Bethlehem Steel's usage of one million gallons a day. Social Still further purifies the water with filters that look much like swimming pool filters, and a reverse osmosis apparatus.

Bottles are filled manually. Each label is hand-marked with bottle number, batch number, and alcohol percentage.

Social Still sells what it makes, both by the drink and in bottles. It does not have a Pennsylvania liquor license, so it can only sell what it makes, plus beer and wine from micro-breweries and wineries in Pennsylvania. Various restaurants in the area and in Philadelphia serve Social Still products. Bottles may be purchased in very select Liquor Control Board State stores, and on the premises.

Continued on page 15



Adam Flatt, explaining the fine art of making whiskey.

SCHOLARSHIP SPONSORS

A great way to be involved in the LVPSPE Chapter is to contribute to the **LVPSPE SCHOLARSHIP FUND**. Please Contact the Valley Engineer Editor to sponsor scholarships for the remainder of the calendar year.

If you would like to contribute in any amount – please send your TAX DEDUCTIBLE donation to PA ENGINEERING FUND. Donations should be mailed to:

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Please note “LVPSPE Scholarship Fund” on the comment line.

Or, you may contribute via the LVPSPE website <http://www.lvpspe.org/Donations>.

Scholarship application is at <http://www.lvpspe.org/Scholarships>. Any questions regarding scholarships can be directed to

Alex Dezubay, PE
610-597-2007
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The Pennsylvania Engineering Foundation currently administers the following scholarships for engineering students:

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- \$1,000 PEF Grant: (two awards)

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Applications and guidelines are on-line now at <http://www.pspe.org/scholarships>

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Continued on page 13



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The monthly Board of Direction meetings are 6:00 PM on the second (2nd) Monday of each month. Open to all members; they are held at the office of Barry Isett & Associates, 85 South Route 100, Allentown, PA.

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Alfred Gruenke, PE

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Your humble correspondent purchased a bottle of rye whiskey, and can attest to its quality.

Whiskey production has been part of this country's heritage since the beginning of colonial settlements. Adam Flatt continues this tradition, in the process making Bethlehem and Pennsylvania proud. We thank Adam for his presentation and providing us with a glimpse at the fine art of distilling.

Who you gonna believe, me or your own two eyes?

-Groucho Marx

Don't cry because it's over, smile because it happened.

-Dr. Seuss

Hagia Sophia

Alfred Gruenke, PE

Istanbul, Turkey, is in the news again, and not for any positive reason. I had the good fortune to be in Turkey the first time in 1985, a period of relative peace and stability in Europe. Turkey was a favorite vacation site for many Europeans who drove their campers from Denmark and Germany to take advantage of a great climate and low prices. A good bottle of wine cost \$0.75, \$2.50 in a fine restaurant. The Balkan wars of the 1990s messed that up, to the detriment of the Turkish economy.

I was on assignment in Canakkale, located in the Asian section of Turkey. While there, I had the opportunity to explore that ancient city, Byzantium - Constantinoble - Istanbul.

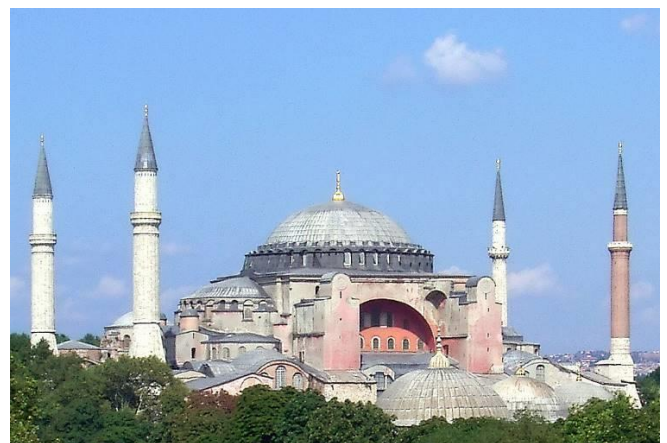
Istanbul was a cosmopolitan, European city. The restaurants and bars were filled with people, out and about, enjoying themselves. There was a European talent contest taking place in Sweden and one of the contestants was from Turkey, so every television in the city was tuned in to watch.

But one doesn't go to Istanbul to see talent shows or to swill wine. One goes to tour the many historical sites. Istanbul is an ancient city, dating back to Roman times, but has managed to preserve much of what made it great.

Istanbul is a Moslem city, but is personified by the Hagia Sophia, a Christian basilica built in the 6th century by the Emperor Justinian when the city was named Constantinople, the City of Emperor Constantine. It is the third church built on this site. Two previous churches were destroyed by rioters. By contrast, the Süleymaniye Mosque, was built a thousand years later on the order of Sultan Süleyman (*Süleyman the Magnificent*). The better known Blue Mosque was built by Sultan Ahmed I from 1609 to 1616. The similarities between these three structures are obvious. The Blue Mosque is so named because of the blue hued tiles on the interior walls. Supposedly, it was built to "one up" the Süleymaniye Mosque.

From its construction until 1453, Hagia Sophia served as an Orthodox Cathedral and seat of the Patriarch of Constantinople, except for sixty years when the Fourth Crusade converted it to a Roman Catholic Cathedral. In 1453, Constantinople was conquered by the Ottoman Turks under Sultan Mehmed II, who ordered it converted into a mosque. It remained so until 1935, and became a museum from that time to the present.

It was the greatest cathedral ever built up to that point and was the largest cathedral for 1,000 years, until the completion of the cathedral in Seville, Spain. The central dome is 182 ft. 5 in. from floor level and rests on an arcade of 40 arched windows. The diameter varies between 101 ft. 3 in. and 102 ft. 6 in.



Hagia Sophia

Continued on page 16

It was common in those days to use building materials from wherever they were available. According to tradition, one of the interior columns comes from Israel and has the imprint of the right hand of St. John the Baptist! This is not clear on the photo. However, I noted at the time that the hand seemed to be rather small, not what one would expect.



Süleymaniye Mosque



Support column with the imprint of the hand of St. John the Baptist



Sultan Ahmed Mosque (Blue Mosque)



Southwestern entrance mosaic

The photo of the exterior of Hagia Sophia is from the internet. The other photos are mine. I apologize for the poor quality of my photos. I was in Turkey for only a short time and on the way to Pakistan, where the film was developed. Their colored film processing had some shortcomings.

The similarity between the three buildings is striking. Hagia Sophia, the Blue Mosque, and Topkapi Palace are in the historical district, within walking distance from each other; Süleymaniye Mosque is about one-half mile away.

Continued on page 17

I was in awe the entire time I was in Hagia Sophia and the surrounding areas. Here I was, a simple country boy from Pennsylvania, in the presence of such historical greatness. The threshold of the front doors of Hagia Sophia are made of stone and worn down at least four inches. I wondered how many thousands of feet stepped on it for fifteen hundred years entering or leaving! The doors themselves are made of wood and twelve feet high, at least eight feet wide, and three inches thick. As I looked at them, an image of Jack Palance as Attila the Hun or maybe Genghis Khan riding a horse entering the church came to mind. I'm sure I saw that in a movie, though I can't remember any details. I know that Genghis Khan was never in the area, but Attila the Hun may have been. There is a historical incongruity between Attila the Hun and the building of Hagia Sophia, but I prefer my impressions over reality.

I also toured the Süleymaniye Mosque and the Blue Mosque, equally impressive structures, but the Hagia Sophia stands out in my memory.

Hagia Sophia is one of three Christian churches built in the 6th and 7th centuries still standing today. The others are the Church of the Holy Sepulcher in Jerusalem and El Muallaqa in Cairo. I'll write about those some other time.

How inappropriate to call this planet Earth when it is quite clearly Ocean.
-Arthur C. Clark

It's not the people who vote that count. It's the people who count the votes.
-Joseph Stalin

The sea, once it casts a spell, holds one in its net of wonder forever.
-Jacques Yves Cousteau

"You can't get rich in politics unless you're a crook."
-Harry S. Truman

The only thing I ask of you is to speak well of me. Lie if you have to.
-August Polinske

A government that robs from Peter to pay Paul can always count on the support of Paul
-George Bernard Shaw

I can, therefore I am.
-Simone Weil

ABOUT GROWING OLDER:

First - Eventually you will reach a point when you stop lying about your age and start bragging about it.

Second - The older we get, the fewer things seem worth waiting in line for.

Third - Some people try to turn back their odometers. Not me; I want people to know 'why' I look this way. I've traveled a long way, and some of the roads weren't paved.

Fourth - When you are dissatisfied and would like to go back to your youth, think of Algebra.

Fifth - You know you are getting old when everything either dries up or leaks.

Sixth - I don't know how I got over the hill without getting to the top.

Seventh - One of the many things no one tells you about aging is that it's such a nice change from being young.

Eighth - One must wait until evening to see how splendid the day has been.

Ninth - Being young is beautiful, but being old is comfortable and relaxed.

Tenth - Long ago, when men cursed and beat the ground with sticks, it was called witchcraft. Today it's called golf.

And, finally - If you don't learn to laugh at trouble, you won't have anything to laugh at when you're old.

Vote as if your future depends on it.
-Alfred Gruenke

Minutes for the October 11, 2016 Board of Directors Meeting
6:00 pm at the office of Barry Isett & Associates, 85 S. Route 100, Allentown, PA

Attendees: Al Gruenke, Brian Kutz, Kevin Campbell, Frank Walsh, Angelica Forndran and Chris Williams

- A. Call to Order – Al Gruenke called the meeting to order at 6:00 pm.
- B. Activities – Brian Kutz
- October: Franklin Hill Winery is an option, but no response yet. Backup tour location would be Social Still or National Museum of Industrial History in Bethlehem.
 - November: 11/22 (probably 6pm) tour of a Lutron production facility.
 - December: Holiday Party – Considering Morgan’s, Alburtis Tavern and Bell Hall. Need a speaker. Kevin Campbell suggested Becky Bradley from LVPC for a presentation on Route 22 widening project.
 - January: ?
 - February: DaVinci Science Center during engineers’ week?
 - March: Possibly Clover Hill Winery for a Saturday event. Call to inquire in January.
- C. President – Al Gruenke
- Al Gruenke to circulate donation request letter and spreadsheet with list of companies who donate and their contacts.
 - Al Dezubay will coordinate scholarships, Brian to assist.
 - Don Kohn to coordinate Engineer of the Year and Young Engineer of the Year awards.
 - Peter Staffeld will give Frank and Brian administrative access to website.
- D. MATHCOUNTS – Kevin Campbell
- February 11th at Southern Lehigh High School.
 - Kevin will also be the assistant coordinator and facility coordinator for the state competition.
- E. State Director – Angelika Forndran
- Discussed the threats on the engineering license at most recent meeting.
 - State is encouraging all PEs to purchase PSPE vanity license plate. Must be active or retired Pennsylvania PE to order a plate.
- F. Miscellaneous
- November and December LVPSPE board meetings will be on the 2nd Tuesday rather than Monday due to schedule conflicts. In January, meetings will go back to the 2nd Monday.
- G. Adjournment at 6:39 pm on a motion by Kevin, seconded by Frank Walsh.

PE License Plates



<http://pspe.org/store/pe-license-plates/>

PSPE members can order a vanity plate (five characters + PE) for a one-time cost of \$200, or you can receive the “next plate off the line” for \$100.

These plates feature PSPE’s official logo on the left and stacked PE letters on the right. You must be an active or retired Pennsylvania PE to order a plate.

Download an official PennDOT application here and order your PE license plate today!
<http://pspe.org/wp-content/uploads/2015/09/PSPE-License-Plate-Application-Form.pdf>

Scholarship Contributor
Lehigh Valley, PA

The Lehigh Valley Chapter, Pennsylvania Society of Professional Engineers (LVPSPE) is a local organization affiliated with the State and National Professional Engineer organizations. Our purpose is to support and advance engineering at all levels, especially to young people who will someday replace us. Our Chapter raises funds to support two very important initiatives: MATHCOUNTS® and the LVPSPE Scholarship Program. Our fundraising goal is \$13,000 to support both programs.

This coming February will be the 33rd consecutive year that we have coordinated the MATHCOUNTS event. Over 200 students from approximately 30 regional middle schools participate, with the top qualifiers moving on to the PA state competition and then possibly on to compete at the national level.

Each year, our Chapter also provides scholarships to regional high school students that have been accepted to college and are pursuing engineering degrees. Last year we awarded six students scholarships totaling \$12,000 thanks to the generosity of our donors. We increased the number of scholarships to six for this year because the quality of the recipients was so good!

All supporters will be acknowledged at MATHCOUNTS and the Scholarship Awards dinner. They will also receive recognition in our monthly newsletter.

Donation Level	Amount	Valley Engineer Space
Graduate	>\$1,000	Full Page
Senior	\$1,000	Full Page
Junior	\$500	Half Page
Sophomore	\$250	Quarter Page
Freshman	\$150	Eighth Page (Business Card)
Contributor	<\$150	Line Item

Contributions are tax deductible if made out to: **PA Engineering Fund**
Donations should be mailed to:

**LVPSPE
P.O. Box 3441
Allentown, PA 18106**

I want to acknowledge and thank last year's donors for their support:

FLSmith, Inc. • Bridge Gap Engineering • Lutron Electronics Co., Inc. • Millennium Electro-Hydraulics Services • Victaulic Company • Barry Isett & Associates • Borton Lawson Engineering • Hanover Engineering Associates • McTish, Kunkle & Associates • The Pidcock Company • Rettew • Pennoni Associates, Inc. • DME Alliance • Newton Engineering • Kohn Engineering • Staffeld Engineering Services • Keystone Consulting Engineers • R. Peruzzi, Inc. • Michael F. Basta, PE • PEAK Technical Staffing USA • Advantage Engineers • Civil & Forensic Engineering. • J.P. Mascaro & Sons • Monarch Precast Concrete Corporation • Kevin T. Campbell, PE • Alex Dezubay, PE • Alfred Gruenke, PE • Grayson McNair, PE

Thank you very much for your consideration and should you have questions about our program, please feel free to contact me.

Alfred Gruenke, PE

Alfred Gruenke PE
President, Lehigh Valley Chapter PSPE