

**ASCE, PHILA. SECTION  
 MEETING SCHEDULE 2009-10**

The ASCE, Phila. Section Meeting program for the upcoming season is nearly set, and currently-planned dates have been provided below for your calendar.

In coming issues of *THE NEWS*, we will provide updates as information becomes available. We also suggest you visit the Section website for the latest changes in our meeting program.

Dinner meetings generally follow a schedule of a cocktail hour starting at 5:30 PM, dinner at 6:30 PM, and the meeting presentation following at approximately 7:30 PM, unless otherwise noted. We also intend to follow our second-Thursday pattern except where joint meetings will preclude this. As always, you are welcome to attend the meeting presentation without dinner at no cost if you prefer to do so.

- 2010**
- February 11
  - March 11
  - April 8
  - May 14, Spring Social

**PLEASE CHECK YOUR  
 MAILING ADDRESS**

As you renew your ASCE dues, please check your preferred mailing address for correctness. In order to have your mail delivered to you, your address needs to be as complete as possible — if you work in an office building or complex, the street address AND the office/floor/suite number needs to be included.

You can also check your information on ASCE's database at any time through National's website ([www.asce.org](http://www.asce.org)) in the Member Profile section. You may need to establish a username/password for your account to do this, if you have not previously done so.

As you know, we will begin the e-mail distribution of *THE NEWS* with the January edition, for which you can sign up very easily through our website ([www.asce-philly.org](http://www.asce-philly.org)). If you are requesting a hard copy via the Postal Service, please send us a note reminding us to do this if you have not already done so.

We appreciate your cooperation on this to ensure that *THE NEWS* and other ASCE mailings find you efficiently.

**DECEMBER JOINT DINNER MEETING**

Society of American Military Engineers, Philadelphia Post  
 American Society of Civil Engineers, Philadelphia Section  
 Construction Management Association of America, Mid-Atlantic Chapter  
 Engineers' Club of Philadelphia  
 Project Management Institute, Delaware Valley Chapter  
 Pennsylvania Society of Professional Engineers, Philadelphia Chapter  
 Association for the Advancement of Cost Engineering, Delaware Valley Chapter

**WEDNESDAY, DECEMBER 9, 2009**

**Down Town Club** • Public Ledger Building, 6th & Chestnut Streets, Center City Philadelphia  
 Cocktails 5:30 PM • Dinner 6:30 PM • Meeting 7:30 PM

**SUBJECT: Pennsylvania Convention Center Expansion Update**

**SPEAKER: Joseph Resta**, Project Executive, Pennsylvania Convention Center Authority

**ALL RESERVATIONS SHOULD BE MADE THROUGH THE SAME PHILADELPHIA POST WEBSITE, [www.samephiladelphiaipost.org](http://www.samephiladelphiaipost.org).** No reservations will be accepted through the ASCE, Phila. Section. Dinner cost is \$45 per person, with specific discounts as noted on the website. Attendees are welcome to bring a **Toys for Tots** item to the meeting for SAME's donation to the Marine Corps.

**We strongly suggest you reserve a space if you intend to attend this meeting. Please note there are seven societies co-sponsoring this event and a large crowd is expected. Attendees are welcome to attend the meeting after dinner at no charge as they desire, and we anticipate that those who arrive without reservations will not be accommodated for dinner.**

The \$786 million expansion of the Pennsylvania Convention Center is well underway. It is the largest single public works project in the history of the Commonwealth of Pennsylvania and will add nearly one million square feet to the existing facility in Center City. The presentation will

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**JANUARY JOINT DINNER MEETING**

Philadelphia Section, American Society of Civil Engineers  
 Reading Branch, American Society of Civil Engineers  
 Delaware Valley Section, American Society of Highway Engineers

**WEDNESDAY, JANUARY 20, 2010**

**Radisson Hotel, Valley Forge** • 1st Avenue and Gulph Road, Valley Forge, PA  
 Cocktails 6:00 PM • Dinner 7:00 PM • Meeting 8:00 PM

*Information on the speaker and topic will be provided in the January edition of THE NEWS.*

**RESERVATIONS MUST BE MADE THROUGH DELAWARE VALLEY SECTION, ASHE. The Philadelphia Section will NOT be accepting any reservations for this meeting.** Payment for reservations must be received at ASHE by the **January 15** deadline. Those who reserve past this date and walk-ins will be charged the higher rate. **COST** \$30 before January 15 (\$20 for government employees), \$35 January 16 and after, and at the door.

Walk-ins will be subject to acceptance on a space-available basis. **THERE IS NO GUARANTEE THAT SPACE WILL BE AVAILABLE IF YOU DO NOT RESERVE A SPACE.**

Checks for reservations should be sent to **Delaware Valley Section ASHE**, 1500 Walnut Street, Suite 1105, Philadelphia 19102. **Checks should be made to "Delaware Valley Section ASHE."**



## PRESIDENT'S MESSAGE

Congratulations to the Quizzo winners from our November Section meeting! We had a tie between "Reigning Champs" and "Team Technology." This ice breaker was organized by the Social Committee and included questions on engineering and Philadelphia. Did you know that the original plan for art work at 15th and Market Sts. involved a 45 ft long screw? Imagine how many bad puns we avoided by the decision to install Claes Oldenberg's clothespin instead. Keep an eye out for more fun ice breakers and events that the Social

Committee has planned.

Our communications committees — Email, Newsletter, Website, and Public Relations — have also been busy this year. As I mentioned in the last newsletter, one of our main goals for the coming year is to improve our member communications to make them more timely, targeted, and relevant. You may have already noticed some of the positive changes we have made:

- Email — Our emails have a new, more professional look, and are more succinct. When you want more details on a particular event or topic, just click on the event link to our website. We send 1–2 emails per month to the Section email distribution list and have set up separate distribution lists for our technical groups as well. You now have the option, through the website, to subscribe to any of these lists.
- Newsletter — Starting **January 2010**, *THE NEWS* is going digital! If you would still like to receive a mailed copy, please notify us by **December 15** via mail or at [info@asce-philly.org](mailto:info@asce-philly.org). If you have never received an email from us, send us your preferred email address to be added to the distribution list.
- Website — What can I say, check out our new website! It has been completely revamped to be more intuitive and user friendly. More importantly, it is now up-to-date and includes a Google event calendar, newsletter archives, email subscriptions, sponsors' job links, and more. It will soon be ready for online registration!

I hope that you find these changes to be an improvement. In the interest of "good communication," please feel free to tell me what you think and provide additional suggestions ([kbkavanagh@flowscience.com](mailto:kbkavanagh@flowscience.com)). Just remember if you complain too much, you'll get stuck on a committee!

Enjoy these last few weeks of autumn, and hope you had a Happy Thanksgiving!

Kristen Bowman Kavanagh, P.E.  
President, ASCE, Philadelphia Section

## DECEMBER DINNER MEETING

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include an explanation of the overall expansion program, unique/interesting aspects of this large-scale project including design, property acquisition, demolition and construction phases along with an overall update of progress to date.

Representatives of the various project elements and specialties will assist Mr. Resta in the technical portions of the presentation.

Mr. Resta is the Project Executive at the Pennsylvania Convention Center Authority (PCCA). Prior to his appointment as Project Executive for the Expansion Project, he served as the Deputy Secretary for Public Works, in the Department of General Services, for the Commonwealth of Pennsylvania. In this role, he was responsible for the Public Works Deputate, which manages the Department's over 400 Capital and Agency funded public works projects, worth approximately \$1.5 billion dollars. He has over 20 years of project management and governmental experience.

Mr. Resta is a life-long resident of the Philadelphia region, currently residing in Langhorne with his wife Rae Ann and three of his four children. He received his Bachelor's Degree in Political Science from Temple University in Philadelphia and has previously served as a member on the PENNDOT Consultant Selection Committee and State Registration Board for Professional Engineers, Land Surveyors and Geologists.

## ALMOST "D" DAY — WE'RE GOING "D"IGITAL!

The rumors are true — *THE NEWS* will be going digital shortly. This may be the last hard-copy you receive (consider it a collector's item!).

Starting with the next (January) edition of *THE NEWS*, we begin our e-mail process. Unless you have specifically asked that a hard copy be sent to you, you will not be receiving this in the future.

We've bored you with the numbers on postage and printing over the last few editions, but now it's coming! **If we do not have your preferred e-mail address or your request to continue to receive hard copy, you may not be seeing *THE NEWS* after this one.**

If you would like to continue receiving a hard copy in addition to or in place of the e-mailed version, please notify us at [info@asce-philly.org](mailto:info@asce-philly.org) or via mail to our address at the Engineers' Club by **December 15**.

As we noted last month, one significant benefit of this change is that you will be getting a January edition of *THE NEWS* for the first time in our memory. The switch to digital makes it more economical to produce an additional issue of *THE NEWS*, thus we will be having separate editions for December and January. This will better allow us to get you the most up-to-date information for your planning purposes, as well as having us not give you our holiday greetings right after Thanksgiving (what are we, a department store?). *Happy reading!*

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1500 Kennedy Blvd., 2 Penn Center, Suite 200  
Philadelphia, PA 19102  
(215) 854-6445  
[kbkavanagh@flowscience.com](mailto:kbkavanagh@flowscience.com)

### Secretary — AnnMarie L. Vigilante, P.E.

Project Manager  
Langan Engineering & Environmental Services  
P.O. Box 1569  
Doylestown, PA 18901-0219  
(215) 491-6500  
[avigilante@langan.com](mailto:avigilante@langan.com)

### PUBLICATIONS COMMITTEE

#### Editor of *THE NEWS*

Robert Wright

#### Staff Writers

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#### SEND COPY TO:

ASCE, c/o Engineers' Club of Philadelphia  
215 S. 16th Street, Suite 16  
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**COPY DEADLINE FOR  
JANUARY '10 ISSUE  
DECEMBER 31, 2009**

## TECHNICAL GROUPS/CHAIRS

Information on the ASCE, Philadelphia Section's Technical Groups is given below. Director **Keith Yamatani** will be coordinating activities of the Groups. If you have any topics that you think would be of interest to the Groups, please feel free to pass this information along to the appropriate Group Chair.

### CONSTRUCTION

Dennis MacBride  
SEPTA  
1234 Market Street, 12th Floor  
Philadelphia, PA 19107-3780  
215-580-3404  
dmacbride@septa.org

### DELAWARE VALLEY GEOINSTITUTE

Ara G. Mouradian  
Gannett Fleming, Inc.  
1010 Adams Avenue  
Audubon, PA 19403  
610-650-8101  
amouradian@gfnet.com

### ENGINEERING MANAGEMENT

William J. Mulloy  
US Army Corps of Engineers  
Wanamaker Building, 7th Floor  
100 Penn Square East  
Philadelphia, PA 19107-3390  
215-656-6583  
William.J.Mulloy@usace.army.mil

### ENVIRONMENTAL and WATER RESOURCES

Eve D'Onofrio  
E S Design LLC  
128 Regency Dr  
Norristown, PA 19403-1755  
610-630-1660  
edonofrio@esdesignllc.com

### STRUCTURAL

Dr. Mohiuddin Ali Khan  
JMT Inc.  
1300 Rt. 73 South, Suite 313  
Mt. Laurel, NJ 08054  
856-778-5517  
mohidin@temple.edu

### TRANSPORTATION and URBAN DEVELOPMENT

William T. Thomsen  
Urban Engineers, Inc.  
530 Walnut Street, 14th Floor  
Philadelphia, PA 19106  
215-922-8080  
wtthomsen@urbanengineers.com

**Personally, I am always ready to learn, although I do not always like being taught.**

— *Winston Churchill*

## HAVE SOME CLOTHES YOU DON'T NEED?

### SUPPORT THE CAREER WARDROBE

The **Career Wardrobe** is the nation's largest community-based nonprofit organization dedicated to assisting women in their transition to work by providing professional attire, networking and career skills training. Since 1994, it has helped over 60,000 women with your support. The Career Wardrobe accepts most business clothing, "Casual Friday" apparel, uniforms and accessories, and donations are tax-deductible.

Donations should arrive ready-to-wear, clean, on hangers, all buttons, working zippers, no tears or stains.

Items not used for client programming will be donated to other nonprofit organizations or sold at **The Wardrobe Boutique**, a recycled clothing boutique to benefit The Career Wardrobe's programs.

Donations can be dropped off at The Career Wardrobe, 1211 Chestnut Street. General donation hours are Monday through Friday from 10 AM to 4 PM. Please call the office at (215) 568-6693 to verify that it is open prior to your drop-off.

Donations are also accepted at The Wardrobe Boutique, 1822 Spring Garden Street, 2nd Floor; (215) 568-2660; on Tuesdays through Fridays from 11 AM to 6 PM and Saturdays from 10 AM to 4 PM.

Other drop-off locations are available in East Falls, Haverford and Jenkintown, during limited hours. Please call The Career Wardrobe for more information on these locations.

## HEC-RAS CONTINUING EDUCATION COURSE

Learn how to use the HEC-RAS program for basic open channel flow analysis. Course topics include: water surface profiles, bridge and culvert hydraulics, multiple opening analysis, and bridge scour computations.

**WHEN: January 11–13, 2010**

(Monday through Wednesday)

**WHERE: The College of New Jersey,**  
Ewing, NJ

Contact **Dr. Michael Horst** directly for course price and registration at (814) 571-5607, or [horst@tcnj.edu](mailto:horst@tcnj.edu). Register before **December 1, 2009** or register three or more people from the same organization to receive a discounted rate.

Please visit <http://www.tcnj.edu/~horst/conned.htm> for specific details about the course including a complete course agenda, information about the instructor, course materials, and directions to The College of New Jersey.

## UPDATE ON PROFESSIONAL DEVELOPMENT REQUIREMENTS IN PENNSYLVANIA

As you may be aware (and as previously reported in *THE NEWS*), Professional Engineers, Land Surveyors and Geologists in Pennsylvania are required to obtain continued professional development (CPD) credit to renew their licenses in 2011. This is effective as of **October 1, 2009**.

Exactly how this is to be done is still up in the air as the enabling legislation has not been passed by the Senate as of presstime. It has certainly been the topic of considerable confusion, with one law from 2006 already "on the books" and the status of subsequent modifying legislation still in limbo.

While we await the regulations and requirements, the ASCE, Phila. Section is poised to help our members meet the continuing education requirements. Our meeting program, both the main Section events as well as Technical Group and Younger Member Forum sessions, is generally "countable" for this purpose as long as the subject is technical in nature.

Also, please keep in mind that our meeting program DOES satisfy the CPD requirements of other states in which many of you have registration. Thus, we are hopeful that our efforts in the providing, monitoring and issuing of "countable" PDH's are useful for those purposes while we await Pennsylvania's direction.

We are also supporting the Pennsylvania Society of Professional Engineers' (PSPE) effort to let our elected officials know that we need their assistance on this. House Bill 975, which has been passed by the House last summer, is in Senate committee at this time. We would suggest you contact your Senator and urge that he/she take action on this bill. PSPE has a sample letter in the Legislative Action Center section of its website ([www.pspe.org](http://www.pspe.org)) that can be used in this regard. Please take action and help yourself and your profession.

We will continue to provide updates and information on this important topic as developments occur.

## CHECK OUT OUR REVAMPED WEBSITE

Expect some surprises if you haven't been to our website ([www.asce-philly.org](http://www.asce-philly.org)) lately. And, even if you've visited recently, we invite you to take a peek at our revamped and updated site!

We've added some new features and rearranged others to make it easier to navigate and get to specific topics, areas and segments. Links are provided for more information and direct e-mails to Section officers and Board members, and we've provided some background and biographical information on our officers for your knowledge. We are continuing to refine ways to allow members to register on-line for meetings and events.

We invite you to peruse the improved website and send us your feedback.

## FUEL THE FIRE: DON'T BURN OUT

(This article is reprinted from Civil Connection [www.cenews.com], where it appeared on October 20. Thanks to the author for his permission to reprint it here.)  
By Jason Burke, P.E.

Last month, we discussed some of the factors affecting the attraction of young people to Engineering, Math, and Science. This perennial issue seems to have as many solutions as there are practicing Engineers. Existing programs, such as the West Point Bridge Design contest and ASCEville.com are intended to address youth directly and provide hands-on educational opportunities. But in most cases, such programs depend on the active participation of practicing Engineers — many of whom have difficulty finding the time or motivation to volunteer. Are today's engineers ready to accept the personal responsibility to develop the next generation, or are we ever more dependent on universities to provide the foundations upon which we then may build? And what of the subsequent laments that such schools do not adequately prepare graduates to enter the workforce?

Rather than address this as an external problem, it may serve us well to look inward. I am reminded of Capt. Chesley Sullenberger's statements during his Congressional testimony shortly after his historic ditching in the Hudson River. While Engineers as a group may not share the financial distress or corporate politics plaguing today's airline industry, his words strike a familiar tone:

"I do not know a single professional airline pilot who wants his or her children to follow in their footsteps. I am worried that the [profession] will not be able to continue to attract the best and the brightest. The current experience and skills of our country's professional airline pilots come from investments made years ago, when we were able to attract the ambitious, talented people who now frequently seek professional careers elsewhere. That past investment was an indispensable element in our commercial aviation infrastructure, vital to safe air travel and our country's economy and security."

Somehow, the once-glamorous aviation industry faces the same shortages and challenges as Engineering. Sullenberger has a unique forum for expressing this concern, but it nevertheless affects us all. I speculate that he and other pilots would and do encourage their own children to fly for pleasure as private pilots, and would promote the airlines were it not for the various trials that come with them. In other words, it is not the job itself that is discouraging, it is the political, emotional, and business baggage that breed conflict, stress, and depression — in short, there may be only a few fortunate souls that still find aviation — and by analogy, Engineering — fun.

Again, Dr. John Medina provides some biological background for this phenomenon. Last time, I mentioned that learning and memory are affected by experiences that attract and hold

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## NOVEMBER DINNER MEETING

November 12, 2009

The Down Town Club, Center City Philadelphia

### ASCE Infrastructure Report Card

by Robert Wright, Editor

Report cards are funny things. Good ones get pats on the back, "attaboys," and sometimes even more. Bad ones get "lost" on the way home from school or eaten by the same dog that eats homework (and probably contributed to the bad grades in the process). On a rainy fall evening, roughly 50 folks came out to hear about someone's bad report card that a dog didn't eat, i.e. ASCE's report card. And, unfortunately, the someone who got the bad grades was the collective "us."

Attendees were welcomed by **ASCE, Phila. President Kristen Bowman Kavanagh** and the meal was blessed by **Past President Ruben David**. Because of the speaker's schedule, the usual announcements were dispensed until after the presentation.

The featured college of the evening, **Swarthmore College**, was represented by Faculty Advisor (and Past Section President) **Faruq Siddiqui**, who brought **Student Chapter Co-President Travis Rothbloom** to the podium to update all on what's happening at the Chapter. A loyal contingent of students and alumni helped carry the College's "banner."

**Younger Member Forum President Cathy Farrell** introduced the featured speaker, **Andrew Herrmann**, Partner of Hardesty & Hanover LLC. He is also the current ASCE National Treasurer and will be a candidate for National President-Elect in 2010.

#### The Report Card

Mr. Herrmann noted that there have been four Report Cards issued, the first one in 1998. The idea started with a congressional committee in 1988. At the time the overall grade was C, so we have indeed regressed to the D we have today.

Mr. Herrmann showed a video produced by National which details how our infrastructure investment compares with others. While we spend roughly 2.4% of our gross domestic product on the built environment, China and most European countries typically are in the 5% range. We tend to take this for granted until there is a national emergency such as the I-35W bridge collapse in Minnesota in 2007, which forces the issue back into the spotlight.

The Report Card covers 15 categories in four sub-areas — water/environmental, transportation, public facilities and energy. The last effort resulted in an overall grade of D, with an estimate that \$2.2 trillion (with a T!) would be needed to raise the grade to B. This would cover only the necessary upgrades and repairs to address noted deficiencies, and would not include capacity enhancements despite the demonstrated need for this in reaction to growth.

#### Facts and Figures

Mr. Herrmann touched on a number of areas. Drinking water systems have an \$11 billion shortfall. Levees are among the most vulnerable

areas. The Federal Aviation Administration predicts an annual 3% growth in air traffic despite the currently lower demand generated by the recession. Time spent in congested traffic has an estimated value of over \$78 billion (or \$710 per motorist) annually. Over one-fourth (26%) of highway bridges are either structurally deficient or functionally obsolete. The National Park Service has a \$700 billion backlog for maintenance as it approaches its 100th anniversary in 2016.

No comprehensive or authoritative data on schools has been collected in over 10 years, and the coming update will include grades on them. As might be expected, the news is not good in this area and is a particular sore point since education is seen as a key tool to help us with our task (i.e. creating more interest in students entering the Engineering and technical fields).

Mr. Herrmann compared the accomplishments of 100 years ago in various areas that greatly improved conditions and the quality of life for the population at that time. The raised standard of living and enhanced economy were direct results of these advancements. He noted that we need to think in these terms as we attempt to improve our infrastructure.

#### How Do We Get Out of This Hole?

Like many things, inaction has put us in the current situation, thus we need to be proactive. Mr. Herrmann explained that the recommended 5-year investment needs of \$2.2 trillion include \$930 billion for roads and bridges, \$87 billion for aviation, and \$50 billion for waterways. Even with the "stimulus" created in the American Recovery and Reinvestment Act (ARRA), the 5-year gap remains at \$1.1 trillion, so only half of the need is addressed. A calculation prepared by the California Department of Transportation (CalTrans) indicates that every \$1 expenditure on maintenance translates into a \$16 savings in capital outlay.

Mr. Herrmann concluded that there are five key solutions to the problem:

- Increased federal leadership — the federal government must lead by example.
- Promote sustainability/resilience — we need to be able to maintain what we build.
- Develop national, state and regional plans — there needs to be a consistent and accurate approach.
- Address life-cycle costs.
- Increase and improve investment.

Mr. Herrmann noted that individuals can take action now through joining **ASCE's Key Contact Program** and can visit the website [www.infrastructurereportcard.org](http://www.infrastructurereportcard.org) for more information and ways to get involved.

A short question/answer period followed.

President Bowman Kavanagh thanked Mr. Herrmann for his insightful and informative

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## REGION 2 COLUMN

*Some words from your Local Governor, Christopher J. Menna*

### REGION 2 HOSTS A NEW AND IMPROVED ASSEMBLY

On October 10, the **Region 2 Board of Governors** hosted its **Annual Assembly** at the Crowne Plaza Hotel in Harrisburg, PA. Some 45 ASCE members attended, with representation from all Sections, YMGs, and some of the Student Chapters. After months of planning, this Assembly was envisioned to be like no other. The goals of this Assembly were to increase attendance, create a fully supported, full-day program, update Regional contact information and focus in on a unified theme. In doing this, all R2 Governors as well as its YMF Representative participated and helped to energize the day's activities.

Overall meeting logistics were managed by **Governor Don Vannoy**, while **Governor Greg Scott** handled the communications and the schedule. A full-day program was created with facilitation being performed by all R2 Governors and some invited ASCE support staff. Just like at the National level, this Assembly had three specific leadership tracks — Student, YMG, and Section. Each track met on its own during parts of the day and then reconvened at specific times. Everyone was together during registration, lunch, and the late afternoon session.

While the Assembly did touch on popular issues such as ethics, membership benefits, and ASCE resources, the underlying theme selected was student interaction at all levels of ASCE. This theme was selected for several reasons. It was an outcome based on several recent reports prepared by **Governor Chris Menna** for the Region. There was also the realization that the students are the future of ASCE and retaining them for life is of the utmost concern. Lastly, the fact that there were so many inconsistencies with accurate Student Chapter and advisor information further strengthened our cause.

The success of this Assembly can also be traced to a few key items built into the planning. The Assembly was to be held at a location central to the Region. Each Governor was assigned several student chapters to contact on a regular basis, in the hopes of encouraging attendance. A \$200 reimbursement allotment was made available to all student chapters that attended. In addition, the entire registration fee covering all logistics and food was paid for by the Region for those that attended. This was the largest financial commitment example to date made by the Region, as a way to provide value back to the membership.

While the Governors are preparing a summary report and debriefing as a way to improve for the next time, two reoccurring items are noted: the Region must ever be vigilant to maintain and update all student chapter officer, faculty advisor, and practitioner advisor contact information and the Region needs to determine a way to measure the effectiveness of its member advisors. In fact, one outcome may be for the Region to suggest a yearly advisor form to ASCE National. Currently, there is no such reporting available.

In sum, the R2 BOG has much to be proud of. They worked very hard to try to take a yearly meeting to the next level. In doing so, it learned a lot and opened the eyes of many to the world of ASCE.

## DON'T BURN OUT

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our attention. There is another, more insidious, aspect of modern work that has just as significant an impact on our ability to learn and adapt. Medina states that "the perfect storm of occupational stress appears to be a combination of two malignant facts: a) a great deal is expected of you, and b) you have no control over whether you will perform well." Both of these are present to some degree in every workplace, but especially those of young graduates still learning the ropes and identifying organizational boundaries. Even worse, however, is the potential cycle of passionless, rote problem-solving.

Simply stated, if the industry does expect much from its young Engineer interns without providing them the tools with which to succeed — whether through school or work — we not only harm them individually, but cut ties to those who will follow them in the future. This occupational stress not only reduces efficiency and problem-solving skills on the job, but saps the passion needed to encourage anyone else to

enter the profession in the first place. If we are unable to keep our own jobs interesting and fuel the fire that got us into the industry, bridge contests and pamphlets will never make up the shortfall. As one of my ever-cheerful colleagues would often retort to almost any workplace conflict, "You have to love your job."

**Jason Burke, P.E.**, is a project manager in Billings, Montana. Find additional information at <http://pmug.wordpress.com>.

## NOVEMBER DINNER MEETING

*Continued from page 4*

presentation and made several announcements. During dinner, attendees were encouraged to participate in a "quizzo" contest, with those at each table forming a team, and the contest winners were cited and handsomely rewarded for their efforts.

## LOCAL WOMEN ENGINEERS LEADING THE PROFESSION

It's no coincidence the three largest Professional Transportation Engineering Societies in the Greater Philadelphia area are chaired by women. These three women believe that it is due to the increased participation of women in leadership positions within the profession. While the Engineering profession remains dominated by males, there has definitely been a shift in the industry as the newer generations of Engineers see women in the profession as the new norm and not as an exception. We have seen this trend particularly in the Civil Engineering field.

With these women in leadership positions, it shows young women that they too can be in leadership positions and that skills other than technical math, science and Engineering are required to succeed in the business world; they can be used to enhance one's career. It was not until recently that the number of women reached a critical mass in the Transportation Engineering profession, and also that women were high enough in their respective organizations to reach the top.

**Karen Jehanian, P.E.**, President of KMJ Consulting, Inc, located in Haverford, and President of the Intelligent Transportation Society of Pennsylvania, believes her high position sends a strong message that doors are open for women. "There are plenty of opportunities for a person with the will and desire to move ahead," said Jehanian.

**Jennifer Walsh, P.E.**, President of the Mid-Atlantic Section of the Institute of Transportation Engineers (MASITE), and a Director of our Section, suggests that young women involve themselves in professional societies, which will in turn help them learn many of the skills that they will need to succeed in their day-to-day jobs. Walsh also believes it will only get easier over time for women to overcome a "minority" status, while more women pursue Engineering as a career. Walsh is a Senior Project Manager at McMahon Associates, Inc. in Fort Washington.

Our own Section President, **Kristen Bowman Kavanagh, P.E.**, Vice President of Flow Science Incorporated, located in Philadelphia says that the women involved in leadership roles are very encouraging and supportive of younger women, which allows them to clearly see a path for them to become successful and respected Engineers.

All three women strongly encourage young professional women to stand out and become more involved not only in their field of choice, but in their professional societies as well. As seen through the accomplishments of the women mentioned above, it is a high possibility it will pay off in the long run.

Thanks to **Debbie Andrews** and **Courtney Haran** of Marketri LLC for this article.

**The world is full of willing people;  
some willing to work,  
the rest willing to let them.**

— Robert Frost

# ANACE\*

## For All You Pinball Wizards...

If you're of a certain age (probably over 40), you remember one distraction that existed before video games that likely took a good chunk of your allowance, lunch money, etc. It was the game of pinball.

Recently, *Popular Mechanics* presented an overview and interesting facts on pinball, a game that has virtually disappeared from arcades and other places (much to the chagrin of those of us who invested a lot of their misspent youth in front of these machines!). Before the last of these finds its way to a special section of the *Smithsonian*, we present this for your enjoyment and possible reminiscing.

It all started in 1871 when British inventor Montague Redgrave was granted US Patent #115,357 for his "Improvements in Bagatelle." Bagatelle was an older game that used a table and balls. Redgrave modified this by adding a coiled spring and a plunger, making the game smaller, replacing the large bagatelle balls with marbles, and adding the inclined playfield.

Pinball machines first appeared in large numbers during the early 1930's as countertop machines. Stand-alone versions with their own legs soon followed. The term "pinball" itself as a name for the arcade game was not seen until 1936. (In many places they were called "marble machines".)

The first battery operated versions appeared in 1933. A year later, machines were redesigned to be used with electrical outlets allowing for new types of sounds, music, lights, lighted backglass, and other features. The tilt mechanism also came along at this time as a direct answer to the problem of players physically lifting and shaking the games. (There were no flippers — this innovation debuted in 1947 in response to complaints about players needing more control of the ball.)

The first games with bumpers came out in 1937. In the 1950's the first two-player games were introduced. Digital scoreboards, in place of the usual rotating numbers, were first seen in 1966. In the 1970's solid-state electronics began to replace the electromechanical operation of machines. Video screens were added in the 1990's.

For some reason, pinball has always had a bit of a seedy reputation. It was banned from the early 1940s to the mid-1970s in most of America's big cities, including New York, Los Angeles and Chicago. (Strangely enough, solidly conservative Philadelphia had no problem with pinball.) The basis of this ban was that pinball was a game of chance, not skill, and so it was a form of gambling.

The machines robbed the "pockets of school children in the form of nickels and dimes given them as lunch money," New York Mayor Fiorello LaGuardia wrote in a Supreme Court affidavit. (Wonder if that's where your Editor's mother got her opinions on it...?) He led massive Prohibition-style raids in the 1940's in which thousands of machines were rounded up in a matter of days, destroyed with sledgehammers, and dumped in the city's rivers.

Of course, being illegal does not mean pinball disappeared — it merely moved behind curtains to the less-than-reputable establishments, which hardly enhanced the game's standing. Consequently, it became a symbol of youth and rebellion. Many movies and TV shows in the 1950's and 1960's prominently showed pinball machines in scenes that would portray a particular character as a rebel. Very often, this same character would be playing pinball and invariably would be good at it.

New York City overturned its pinball ban in 1976, encouraged by lobbying from the coin-operated amusement industry. This effort succeeded only after the lobby could prove that pinball was a game that required more skill than luck, and thus should be legal. To do this, they decided to call in the best player they could find in order to demonstrate his pinball wizardry. They trotted out a 26-year-old magazine editor who showed off his skills and talents which enabled him to score high (even though, in a bit of an "oops" by the lobbyists, the game brought to the demonstration was brand new and no one, not even the "wizard", had played it before).

Even with that, the machines became "legal", but free games were not permitted. As those of you who have played know, achieving a certain point total or matching the last two digits of your score with the random number selected when your game is over gets you a free game. (So you're starting to see where your Editor spent a good deal of his "lunch" money...) New York viewed this as gambling and kept the ban on free games in place.

Up until several years ago, in Nashville, children under the age of 18 could neither play a pinball machine nor stand within 10 feet of one. Closer to home, it remains illegal to play pinball on Sundays in nearby Ocean City.

Thanks to *Popular Mechanics* for much of this information.

\*ANACE — *Absolutely Nothing About or Concerning Engineering*

## STUFF IN THE NEWS

### Happy Birthday, Tunnel!

You may recall November 10, 1984 as a significant day in the history of transit in Philadelphia. On that day, the Center City Commuter Rail Connection (also known as the Tunnel) was fully opened for service. The \$330 million Tunnel linked the former Pennsylvania/Penn Central Railroad and Reading Company commuter trains, now operated by SEPTA, into a single network. This year marks the 25th anniversary of the Tunnel (doesn't seem that long, does it?).

The Tunnel went on to be recognized as ASCE's Outstanding Civil Engineering Achievement (OCEA) in 1985. The plaque commemorating this is in west end of the mezzanine area next to the exit to the former Reading Terminal stairways.

Some will argue that the Tunnel actually opened to the public on June 7, 1984, when

## YOUNGER MEMBER FORUM NEWS

*Lindsey Glavin*, Forum Editor

*Cathy G. Farrell*, Forum President 2009-10

Michael Baker Jr., Inc.

201 Gibraltar Road, Suite 120

Horsham, PA 19044

215-442-5316

cfarrell@mbakercorp.com

### "Learn to Be an Effective Networker" Presentation

On November 12, the Younger Member Forum sponsored a presentation titled "Learn to Be an Effective Networker," given by Samantha Safara, Marketing Coordinator from Michael Baker, Inc. The event was well attended and included a presentation on how to break the ice in unfamiliar territory and everything from proper attire to the initial handshake to help attendees understand that appearance and mannerisms are crucial aspects of networking opportunities. The YMF would like to thank Samantha for taking time to teach us these very valuable and often overlooked ideas.

### Pennsylvania Convention Center Expansion Construction Tour

On October 28, YMF conducted a construction tour of the Pennsylvania Convention Center expansion project. A complete walkthrough of the building was provided along with in depth information on the architecture, structure, and construction facilitation aspects. The event was a success with a fully booked turnout of ASCE members ranging in ages from students to working professional. Immediately following the tour was a happy hour social at the Fieldhouse Bar & Restaurant, in which complimentary snacks were provided, sponsored by ASCE.

### In the Planning Stages...

YMF is currently in the process of planning some exciting events such as a tour of the PennDOT District 6-0 Traffic Management Center (with Happy Hour to follow), Engineers Week-Young Engineer Social, and our annual YMF Winter Social to be held on January 25. Check out our events page at [www.ymfphilly.org](http://www.ymfphilly.org) for more details!

trains on the Paoli and Chestnut Hill (now Chestnut Hill West) lines of the former-PRR/PC operation were extended from Suburban Station to Market East, but these trains did not use the full extent of the Tunnel.

**Success is to be measured not so much by the position that one has reached in life as by the obstacles which he has overcome while trying to succeed.**

—Booker T. Washington

**ENGINEERS WEEK COMIN' UP!**

As a reminder, **Engineers Week** in the Delaware Valley will be celebrated **February 12-20**. The Delaware Valley Engineers Week Committee has planned the following events to celebrate Engineers Week. Please note this information in your calendar and plan to participate accordingly.

**Awards and Proclamation Luncheon — Friday, February 12, 12 Noon, Loews Hotel (12th & Market Streets, Center City)**

The Luncheon will include a poster session with presentation of student paper winners (starting at 10 AM). Scholarships and Awards will be featured and Engineers Week proclamations will be displayed. The Engineer of the Year and Young Engineer of the Year will make brief remarks.

**Young Engineer Social Event —**

**Monday, February 15, 5:30 PM**, location to be announced

This will be a happy-hour type event. The Young Engineer of the Year will make brief remarks.

**Celebration of Engineering Gala — Saturday, February 20, 6 PM, Chemical Heritage Foundation (315 Chestnut Street, Center City)**

The culminating event of Engineers Week will be a social/networking gala event to celebrate Engineering, featuring cocktails, appetizer stations, and dessert stations. Award recipients will be honored with posters/exhibits/ running PowerPoint in the networking area. Future City Competition Regional winners will display their first place model. The Engineer of the Year and Young Engineer of the Year will provide brief remarks, followed by a brief recognition of the Hall of Fame, Outstanding Service, and Engineering Achievement award recipients.

More information will be provided on price, location, and other details in the coming months. Please visit [www.dvewc.org](http://www.dvewc.org) for up-to-date announcements.

Additionally, while not officially an Engineers Week event, the **Philadelphia Future City Competition** will be conducted on **Saturday, January 23** at the **Sheet Metal Workers Hall** in South Philadelphia. This will mark 15 years of the competition in our area. Mentoring opportunities are available now and many volunteers will be needed the day of the competition.


As always, volunteers are needed! If you are interested in volunteering for one of the many activities of Engineers Week, please contact **Mike McAtee, P. E.**, Committee Senior Vice Chair, at (215) 922-8081, ext. 2622, or at [mjmcaatee@urbanengineers.com](mailto:mjmcaatee@urbanengineers.com).

**Inspiration never arrived when you were searching for it.**

— Lisa Alther



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President

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