



Valley Engineer Newsletter

March 2019

Compiled by: Alexa Rooney, EIT, JD

UPCOMING PROGRAMS

- May 16, 2019 at DeSales University starting at 5:30pm – Banquet of Officer Installation and Student Scholarship Awards
- September 19-20, 2019 at Sands Bethlehem Casino – PSPE Annual Conference



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 OF
 PROFESSIONAL ENGINEERS**

**LEHIGH VALLEY CHAPTER
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Updates from National SPE

Summarized by Alexa Rooney

Arizona Governor Doug Ducey forecasts that Tucson metro area is on pace to post the fastest job growth since 2006 and cites STEM and vocational education as key driver.



Students in alternate structures class at Pima Community College's Aviation Technology Program, that Gov. Doug Ducey has proposed \$20 million to help expand.

The Design Professionals Coalition held its monthly meeting in February where they discussed several state bills of concern to licensed professionals and possible strategies for defeating the measures. The coalition is a valuable partnership that aids NSPE's efforts to protect the PE.

Continued on page 2

A new bill, introduced by Senator Amy Klobuchar (D-MN), was introduced to the Senate, which if enacted, would make it easier for engineering school graduates to become licensed engineers. NSPE will be working with Senate offices to gain additional support and encouraging members to do the same. This bill will allow money from education accounts to be used for tuition expenses, but also to cover cost associated with achieving certification and licensure. Currently the bill has not been introduced in the house yet, but NSPE is making strides to make this happen.

NSPE is pleased to welcome Margaret Edwards to the national staff, as policy associate. Margaret is from Pennsylvania, where is graduated from Carnegie Mellon University. Join them in welcoming Margaret to the national staff.

NSPE Deputy Executive Director and General Counsel, Arthur Schwartz, conducted a two-hour engineering ethics seminar at the national academy of building inspection Engineers annual winter meeting in Boston. NSPE president-elect, Dave Martini, also participated at the conference as the speaker during the traditional keynote session.

Norman Fortenberry, executive director of American Society for Engineering Education, delivered the Engineering Dean’s lecture at Tufts University to launch Engineers Week on campus. His address, “Educating the Engineers of 2040,” noted that engineers need not only technical experience, but the ability to move across other disciplines and bridge technology through policy.



Norman Fortenberry – “Educating the Engineers of 2040”

Engineers have always been problem solvers who fuel the economic growth and improve the quality of life. In his speech, Fortenberry challenged the engineers to use a different kind of problem-solving skills. He argued for “t-shaped” engineer “The vertical bar represents depth and mastery in a technical field, and the horizontal bar reflects related professional skills such as the ability to broaden questions, have empathy, work collaboratively, and communicate ideas.”

The “T-Shaped” Individual



Kudos to PSPE by NSPE: “The Pennsylvania Society of Professional Engineers held a meeting via Zoom on February 27 for chapter leaders to discuss resources, struggles, and best practices. NSPE’s Senior Director, Membership, Marketing, and Content Kim Granados took part and presented a few slides on how national works with states and the resources we provide. Great work by Membership Chair Dan Cook, P.E., Executive Director Jen Summers, and the committee. It was great to hear all of the things PSPE and its chapters are doing, what was successful, and what help they needed from their chapters and from national.”

Engineer’s Week Banquet 2019

Mary Rooney, PE, Chair LVEC

The Lehigh Valley Engineering Council hosted their 39th annual Engineer’s Week banquet on February 22, 2019, as part of the nationwide Engineers’ Week celebration. The dinner was held at SteelStacks in Bethlehem, PA, where the blast furnaces remaining on the ArtsQuest campus provided a fitting backdrop to the engineering celebration.

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Approximately 90 engineers, spouses, and friends attended the evening, beginning with an hour of networking and pre-dinner socializing. Many PSPE members played an active role in the festivities: Mary Rooney presided over the evening as M.C., Angelika Forndran, presented the Invocation, and Brian Kutz introduced the Engineers of the Year and presented the awards.

The evening had seven sponsoring companies and seven sponsoring societies (PSPE, ASCE, ASME, SWE, IEEE, ASSE, and ASQ.) The eight Gold Sponsors were each given a minute to give their elevator speech to the attendees during dinner. The buffet food was tasty and those in attendance had ample opportunities to catch up with friends, network, and trade stories.

After dinner, Mary introduced the keynote speaker, Wayne Barz of Ben Franklin Technology Partners. Ben Franklin has helped more than 500 companies get their start in northeastern PA, created more than 18,000 jobs, and retained more than 31,800 existing jobs. Wayne has spent more than 30 years in business incubation and economic development. Outside of Ben Franklin, Wayne serves as President of the board for the Community Action Committee of the Lehigh Valley (CACLV). He is an adjunct faculty member at Lafayette.

Wayne's speech "Lessons from 35 years of New Venture Creation" highlighted ten facets of the start-up process that he has seen repeated. Some of the highlights from his talk include:

- A start up is not a smaller version of a big company. Its staff, market, and cash flow present unique challenges to building the foundations of success.
- Companies are about people not products and corporate DNA evolves with every person hired. All startups begin with a great idea for a new product, but success is dependent on the people behind the product.
- Hearing about the 'chasm', the customer gap that small companies must get through to reach out to more clients than just the very early adopters.

- Success is continuously probing into what your customers want; to be successful you must be committed in a big way.

Engineers can interact with Ben Franklin Tech Ventures in one of three ways: as a potential client, as a mentor or as a consultant to the young companies. Feel free to reach out to Wayne with your idea. He is always ready to listen! Mark your calendars now for next year's banquet on Friday, February 21, 2020. We look forward to seeing you there.

2018 Engineer of the Year

Charles Myers, PE

Charles (Charley) Myers was named the Pennsylvania Society of Professional Engineers – Lehigh Valley Chapter Engineer of the Year. He was honored at the 39th Annual Engineer's Week Banquet.



Charles Myers, P.E.

Operations Manager
Water/Wastewater Services

Charley has Bachelor of Science Degrees in Civil Engineering and Engineering Management from the University of Missouri-Rolla; and is a registered Professional Engineer in Pennsylvania and Missouri.

Charley is the Operations Manager for Water/Wastewater Services in the Municipal Services Department at Barry Isett & Associates, Inc.

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Charley has more than 23 years of engineering experience involving the design, coordination and administration of projects for energy, industry, municipal and non-municipal clients. As Operations Manager, he is responsible for service to municipal authorities and other public sector clients as well as taking the lead in water and waste-water requirements in private sector clients.

2018 Young Engineer of the Year

Elizabeth Helsel, PE

Elizabeth Helsel was named the Pennsylvania Society of Professional Engineers – Lehigh Valley Chapter Young Engineer of the Year. She was honored at the 39th Annual Engineer’s Week Banquet.



**Elizabeth Helsel
Engineer 2**

Elizabeth has a BS in Environmental Engineering with a minor in Physics from Wilkes University, earning the Outstanding Achievement in Environmental Engineering Award. During her Junior year, Elizabeth and another student founded the Wilkes University Chapter of the PSPE. By the time Elizabeth graduated, the Chapter had grown to over 30 members. Elizabeth served as Vice President of Students for Environmental Sustainability (SES) both her Junior and Senior years. She was also a member of Air & Waste Management Association (AWMA).

As an Engineer 2 at RETTEW, Elizabeth provides support for the design, construction, and permitting of water treatment and distribution systems and wastewater treatment and collection systems for clients in the public and private sector. In 2017, Elizabeth completed preliminary

and final design of an \$11 million-dollar plant upgrades project for the University Area Joint Authority in State College, Pennsylvania. Recently, Elizabeth has been heavily involved in the development and design of solar projects including multiple floating solar applications in the US.

Elizabeth has continually demonstrated her passion for mentoring and community service. Elizabeth was a Mentor with the Howard Hughes Medical Institute Women Empowered by Sciences (WEBS), working with middle school students interested in STEM. She was also a Relay for Life Team Member and was the Creator and Coordinator of the “Prom Dress Sale Spectacular” fundraiser in which donated prom dresses were sold at a reduced price to local girls. The fundraiser raised over \$1,800 in one day.

Elizabeth helped create and currently holds the office of Outreach Coordinator and Chair of the SWE-Lehigh Valley Outreach Committee. In this role, Elizabeth distributes volunteer opportunities, encourages SWE-Lehigh Valley Members to get involved locally and regionally, and coordinates the volunteers’ support with the event organizers.

Elizabeth also organizes SWE-specific group outreach and volunteer events. Elizabeth also created a new “STEM Night” program for middle school girls in coordination with a science teacher at Eyer Middle School.

Elizabeth is an active member of Water Environment Federation (WEF) and Pennsylvania Water Environmental Association (PWEA). Elizabeth also attended the 2017 Water Environment Federation’s Technical Exhibition and Conference (WEFTEC) Conference in Chicago.

Sand Storms

Alfred Gruenke, PE

The word sandstorm explains itself. Sandstorms are caused by strong winds blowing loose sand and dust from a dry surface. Invariably, sandstorms are associated with large desert areas.

Continued on page 16

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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Or, you may also 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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- \$1,000 PEF Grant: (2 awards)

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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 Liberty Property Trust, 400 Boulder Drive, Suite 200, Breinigsville, PA 18031

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Nowhere are sandstorms more prevalent than in the Sahara Desert, that huge, 3,600,000 square mile swath of Northern Africa, an area comparable with the United States. In Arabic, the word for desert is sahara. The desolation continues eastward onto the Arabian Peninsula, where it is called the *Rub' al Khali* Desert, the Empty Quarter. Having seen it from 30,000 feet, I can attest to the accuracy of the name. The top surface of the Sahara (at least in the Eastern Desert of Egypt) is mostly fist sized rocks, with sand underneath and around the rocks. The wind blows the sand into huge drifts reminiscent of snow drifts, except much larger. There supposedly are dunes in Libya hundreds of feet high. The drifts I encountered were considerably smaller.



A sand-filled depression

The sandstorms I encountered were rather benign, though Scott Anderson in his book "Lawrence in Arabia" describes a more serious encounter. Lawrence and his Arab warriors were on the way to attack Aqabah when one of the Arabs was lost in a sandstorm. In the movie "Lawrence of Arabia" Lawrence went back and rescued the man and was applauded for his effort. In the book he is mocked for being such a fool, putting his own life in danger to rescue an obvious incompetent.

The time of the sandstorms is referred to as "quamseen", the Arabic word for fifty, for the fifty days when the wind blows in from the desert onto the cities and towns near the Nile River and the Delta. An interesting question is, which way does the wind have to blow so it doesn't blow in from the desert? I never received an answer. I assume that sandstorms are formed this time of year because the wind blow harder. Regardless, the time of sandstorms is around fifty days each year in winter.



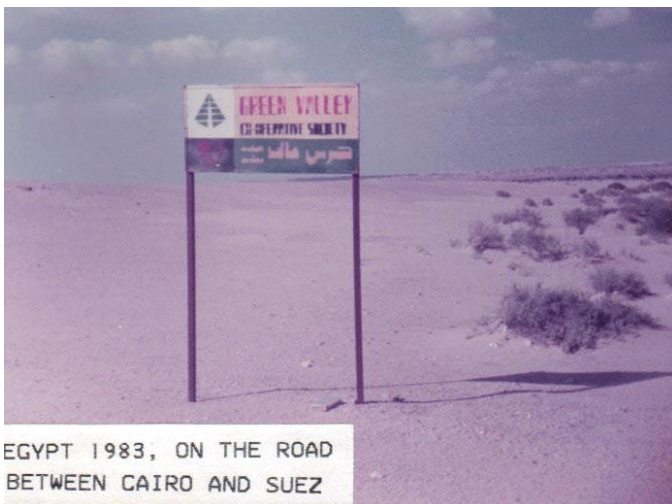
Your humble correspondent in desert winter garb.

Continued from page 17

In Egypt in winter the weather is quite cold. Not freezing cold, but with the wind blowing it can be uncomfortably cold. I wore a Pennsylvania winter jacket.

For a year we daily drove the ninety miles from Heliopolis to the site, almost all across the desert. The front of our van showed signs of sand blasting, as did most vehicles that drove extensively in the desert.

Whenever someone new arrived we delighted in looking out at the scene in the picture below and remarking, "Sure looks green for this time of year". Someone would respond, "Sure does", and we would watch the look of trepidation in the newcomer. A bit sadistic, but fun.



EGYPT 1983, ON THE ROAD BETWEEN CAIRO AND SUEZ

Yup, the sign says "Green Valley"

The traditional concept of a sandstorm is a howling wind blowing sand similar to a blizzard. The sandstorms in the Gobi desert in Mongolia are a bit like this, but that's not what I experienced in Egypt. In the Gobi we had to send dust masks and goggles to protect our people from the sand. Instead, the sandstorms I experienced in Egypt was more of an almost mist, composed of very small dust particles. The dust just seemed to float in the air, with only moderate movement. The dust settled in the eyes, and felt almost as eyes feel after waking up in the morning.

For last eighteen months of our your we stayed on site, coming to town only every other weekend or so. The following photos are from this time.



SUEZ CEMENT, EGYPT 1983 SANDSTORM

The administration building on the left, and the entry gate on the right.



SUEZ CEMENT, EGYPT 1983 SANDSTORM

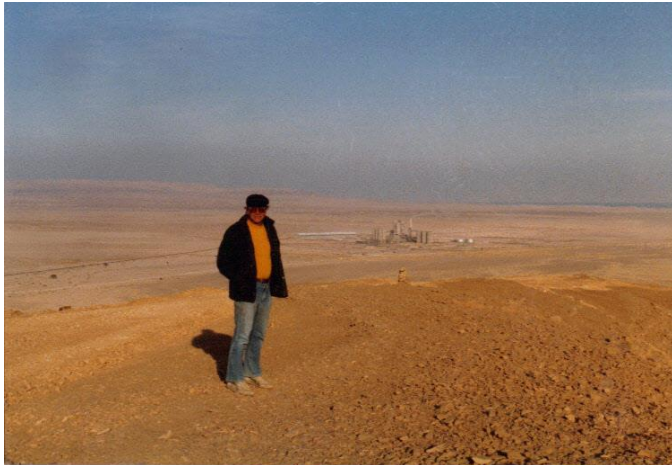
The building on the left was our home-away-from home, lovingly dubbed "Siberia".

The constant wind and drab atmosphere are more than a physical detriment. Instead, it also affects the mind. Everything is so depressing and dreary. One becomes sad, and despondent. All I wanted to do was to doze all day, hardly wanting to drag my sorry bod out of bed and actually do something. Everything on the jobsite slowed down. Admittedly, the first time this occurred to me was when I was suffering from Ramses' Revenge, but the sandstorm definitely contributed to my feeling of gloom and doom.

This feeling is understood in Egyptian lore. Our driver told us that if a man kills his wife during the quamseen he is forgiven. It wasn't him, it was the quamseen! I don't think this is still being seriously followed, but the story remains. One can well imagine such a scenario in times past. Everything is brown, and dreary, and sad, and depressing, and now his wife asks him to take out the garbage! What else can a man do when so provoked? However, I never heard of this occurring during my time there.

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Unfortunately, (or maybe not so), there is no reciprocity. If a woman kills her husband during quamsen it's murder. So much for equality of the sexes.



Miles and miles of...nothing. The cement plant is in the background

The sandstorm I experienced in Saudi Arabia was different. The site was in south western Saudi Arabia just north of Yemen. The dust was much denser and the wind blew harder. I was outside when a brown, ground level cloud rapidly approached, like a scene from a bad 1950s horror movie. The cloud enveloped me.

Then it rained. By the time the rain reached the ground it was mud. Splatters of mud covered the ground, and me. I headed for shelter until the cloud passed, about an hour or so.

I was in Saudi Arabia only two months. I don't know if the rules during quamsen in are similar to Egypt, but there was no mention of anyone killing anyone.

Dust storms in this country are usually associated with the "dust bowl" of the 1930s, when the dust clouds reached even the East Coast. From what I've read about this time, the cause was poor agriculture practices.

No matter where, or the cause, sandstorms affect us mentally even more than physically. Fortunately, such aberrations are virtually unknown to us in the temperate climes of Pennsylvania so all you women out there, you have nothing to fear!

The government's view of the economy could be summed up in a few short phrases: If it moves, tax it. If it keeps moving, regulate it. And if it stops moving, subsidize it. - Ronald Reagan



Why does a slight tax increase cost you two hundred dollars but a substantial tax cut only saves you thirty cents?

When I was a child, I thought nap time was a punishment ... now, as a grown up, it just feels like a small vacation! I've been on vacation!

The third certainty of life, after death and taxes, is that nothing will work out the way you want. Life is fully as bad as you think it is. Choose to live joyfully anyway. - Jonathan Lockwood Huie





**Lehigh Valley Chapter
Pennsylvania Society of Professional Engineers
Lehigh, Northampton, Monroe and Carbon Counties**

Minutes for the March 11, 2019 BOARD OF DIRECTORS MEETING
6:00 pm at the Office of Liberty Property Trust 400 Boulder Drive, Suite 200, Breinigsville, PA
18031

Attendees: Brian Kutz, Al Dezubay, Ray Sczucki, Al Gruenke, Angelika Forndran, Mary Rooney (phone), Bob Peruzzi (phone), Alexa Rooney (phone)

I. Call to Order: Brian Kutz called the meeting to order at 6:06 PM

II. Programs:

- Activities – Al Dezubay
 - February: Engineer’s Week Banquet - food, speaker and venue were all great. Brian, Mary, Angelika, Kevin attended.
 - April: Probably first week of month, Steve Ressler (ASCE) for PDH talk on bridges perhaps. Need to find a venue. Maybe April 9th, 11th
 - May: May 16th LVPSPE Banquet at DeSales. Al will coordinate contract and food.
 - Not much traction with St. Lukes or East Penn Manufacturing.
- Newsletter – Alexa Rooney
 - Discussed publishing schedule and how it relates to advertising for events.
 - Will publish bi-monthly, late in the following months:
 - September
 - November
 - January
 - March
 - May
 - Article submission deadline on the 15th of months above.
 - Anticipating late March and late May publishing for this year.

III. MATHCOUNTS - Kevin Campbell

- Ray reviewed MATHCOUNTS expenses.

IV. EOY/YEOY & Scholarships

- Fundraising – Frank Walsh
 - 2019 pledged to date: \$14,400 (Includes \$2,000 from ASCE). They would like to present the scholarship. Mike Derr will present.
 - 2019 received to date: \$10,800

- Pledges not secured: There are \$2,035 in pledges from 2018 that were not secured in 2019
- Still accepting donations, Brian, Al, Frank will keep following up.
- EOY and YEOY awards – Al Gruenke
 - Congratulations to our Engineer of the Year - Charley Myers, and our Young Engineer of the Year - Elizabeth Helse!
- Scholarships – Al Dezubay
 - Applications were due yesterday, received 31 total. Al will follow up with schools for transcripts.
 - Scholarship Committee – Al Dezubay, Chris Williams, Angelika Forndran, and Don Kohn
 - Expect to have recommendations for April 8th Board meeting. Committee may meet 30 minutes early at the April meeting to finalize recommendation.
 - Will likely give out four or five scholarships. Discuss amounts at next Board meeting.

V. Treasurer

- Approximately 11,000 in savings and 1,000 in checking.
- Main expenses were related to MATHCOUNTS for t-shirts, pizza, etc.; ASCE Dream Big donation; EOY/YEOY awards
- Deposited various donations
- The Board reviewed the current PayPal account. Balance around \$8,700, likely owe around \$1,000 to LVCE.

VI. State Director – no report

VII. Past President

- Al is working on nominating committee report.

VIII. Old Business/New Business

- Ray reached out to Jen to inquire about web hosting, hasn't heard back. Payment due to Wild Apricot in spring if we don't change.
- Al Gruenke is giving his 'Who Wants to Be an Engineer' presentation to Wissahickon Middle School.
- Upcoming Board of Directors meetings for the 2018-2019 year:
 - April 8th
 - May 16th – LVPSPE Banquet

IX. Adjournment at 7:20 on a motion by Al, seconded by Mary. All in favor.