

# 2018 ENGINEERS WEEK

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*recognize the achievements of the engineering communities in the Delaware Valley. The Committee would like to thank all of our contributors, with special thanks going towards the following people and organizations for their generous support to Engineers Week events:*



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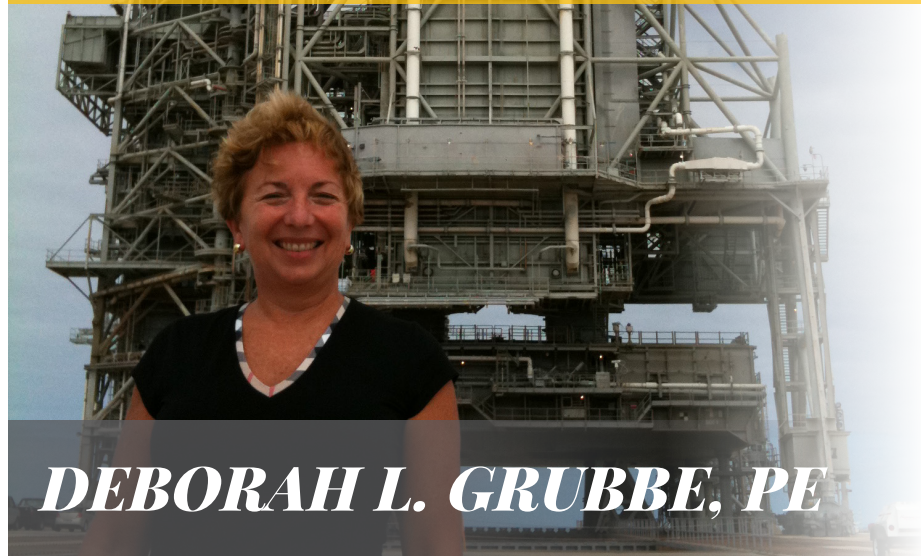
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# 2018 DELAWARE VALLEY ENGINEER OF THE YEAR



**DEBORAH L. GRUBBE, PE**

Each year, one professional from the Philadelphia region is recognized by the area's engineering and technical societies to serve as an ambassador and leader for the engineering profession. The Delaware Valley Engineer of the Year Award is given to a local engineer who reflects the qualities and talents that define professional excellence, civic duty, society leadership and community stewardship. This year, the Engineers' Club of Philadelphia, through its Delaware Valley Engineers Week (DVEW) Committee, is pleased to present Deborah Grubbe, P.E., owner and president of Operations and Safety Solutions, as the 2018 Delaware Valley Engineer of the Year. Ms. Grubbe was elected for this honor in November by representatives of local engineering and technical societies.

***Let's start at the beginning. What do you believe initially led you on the path to becoming an engineer?***

When I was a child, my father worked as a high voltage lineman. Everything I got to see him do – both at work and around the house – was interesting and a little bit different. I was always learning something new, and I loved that.

As I grew older, I realized how much I enjoyed my science and math courses. I thought I wanted to be a math teacher, but after participating in a summer academic program at Purdue University – which introduced me to the basics of each engineering field – I knew that engineering was the right path for me.

***You earned a Bachelor of Science in Chemical Engineering from Purdue University. Did you always know that's what you wanted to study?***

Well, I was originally studying to become a biomedical engineer, but I didn't realize until the end of my third semester that I would need a Ph.D. in order to actually practice in the field. I knew I didn't want to be in school for that long, so I considered other options, and I ultimately landed on chemical engineering with a biomedical option.

***After you graduated from Purdue, you received a Winston Churchill Fellowship to attend Cambridge University. What was that experience like?***

Studying at Cambridge changed my life. Not only was it amazing to experience living outside the United States, but it also helped me land a job with BP later on in my career.

The academic structure in the U.K. was a bit different than what I experienced in the United States. One difference was the number of long breaks that occurred throughout the year, but this actually allowed me to come back here and work, and to travel extensively in Europe. From it all, I received valuable, hands-on perspectives that laid the foundation of my career.

***You worked at DuPont for 27 years, where you held corporate director positions in safety, operations and engineering. Tell us about your time there.***

I started working for DuPont immediately after graduating, and I couldn't have asked for a better place to begin my career. I received fantastic training, and senior leadership always encouraged us to get involved externally to the organization, which really accelerated my professional growth. I got involved with the construction industry, the U.S. military, NASA and professional societies. These experiences built on each other and really broadened my skill set.

As I look back on my time at DuPont, I realize how much it opened my eyes to the broader issues that face the engineering profession—and at a much younger age than I expected.

***From 2003 – 2012, you served as a member of the NASA Aerospace Safety Advisory Panel. What was your role in that program?***

The panel's role was to provide guidance and oversight to the United States Congress and to the

NASA Administrator about the safety of human spaceflight. I was initially brought on board to help investigate the Space Shuttle Columbia disaster, where I served as a consultant in safety culture for the accident's investigation.

After the investigation's conclusion, my role on the panel was to help ensure that, from that point on, the Space Shuttle program completed the remainder of its missions with no more fatalities.

***You are currently the owner and president of Operations and Safety Solutions (OSS), LLC. Tell us about your company.***

At OSS, I teach and instruct individuals on safety culture, help companies write safety plans, and consult with executives about how to best change and enhance their process safety initiatives. I always try to help open my clients' eyes to new possibilities – allowing them to make my suggestions their ideas, which can then be implemented to meet their specific goals.

The keys to my success are twofold, both of which stem from my professional network: first, it has provided me with a number of business opportunities, as the people I've met professionally know and trust my work. Secondly, I know people in my network who I can rely upon, should I get too busy and need help finishing projects that I've taken on.

I am the sole operator of OSS – I always dreamt that I would be my own boss, and I finally am!

***You currently advise and support two start-ups in Philadelphia and London. What do those organizations specialize in and how do you help them reach their goals?***

I advise the executives of both startups, and I sit on both of their executive teams as well.

The one in Philadelphia specializes in big data analytics, and the London-based startup focuses on providing web-based solutions to small, mid-sized and remote oil and gas companies. They're both aligned towards making their clients' work safer, which is why I got involved with them in the first place!

***You've been an active mentor in the community for a number of years. Among other organizations, you've been involved with Girls Incorporated of Delaware, which supports minority and underserved girls interested in the STEM fields, Mentor.Net, and the Society of Women Engineers. What drives your passion for connecting with and providing insight to these young individuals?***

Looking back on how I got to where I am today, I realize the sheer amount of help that I received along the way. The best way to honor what you've been given is to pay it forward, and, as my husband always says, "To those whom much is given, much is expected." That statement really resonates with me, which is why I've chosen to be involved with these great organizations.

I also enjoy being able to influence generations that follow me – the human race would not move forward if we did not teach young people from the mistakes that we've already made. There's a number of different roles that young people need in their lives – mentors, coaches, extracurricular sponsors – and when youth has that support network around them, that's when they're best able to reach their full potential.

***What can you share with young people who are considering engineering as a career, or who may have just entered the field?***

Stick with it. Don't quit. Work hard. Work smart. Play hard.

Young people have to realize that what they're involved with outside of work can have a huge impact on their careers. I could have never dreamed that I would be at NASA, sitting next to Navy admirals, Air Force generals and Sally Ride, and that they would be the ones listening to me give them advice. Opportunities like that came from outside the realm of my day job, and what these people taught me really helped prepare me for when opportunity came knocking later in my career.

***How does it feel to be recognized as the 2018 Delaware Valley Engineer of the Year?***

It's very humbling. I believe that the best recognition that anyone can receive is the recognition from one's peers.

I'm very grateful to the Delaware Valley section of the American Institute of Chemical Engineers, and Sue Schultz in particular, for nominating me. There are so many engineers out there doing great things, so it's a true honor to have been chosen for this.

***Where are you originally from?***

I'm originally from suburban Chicago. I definitely miss some things about living in Chicago (especially going to Blackhawks games with my dad) but I really enjoy living in Greater Philadelphia. I'm definitely glad to be away from the Chicago winters!

***What sort of interests do you have outside your career?***

No matter the season I love staying active. In the winter, I enjoy ice skating and skiing, and in the summer, I'm constantly boating and waterskiing, which I've done since I was 10 years old.



# 2018 DELAWARE VALLEY YOUNG ENGINEER OF THE YEAR



**ALEXA EGAN  
HARPER, P.E.**

The annual Delaware Valley Young Engineer of the Year award recognizes an outstanding engineer who is age 35 or under, has demonstrated leadership capabilities, and has made a recognized contribution to the engineering profession within the Philadelphia region. Beyond the field of engineering, the recipient must also have contributed to and participated in charitable, civic and technical affairs. This year, the Engineers' Club of Philadelphia, through its Delaware Valley Engineers Week (DVEW) Committee, has selected Alexa Harper, a project highway engineer at Gannett Fleming, as the Delaware Valley Young Engineer of the Year.

**You earned both your Bachelor's and Master's degrees in Civil Engineering from Carnegie Mellon University. When did you realize that you wanted to be an engineer and what sparked your interest in transportation engineering?**

I didn't know that I wanted to be an engineer until my sophomore year at Carnegie Mellon. I began as a math major and actually switched majors four times.

I entered the engineering school as a mechanical engineer, but when I spoke to my advisor about what I was really interested in, I realized that I hadn't yet taken any classes that truly peaked my interest – topics such as how buildings and bridges are constructed, for one. Immediately after that, I switched to civil engineering. It took me awhile to find my niche because even though I was in the engineering school, I hadn't been exposed to the field prior to college, which is why I wasn't fully aware of all the options that were out there.

In terms of transportation engineering, I took numerous transportation classes at school that all interested me more than the structural classes did. Then, after having three transportation-focused

internships throughout college, that's when I was positive that I wanted to pursue a career in that realm.

**After graduating, you began working at Pickering Corts & Summerson. How did that experience lay the foundation for your career?**

At Pickering Corts & Summerson, I had the opportunity to explore various types of transportation engineering, which included structural and traffic engineering, amongst others. It was through this exposure that I ultimately decided that highway engineering was the right path for me. I'm thankful to the leadership at PC&S for guiding me to where I am today.

**You're an active member of the Women's Transportation Seminar (WTS) and the American Society of Highway Engineers (ASHE), where you are currently its Second VP. What goals have you helped these organizations achieve? How has participating in these groups worked in tandem with your career?**

At WTS, I helped teach young people about transportation engineering via high school outreach programs. Upon joining the ASHE board in 2012, I was already aware of the group's interest in starting a young members committee. So, I created that committee, and for the past five years, I've organized a number of social and community service events with the goal of increasing membership and exposure of ASHE among young professionals.

In terms of how it relates to my career, my involvement with these groups has provided me the opportunity to get to know other people in the industry, many of who are following similar career paths as I am.

**You've been at Gannett Fleming for nearly six years. Tell us about your work there.**

Gannett Fleming is a full-service, Pennsylvania-based engineering firm that focuses on planning, design, technology and construction management services. It's been a great company to work for – they've supported my desire to pursue opportunities that supplement my career, and I don't think that's something you can easily find everywhere.

As for my role, I'm an assistant project manager and designer in Gannett's highway group. Over the past few years, my role has shifted from purely "design" to also include "project management," and along with that came a number of new responsibilities. As an assistant project manager, I help facilitate projects and their numerous moving parts from start to finish. It's really fascinating and rewarding to see a job go from

an initial plan to actually watching the project undergo construction, and ultimately, see it upon completion.

**So far, what's been one of your favorite projects at Gannett Fleming?**

I'm the Gannett Fleming project engineer who's been responsible for the final design and construction services of the PA Turnpike/I-95 Interchange Project, which, when finished, will complete the missing link between the two major highways and make I-95 continuous from Maine to Florida.

This job is a huge collaborative process, which makes it even more enjoyable and rewarding. Our team gets to coordinate between a number of other involved firms – firms that deal with lighting, structural engineering, sign structures ... there are so many organizations involved with the completion of this interchange; I really enjoy that teamwork-oriented atmosphere.

To see this project come to life over the past three and a half years has been awesome. This undertaking isn't one that every transportation engineer gets to work on, so I'm really grateful to have had this opportunity.

**Over the past five years, you've been an active volunteer in the community. What has that involvement been like for you?**

Most notable is some of the volunteering I've done through ASHE. I've helped organize professional clothing drives that benefit underprivileged individuals who are actively seeking employment. ASHE members provide us with their gently used suits and other forms of business attire, which we then donate to nonprofits that focus on workforce development. Many people can't afford to purchase new professional clothing, and these organizations make it easier to hurdle this barrier and ease the transition into the workforce.

**You've progressed very quickly in your career, which has really only just begun. What are some goals you have for the future?**

I'm excited to expand my involvement as a PennDOT consultant project manager, where I will manage its sponsored projects that are under design by other consulting firms. I'm also looking forward to continuing my design work at Gannett Fleming, which I find very rewarding.

On a project-specific note, I'm eagerly looking forward to the completion of the first two sections of the I-95 Interchange project later this year. After nearly six years working on the job, I can't wait to see it officially open to traffic for the first time. It will provide a key link to the Philadelphia transportation system, and should greatly improve the flow of traffic through the region.

**What advice would you give to students who are considering**

**entering the civil engineering realm?**

In order to get exposure on the different aspects of civil engineering, I would encourage students to be proactive in seeking internships early in their academic careers. That's key to determining if civil engineering – or engineering in general – is the right path for them.

I would also encourage students and young engineers to find a mentor – whether formally or informally – who can give them advice and guidance during the early stages of their careers. This has been invaluable to my growth as a young professional.

**What makes the 2018 Delaware Valley Young Engineer of the Year award a particular honor for you?**

It's a really special honor, especially because the award isn't limited to only transportation engineers. Also, as a woman, it's a huge honor to be presented with this recognition – I hope I can be an example for younger women who are considering entering the field, but who may be wondering if it's possible to be successful in their careers and have the time to manage their personal lives, such as starting a family.

**Where are you originally from?**

I grew up in Titusville, N.J. I enjoyed my time in Pittsburgh as both an undergraduate and graduate student, but I've always considered the Philadelphia region to be my home, so I'm glad I chose to come back here!

**What interests do you have outside the engineering field?**

I have two very young boys, so most of my time outside of work is devoted to spending time with them and my husband. I also enjoy running whenever I have some free time!

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**CONGRATS  
DEBORAH  
GRUBBE,  
2018 Engineer  
of the Year!**





## THE "HANDOFF"

On February 16, at the Kickoff Luncheon for Engineers Week, 2017 Delaware Valley Engineer of the Year John Nawn, PE (at left in photo), will end his term and our incoming 2018 Engineer of the Year, Deborah Grubbe, PE, (at right) will be introduced and inducted.



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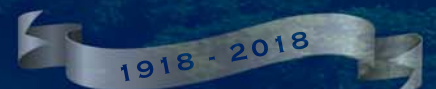
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# DELAWARE VALLEY ENGINEERING HALL OF FAME

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Samuel S. Baxter, Municipal engineer extraordinaire

Benjamin Franklin Bridge, Permitting efficient travel across the Delaware River

Joseph Bordogna, PhD, International authority on science and engineering education and research

Center City [Philadelphia] Commuter Tunnel, Connecting Suburban Station and Market East Station

City Plan of Philadelphia, Conceived by William Penn in 17th Century, model for city planning and development throughout colonial North America

Discovery of Electricity, By Benjamin Franklin

ENIAC, The first electronic digital computer

Fairmount Waterworks, At one time the most advanced municipal system in the world and initial portion of Fairmount Park

Frankford Avenue (The King's Road) Bridge, City of Philadelphia, Critical connection for colonial America, stone-arch bridge built in 1697 and still in continuous use

Golden Age Engineers of GE Aerospace and Lockheed Martin, Innovators of re-entry vehicles, spacecraft and related products beginning in 1956

Ralph Modjeski, Civil engineering pioneer

C. R. "Chuck" Pennoni, PE, Exemplary civil engineer and businessman

Pennsylvania Railroad, At one time the "Standard Railroad of the World" and one of the largest

Philadelphia City Hall, The nation's largest municipal building and the largest and tallest Masonry Building in the world

Frank Piasecki, Pioneer of the United States' helicopter industry

Hilliard W. Page, Aerospace pioneer

Constantine Papadakis, PhD, PE, Engineer and educator

PSFS Building, Landmark in modern high-rise air conditioning

RCA Victor, Camden, For the development of Victrola Recordings

Reading Terminal Train Shed, Last surviving single-span arched train shed in the United States, repurposed for use as part of the Pennsylvania Convention Center

Removal of the "Chinese Wall", Elevated rail line between 30th Street and Suburban Stations; divided Philadelphia at Market Street

Schuylkill Expressway, The first limited access roadway in the area, predating the Interstate Highway System

Leo Steg, PhD, PE, Innovator in re-entry systems and director of GE's Space Systems Laboratory

J. Edgar Thomson, First chief engineer of the Pennsylvania Railroad

Vukan R. Vuchic, PhD, Internationally-recognized authority in transportation engineering

Walnut Lane Memorial Bridge, Bridge over Lincoln Drive, first precast, prestressed concrete girder bridge in the United States

Roy F. Weston, PhD (Hon), PE, DEE, Renowned environmental engineer

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# 2018 DELAWARE VALLEY ENGINEERS WEEK AWARDS

One of the purposes of Engineers Week is to cultivate interest in math, science, and engineering among the nation’s youth – tomorrow’s work force. A key component of that is the recognition of outstanding students and teachers. With the support of the Philadelphia Engineering Foundation, we proudly recognize the following secondary school students and teachers and undergraduate college students.

## Delaware Valley Science Fairs Awards (2017)

**VIKRAM PANDIAN**  
Parkland High School West  
Allentown, PA  
11th & 12th Grades

**SATHYA EDAMADAKA**  
High Technology High School  
Lincroft, NJ  
9th & 10th Grades

**CHAELEE CRANE**  
North Brandywine Middle School  
Coatesville, PA  
6th-8th Grades

## Outstanding High School Student Awards

**ANGELINO GO**  
Church Farm School  
Exton, PA

**KATHLEEN SCHUETZ**  
Kennett High School  
Avondale, PA

## Delaware Valley Engineers Week Undergraduate Scholarships\*

**PATRICIA HURLEY**  
Rowan University

**JOHN SEAL**  
Villanova University

## Delaware Valley Engineers Week/ASCE Undergraduate Scholarship\*

**MEGAN CULLISON**  
Widener University

## Lewis A. Caccese Scholarship\*

**MARK ODORIZZI**  
Drexel University

## Pennoni/John Morrison Memorial Scholarship\*

**JOEL GIVEN**  
Widener University

## Walter G. Neal, Jr. Memorial Scholarship\*

**CATHERINE MARTSOLF**  
Temple University

## Undergraduate Student Paper Awards\*

**DARREN WEIS, KAYLEIGH MCDEVITT, MICHAEL ALEANO, & OLIVIA KONONTUK**  
Rowan University  
“Impact of Mixing Procedure and Rejuvenator on Laboratory Performance of 50% Reclaimed Asphalt Pavement Mixture”

**ERIC JOHNSON, SAMUEL FELDMAN, & RYAN KRUEGER**  
Rowan University  
“Developing a Finite Element Model of the Four-Point Beam Test”

## Outstanding Engineering Teacher Award

**ROBERT ERVIN, JR.**  
AIM Academy  
Conshohocken, PA

\* The Delaware Valley Engineers Week/American Society of Civil Engineers Scholarship is funded by the Philadelphia Section ASCE. The remaining scholarships and student paper awards are financed by contributions from the engineering community or endowments administered by the Philadelphia Engineering Foundation.



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# DELAWARE VALLEY ENGINEERS WEEK EVENTS

## Kickoff Luncheon | Sofitel, Philadelphia Friday, February 16

2018 Engineers Week in the Delaware Valley opens with the Kickoff Luncheon. A networking and cocktail hour will begin at 11:30 AM, with lunch served at 12 Noon. The Engineer of the Year and the Young Engineer of the Year are formally introduced and make brief remarks to kick off the celebration of Engineers Week in the Delaware Valley. The Outstanding Engineering Achievement award winners, selected by the local Chapters of the Pennsylvania Society of Professional Engineers, will be honored.

We will also recognize award recipients (member of the year / project of the year, etc.) who have been honored the past year by the various engineering and technical societies.

## Young Engineers Social | U-Bahn, Philadelphia Tuesday, February 20

The Young Engineers Social is a mid-week happy hour/networking type event where young engineers (and those young at heart!) can have an opportunity to meet engineers of all disciplines from around the region. You'll get to enjoy appetizers and drinks. We will be giving out door prizes as well. As part of the evening's festivities the Delaware Valley Young Engineer of the Year is recognized and makes brief remarks..

## Awards Reception/Student Showcase | IATSE Ballroom, Philadelphia Thursday, February 22

The concluding event of Delaware Valley Engineers Week will be the Awards Reception, consisting of an evening of socializing and honoring this year's awards recipients. The evening will begin with a Student Showcase hour which will feature and highlight the recipients of our Student and Teacher awards and allow them to interact and network with guests. These awards include Student Papers, Scholarships, Outstanding High School Students, Delaware Valley Science Fairs, and Outstanding High School Teachers. The Future City Competition regional winners will be featured along with their working model.

A networking and cocktail hour will follow the Showcase, with a buffet dinner provided.

Awardees will be formally recognized following dinner. The Engineer of the Year and Young Engineer of the Year will provide brief remarks.



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Expand your leadership and technical knowledge required for the next stage in your career. To speak to College of Engineering Admissions, or to arrange a visit, please contact us at 215-204-7800 or gradengr@temple.edu.

The College is holding an open house on April 5 at 6 PM. Register to join us at [engineering.temple.edu/gradoh](http://engineering.temple.edu/gradoh)



PAST DELAWARE VALLEY ENGINEERS OF THE YEAR

The Delaware Valley Engineer of the Year award was initiated in 1953 by the Philadelphia Chapter of the Pennsylvania Society of Professional Engineers (PSPE). Within a few years, the other regional chapters of PSPE joined the Philadelphia Chapter in this selection and in the celebration of Engineers Week. Since the early 1970’s, the other regional engineering and technical societies have been part of both the selection of the EOY and the celebration. The Delaware Valley EOY award is bestowed upon a colleague who reflects the qualities and talents that define professional excellence, civic duty, and community stewardship. The following is a listing of the distinguished individuals who have been so recognized.

1953	Nevin E. Funk, PE	1986	John S. Kemper, PE
1954	Walter A. Kruger, Jr.	1987	Richard E. Woodring, PE, PhD
1955	Harry A. Kuljian	1988	Gunnar E. Sarsten, PE
1956	Francis S. Friel, PE	1989	Gerald E. Speitel, PE
1957	Lester M. Goldsmith, PE	1990	E. Ross Forman, PE
1958	Kilshaw M. Irwin	1991	Mark Z. Hanlon, PE
1959	Samuel S. Baxter, PE	1992	Joseph V. Mullin, PE, PhD
1960	Hilliard W. Page	1993	Stephen B. Lester, PE
1961	I. Melville Stein	1994	John E. Kampmeyer, PE
1962	James M. Harlow, PE	1995	Harry M. Perks, PE
1963	Leroy A. Brothers, PhD	1996	Edward E. Gilvey, PE
1964	Henry M. Chance, II, PE	1997	Joseph R. Syrnick, PE, PLS
1965	Leo Steg, PE	1998	Thomas G. McWilliams, Jr, PhD
1966	Carl C. Chambers, PE, PhD	1999	Lawrence M. Moy, PE
1967	Frank N. Piasecki, PE	2000	Bruce A. Eisenstein, PE, PhD
1968	Nathan Cohn, PE	2001	Pasquale A. Dougherty, PE, PLS
1969	Allen F. Clark, Jr., PE	2002	Edward M. D’Alba, PE
1970	William H. Haggerty, PhD	2003	Robert M. Rodgers, PE
1971	Samuel T. Hudson, PE	2004	Matthew J. Burns, PE
1972	James L. Everett III, PE	2005	Donald D. Dalessandro
1973	Louis T. Klauder, PE	2006	Eric L. Flicker, PE
1974	Lewis A. Caccese, PE	2007	Joseph J. Viscuso, PE, PLS
1975	John L. Rumpf, PE, PhD	2008	Dianne Dorland, PE, PhD
1977	John Lotz, PE	2009	David D. Lowdermilk, PE
1978	H. Robert Sharbaugh	2010	Selçuk Güçeri, PhD
1979	Vincent S. Boyer, PE	2011	Douglas W. Kriebel, PE
1980	W. Spencer Bloor, PE	2012	Timothy Hyungrock Haahs, PE AIA
1981	Robert M. Koerner, PE, PhD	2013	Charles A. Clerecuzio, PE, CPIP
1982	Walter F. Spiegel, PE	2014	Suzette M. Schultz
1983	August D. Pistilli, PE	2015	Adam K. Fontecchio, PhD, PE
1984	Joseph Bordogna, PhD	2016	Kevin L. Johnson, PE
1985	C. R. Pennoni, PE	2017	John A. Nawn, PE



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It is an exciting time at the Henry M. Rowan College of Engineering at Rowan University – a state-designated and Carnegie-classified comprehensive research university. As both our research mission and academic programs continue to grow, the institution maintains extensive partnerships with government, healthcare, and business and industry, often serving as their research and development arm.

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Rowan Engineering faculty and students conduct broad research, often collaborating with colleagues throughout Rowan University’s 12 colleges and schools. The College focuses research on, among other topics, engineering education, sustainability, resiliency, infrastructure, advanced materials, transportation, augmented and virtual reality, drug development, medical devices, diagnostics, digital health, diversity and engineering education.

To learn more, visit [rowan.edu/engineering](http://rowan.edu/engineering) and [rowan.edu/sjtp](http://rowan.edu/sjtp).




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Visit [pareportcard.org](http://pareportcard.org) to see the 2014 Pennsylvania Infrastructure Report Card.

Also, we have begun efforts on the 2018 Pennsylvania Infrastructure Report Card, which we anticipate will be released in the Fall. Please visit our website if you are interested in being a part of the update process.



PAST DELAWARE VALLEY YOUNG ENGINEERS OF THE YEAR

1990	K. Jim Jem	1998	Elaine Elbich, PE	2005	James P. Markham, PE	2012	Catherine Golata Farrell, PE
1990	Susan L. Best, PE	1999	Lucia Chan	2005	Thomas Brady, PE	2013	Alan S. Levy
1991	William K. Grauer, PE	1999	Thomas K. Cassidy	2006	David Thatcher, PE	2014	Philip M. Gonski, PE
1992	Stanley Yuen, PE, PhD	2000	John Zarsky, PE	2007	Jeremy D. Colello, PE	2015	Brian M. Crookston, PhD, PE
1993	James M. Matthews, PE, PhD	2001	Christopher John (CJ) Sabol, PE	2007	Keith S. Yamatani, PE	2016	Daniel Sujo
1994	Sandra Joyce May, PE	2002	Casey A. Moore, PE	2008	Rajeev K. Arora, PE	2017	Kazi M. Hassan, PE
1995	Philip W. Wursta, PE	2002	Carol C. Martsolf, PE	2009	Joseph A. Platt, Jr., PE		
1996	Lisa M. Walton, PE	2003	Christopher J. Menna, PE	2010	Michael Witkowski, PE, LEED AP		
1997	Carol M. Reich, PE	2004	Michael J. McAtee, PE	2011	Angela Fante, PE, LEED AP		



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# 2018 DELAWARE VALLEY ENGINEERS WEEK COMMITTEE

The Delaware Valley Engineers Week Committee of the Engineers' Club of Philadelphia sponsors Delaware Valley Engineers Week on behalf of the Engineering and Technical Societies. The events are supported by area corporations, universities, individuals and, participating societies. The Committee members are volunteers, several having volunteered their time for many years, supported by Club staff and consultants. We thank all the members and their employers for their support of the program.



## The Key Leadership of the 2018 Delaware Valley Engineers Week Committee includes:

### Co-Chair

Megan Syrnick Clayton, PE

### Co-Chair

Robert Wright, PE

### Advisory Committee Chair

Suzette Schultz

### Awards Director / Deputy Director

AnnMarie Vigilante, PE / Briana Earle, PE

### Events Director / Deputy Director

Christopher Menna, PE

Christopher Gray, PE /

### Fund Development Director

Casey Moore, PE

### Engineers' Club President

Michael Griffin, PE

### Other Planning Committee Members

Erica Antoine, PE

Helene Brennan, PE

Kevin Brown, EIT

Anthony Cirillo, PE

T. James Cokonis, PE

Luisnel Cuello

Ruben David, PE

Ernest Hanna, PE

Andrew Hartmann, PE

Emily Hoffman, PE

Devonne Jackson, PE

Mark Kinnee, PE

Douglas Kriebel, PE

Carol Martsof, PE

Chris Rood, PE

Dennis Wilson

### Awards Selected By

Kevin Brown, EIT

Anthony Cirillo, PE

Briana Earle, PE

Abbey Gancz, PE

Chris Gray, PE

Tyler Ladd, PE

Helen Lam, PE

Carol Martsof, PE

Christopher Menna, PE

AnnMarie Vigilante, PE

Robert Wright, PE

And the engineering-related technical societies of the Delaware Valley

### Support Staff and Consultants

Jocelyn Craighead

Michael Henderson

We are always looking for more people to provide ideas and help plan for the celebration of engineering during Engineers Week. If you are interested in getting involved, or simply want to provide input on next year's events, email [contact@engrclub.org](mailto:contact@engrclub.org) or call (267) 521-2327 and indicate your interests and time availability.

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# AFFILIATE AWARD RECOGNITION PROGRAM

To help us celebrate engineering in the Delaware Valley, the Engineers' Club undertook an effort to recognize the many and various projects and individuals cited by the engineering and technical societies in our region. This illustrates the varied fields and specialties covered by these groups and the notable contributions made in these specialty areas by engineers.

We have listed below the various projects and individuals submitted to the Engineers Week Committee by the noted engineering related technical societies. We greatly appreciate these people and efforts that have had positive effects on life in the Delaware Valley for the benefit of all of us.

## American Society of Civil Engineers, Philadelphia Section

Philadelphia Civil Engineer of the Year  
*John Nawn, PE, Fleisher Forensics*

Young Civil Engineer of the Year  
*Kevin Brown, Urban Engineers, Inc.*

Educator of the Year  
*Frank Falcone, PE, Villanova University*

Young Civil Engineer of the Year  
*Drew Sirianni, PE, Pennoni Associates, Inc.*

Geotechnical Engineer of the Year  
*Robert Crawford, PE, James J. Anderson Construction*

Structural Engineer of the Year  
*James Pezzotti, PE, Pennoni Associates, Inc.*

Construction Engineer of the Year  
*Megan Syrnick Clayton, PE, Hill International*

Young Government Engineer of the Year  
*Nha Truong, City of Philadelphia Water Department*

Government Service Award  
*Michael Carroll, City of Philadelphia Office of Transportation and Infrastructure Systems*

Community Outreach and Service Award  
*Katrina Lawrence, DVRPC*  
*Kevin Walsh, Pennoni Associates, Inc.*

History and Heritage Award  
*Section Centennial Book Committee (31 individuals)*

## American Society of Highway Engineers, Delaware Valley Section

2016 Project of the Year (over \$10 million)  
*Holme Avenue Bridge over Roosevelt Boulevard*  
*HNTB (designer), Pennsylvania Department of Transportation (owner), JMT (construction manager), Buckley & Company (contractor)*

2016 Project of the Year (\$10 million and under)  
*Old Betzwood Bicycle/Pedestrian Trail and Bridge*  
*Boles, Smyth Associates (designer), Pennsylvania Department of Transportation (owner), Pennsylvania Department of Transportation (construction manager), J. D. Eckman (contractor)*

## Pennsylvania Society of Professional Engineers, Delaware County Chapter

Engineer of the Year  
*Charles J. Catania, Jr., PE, Catania Engineering*

Young Engineer of the Year  
*Joshua D. Treisner, PE, Monroe Energy*

Lifetime Achievement Award  
*Dave Campbell, PE, Schnabel Engineering*

Project of the Year  
*Chester Road (SR 320) Swarthmore Roundabout*

## Pennsylvania Society of Professional Engineers, Philadelphia Chapter

Outstanding Engineering Achievement  
*Temple University STAR Complex*  
*Langan Engineering and Environmental Sciences*

Notable Engineering Achievement  
*Bartram's Mile Redevelopment*  
*Langan Engineering and Environmental Sciences*

Honorable Mention  
*I-95 Betsy Ross Interchange (Section BR0)*  
*STV, Inc.*

*Direct Bus/Rapid Transit Station Enhancements (Roosevelt Boulevard)*  
*Urban Engineers, Inc.*

## Women's Transportation Seminar, Philadelphia Chapter

Diversity Award  
*PhilaPort*

Employer of the Year Award  
*HDR*

Innovative Transportation Solutions Award  
*Roosevelt Boulevard Direct Bus Program*

Member of the Year  
*Linell Homentosky, AECOM*

Philadelphia Award  
*Delaware Valley Regional Planning Commission*

Secretary Ray LaHood Award  
*Michael Carroll, City of Philadelphia Office of Transportation and Infrastructure Systems*

Woman of the Year  
*Rochelle Cameron, City of Philadelphia Department of Commerce, Division of Aviation*



## ABOUT THIS SUPPLEMENT...



This Engineers Week Supplement to the Philadelphia Business Journal has been prepared by the Delaware Valley Engineers Week (DVEW) Committee of the Engineers' Club of Philadelphia. The Club is pleased to sponsor DVEW on behalf of the affiliated engineering-related societies and supported by those organizations that have advertised in the supplement.

The Engineers' Club of Philadelphia was founded in 1877. The Club works to maintain and expand a strong connection with affiliated engineering-related societies that has existed since its earliest days. By organizing and delivering Engineers Week, the Club is working toward this goal by strengthening its resources and allowing Engineers Week organizers to plan strategically for improved celebrations and greater visibility.

The Engineers' Club offers individual, student, and corporate memberships to further the goals of relationship building and networking among technical professionals, communication and collaboration among engineers, raising the awareness of engineering in our society, and the professional development of its members. The Philadelphia Engineering Foundation, a 501(c)3 organization, is the charitable arm of the Club to support its student outreach efforts.

Please visit the Club's website at [www.engrclub.org](http://www.engrclub.org) for more information.



## REGIONAL STUDENT OUTREACH



*Future City Winners*

The Philadelphia Regional Future City Competition is an educational outreach program of DiscoverE. This year's regional competition was held on January 20, 2018 at Archbishop Carroll High

School, Radnor, PA and featured teams of 6th, 7th and 8th graders from over 30 middle schools located in Pennsylvania, New Jersey and Delaware. Philadelphia is one of 39 regional programs conducted throughout the

country with the goal to introduce middle school students to the engineering profession.

Students form teams and work with a teacher and an engineer mentor from September to January to design and lay out a city of the future using SimCity computer software, build a table-top model using recycled materials that illustrates one section of the city, write an essay on a specific topic related to their city, and present their model and city to a team of judges on competition day in January. The winner of the competition goes on to compete at the Annual

Future City National Finals in Washington, DC during Engineers Week.

The winner of this year's Philadelphia Regional Future City Competition is the team from Queen of Angels Regional Catholic School in Willow Grove. Team members include Mary Kate Feilke, Aisleigh Hopkins, Eric Krause and Kylie McHugh, led by teacher Diane Hediger.

For more information on the Philadelphia Regional Future City Competition please visit [www.futurecityphilly.org](http://www.futurecityphilly.org).

## SPECIAL INTEREST

### Local Engineering Achievement – 125 Years Ago

Streetcars have been on our region's roads since 1858, with the first line being a horse-drawn service from 32nd Street and Woodland Avenue (near the present-day intersection of 32nd and Market Streets) to 9th and Main Streets in Darby. This service commenced on December 24, 1858, and has operated continuously since then, known today as SEPTA's Route 11.

After several years of horse-drawn streetcars, other modes of power were tried, including steam and cable, but none proved to be effective. Nearly 34 years after the first horsecar line started, on December 15, 1892, the Union Traction Company adopted the new technology of electric power on the Catharine-Bainbridge Line in South Philadelphia. This line later became Route 63 and served the busy crosstown route until streetcars were withdrawn in 1955.

In 1883 a trio of entrepreneurs, William Kemble, Peter A. B. Widener (yes, the family that later founded the University that bears that name today), and William Lukens Elkins, formed the Philadelphia Traction Company to acquire existing streetcar lines and convert them to cable operation. By the mid-1880s, however, the invention and successful application of the electric trolley was underway and it was clearly the technology of the future.

For almost 160 years, streetcars of various types have served the Philadelphia area and helped Center City retain its commercial, retail, and entertainment supremacy in an ever-expanding region. By the Centennial year of 1876, Philadelphia could claim the largest street railway system in the country. At its peak in the mid-1920's, the Philadelphia Rapid Transit (PRT) system operated nearly 2400 trolleys on over 600 miles of tracks in the

city and close-in suburbs. From river to river, practically every numbered street had streetcar tracks. Broad Street did not, per local legislation which prohibited this, but it was served by PRT's second motor bus route which utilized double-deck coaches. Transit and advances in vehicle types and technology have been critical in the development of our region.

SEPTA's Route 11 is the oldest trolley line in Philadelphia still operating over a considerable portion of its original route. The line was electrified in May 1894 and was extended to Front and Chestnut Streets in August 1896. Route 11 began service in the Subway-Surface tunnel from West Philadelphia to Center City (15th Street Station) in December 1905. The tunnel was extended to 13th Street, its current terminus, in June 1908.

In November 1955, the subway tunnel expanded to the west, allowing trolleys to operate underground from the older tunnel

segment just east of the Schuylkill River to new portals at 36th and Ludlow Streets and 40th Street and Woodland Avenue. Today, the Route 11 shares the Subway-Surface tunnel with four other lines, which operate on a combined nearly 40 miles of route in West and Southwest Philadelphia as well as part of Delaware County.

To celebrate 125 years of electric streetcar service in Philadelphia, SEPTA has wrapped one of its light rail vehicles to resemble an 1892 streetcar (below), which will operate on SEPTA Routes 11, 13, 34 and 36 throughout the year.



## Philadelphia Engineering Foundation Golf Outing

On October 9, 2017, the 17th Annual Philadelphia Engineering Foundation's (PEF) Golf Outing was scheduled to be conducted at the Bala Golf Club in the Wynnefield section of Philadelphia. This even is also known as the Mulford Classic.

Unfortunately unfavorable weather forced the cancellation of the Outing. A replacement event was conducted at Dave & Busters at Penns Landing on November 13, and over 30 of the scheduled participants were able to attend and network.

Thanks to all who participated and sponsored as well as our diligent volunteers and Golf Committee.

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- Women's Transportation Seminar, Philadelphia Chapter



## ***BUILDING BRIDGES THROUGH STEM PROGRAM***

“Building Bridges through STEM” was instituted by the Engineers’ Club in 2017 to bring students of diverse socio-economic backgrounds together to meet and get to know one another for the purpose of building a more civil society. Seasoned professionals have presented programs on Engineering, Architecture and Planning. Young Professionals in host companies organize the program and learn Team Building, Project Management and Servant-Leadership skills. Two programs in 2017 featured Kevin McKeon, PE, of AECOM (International Landfill) and past Delaware Valley Engineer of the Year Joseph Syrnick, PE, of the Schuylkill River Development Corporation (Schuylkill River Trail and Boardwalk). Young Professionals in AECOM’s Conshohocken office (Richard Graham Barrett) and Philadelphia office (Keyleigh Kern) chaired Support Teams of their colleagues resulting in presentations in Conshohocken on April 20, 2017 to 25 students from Abington Friends, Central High School, Church Farm School, Upper Dublin High School, Norristown Area High School, Jack M. Barrack Hebrew Academy, and Plymouth-Whitemarsh High School, and in Philadelphia on September 21, 2017 to 37 students from Roman Catholic, Little Flower and John W. Hallahan High Schools. For information on starting a Team, contact Eugene Cipriani, [eugene.cipriani@aecom.com](mailto:eugene.cipriani@aecom.com).

## ***THE FRANKLIN INSTITUTE-195 YEARS OLD***

In 2019, the Franklin Institute will have been in existence for 195 years, with the last 85 of them at its current building and location. As the most visited museum in the Commonwealth of Pennsylvania and a top-five tourist destination in the City of Philadelphia, the Institute is one of the leading science centers in the country, and serves as both a prominent educational and cultural resource, and as an anchor of the local economy. Science and technology have the potential to solve some of the most critical issues of our time, to improve our lives, and to inspire our curiosity about the world around us. Every day the Institute provides resources that help people to connect with science and technology in creative ways that resonate with learners of all ages and backgrounds. The Institute directly reaches more than 1 million people each year with informal learning experiences that engage students, adults, and families. Though its historic museum is a central learning space, the Institute has evolved to provide people with educational resources in their own neighborhoods through hands-on activities in classrooms, workshops in libraries, community centers, and other settings, and through ways to interact online.

Founded in honor of America’s first scientist, Benjamin Franklin, the Institute is one of the oldest and premier centers of science education and development in the country. It continues its dedication to public education and creating a passion for science by offering new and exciting access to science and technology in ways that would dazzle and delight its namesake.

On February 5, 1824, Samuel Vaughan Merrick and William H. Keating founded The Franklin Institute of the State of Pennsylvania for the Promotion of the Mechanic Arts. Within three years of its founding, that promotion took place through public lectures, a high school, a library, public exhibitions, and a research journal, and many of these endeavors remain core activities to this day. Since then the Institute has played a central and constantly evolving role in meeting the educational needs of America in the fields of science and technology. For its first century, the Institute offered classes in mechanics, drafting, and engineering, and promoted science and invention. In 1930, despite the Great Depression, the Institute began to seek funds to build a new science museum and memorial hall. After raising \$5.1 million, work began, and in 1932, the cornerstone of the new Institute was laid at 20th Street and the Benjamin Franklin Parkway.

The Institute’s science museum opened to the public on January 1, 1934, titling itself a “Wonderland of Science,” and was one of the first museums in the nation to offer a hands-on approach to learning about the physical world. Three major capital campaigns in the last 25 years enabled physical and programmatic expansion resulting in the current facility.

The Institute also operates the Fels Planetarium, the second oldest planetarium in the Western Hemisphere. It is home to the Benjamin Franklin National Memorial, one of just a handful of national memorials in the custody of a private institution.

Today, the Institute offers 12 world-class permanent exhibits that provide hands-on learning experiences that introduce and reinforce key science concepts in creative and engaging ways.

The Institute’s programmatic offerings serve a range of audiences, with a focus on underserved youth, in Philadelphia and beyond. Partnerships with cultural organizations and corporations support unique collaborative outreach initiatives and events, including youth programs that build leadership skills, provide mentorship opportunities and open paths to formal education and careers in science and technology. Gender and family learning programs engage families in science enrichment experiences to increase interest and knowledge in STEM subjects. Community-based programs encourage diverse audiences to explore the value of science education and literacy. The Institute’s wealth of educator resources and workshops enables teachers to bring the spark for hands-on science interaction into their daily lessons, and helps them to align classroom education with nationally mandated standards.



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*Congratulations,*

**Deborah Grubbe,  
2018 Delaware Valley Engineer of the Year**

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