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99th PES Annual Awards Banquet

The Providence Engineering Society will hold its Annual Awards Banquet on Thursday, February 8, 2018 at the Providence Biltmore Hotel. The Banquet, which is the Society's flagship social event, affords members, affiliates and friends the opportunity to reacquaint, celebrate our profession and recognize the exemplary performance of some of the industry's finest professionals. Scholarship awards are also given to deserving students pursuing careers in engineering or related technical fields. This years award recipients are:

Freeman Award – Steven M. Cabral, PE
RISPE's Engineer of the Year - Kevin M. Aguiar, PE
PES Frederick A. Burnham College Scholarship Awards
- Julie Penn - Benjamin Gershman
- Jack Felag - Bradley Bzdyra
Ronald C. Jalbert Scholarship Award - Aly Fairbrother

The Providence Engineering Society's prestigious Freeman Award is presented to an individual that has demonstrated engineering excellence and advanced the engineering profession throughout their career. This year, the Society is proud to present the Freeman Award to Steven M. Cabral, PE. Steve has served as president of Crossman Engineering since 1999. He started with the firm in 1983 and was elevated to a Principal in 1987. Steve is heavily involved in the professional engineering community and he is currently serving his second term on the Board of Directors of the RI Chapter of the American Council of Engineering Companies.

The guest speaker for the evening will be Michael J. Knipper, Executive Vice President, Head of Property at CitizensBank. Mr. Knipper, who has been employed by Citizens Bank since 2013, is leading the development project for Citizens' new, 420,000 square-foot campus in Johnston, RI. The new campus will provide office space for over 3,200 employees.



Michael J. Knipper

The cocktail hour, which begins at 5:30 p.m., offers an excellent opportunity to meet friends and colleagues, both old and new alike. Hot hors d'oeuvres will be served. Dinner will be served promptly at 7:00 p.m. Dinner choices include: grilled NY sirloin steak, chicken Francaise or Roasted Atlantic Salmon.

Tickets are available at \$65 per person for members and corporate sponsors of the Society and \$75 per person for non-members. Contact Todd Brayton (401) 834-1063 or by e-mail at tbrayton@bryant-engrs.com for reservations. ■

Editor's Note:

Letters, story ideas, and material are welcomed and encouraged. If you have an opinion, press release, or story that you feel is worth sharing, forward it to Steve Richtarik via fax at (401) 333-9225; mail to: BETA Group, Inc., 6 Blackstone Valley Place, Lincoln, RI 02865; or Email via srichtarik@beta-inc.com.

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The Providence Engineering Society is the oldest professional engineering society in the United States. To become a member, or to find out more about the Society, please visit our website at www.provengsociety.com or e-mail Chris Cronin at: ccronin@beta-inc.com to obtain an application.

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RI ITE - RI Chapter of the Institute of Transportation Engineers (www.ri-ite.org)

RISPE - Rhode Island Society of Professional Engineers - (www.nspe.org)

RISPLS - Rhode Island Society of Professional Land Surveyors - (www.rispls.org)

SAME - Society of American Military Engineers (www.same.org)

WTS - Women's Transportation Seminar - Rhode Island (www.wtsinternational.org)

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New Member Spotlight

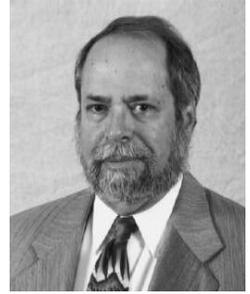


Merve Iplikcioglu Kirtan is a project manager and structural engineer at Steere Engineering located in Warwick, RI. She has been with the company since 2012. Merve joined the Providence Engineering Society in May 2017 and immediately took a position on the Board of Directors, where she serves as Secretary.

Merve has a Master's degree from Tufts University. While at Tufts, she was involved with the "Whatever Happened to Long-Term Bridge Design" NSF-PFI research project. Her experience includes bridge load rating, bridge inspection, bridge design, and dynamic and static 3D finite element analysis of bridges. Her background also includes bridge instrumentation, non-destructive load testing for bridges, and load rating using non-destructive test data. Outside of work, Merve enjoys spending time with her family, photography, and traveling.

Larry's Corner

*By L. Robert Smith, PE, F.ASCE, F.NSPE
Past President, Providence Engineering Society*



Forensic Engineering - Part 2

In the previous installment of "Larry's Corner", I set the premise for a law suit where a contractor sued an engineer and a local equipment supplier for infiltration chambers that structurally failed on a project site. These chambers had also failed in numerous other installations causing the manufacturer to file for Chapter 7 bankruptcy and subsequently, all claims against them were dismissed by the bankruptcy court. The equipment supplier settled on their end for \$250,000. The contractor, who had been previously notified by the manufacturer's insurer that the insurance would pay for the repair/replacement of the units and cover other damages to the full legal exposure of the manufacturer, was now without recourse for payment. Here is what transpired during the trial:

The Trial:

My role was to testify as to standard of care on behalf of the engineer. It was and still is my belief that an engineer has the right to depend on the test results certified by another engineer for a manufacturer. Of course the contractor brought in their own engineering expert from a big Boston firm. He testified that an engineer should purchase the product and perform a test installation for themselves. The design engineer should also have sections cut from the units and the arches and have them tested by an independent testing lab. Their expert on direct testimony made the following statement, "Any engineer worth his salt could do calculations on the back of an envelope in fewer than two minutes and determine that this arch would fail!" While he was on direct testimony we came up to the morning break. In the hallway, I met with two engineers from the original design firm and their lawyer. I told them what the "expert" had claimed was bull. Formulas for arches were really complicated and usually empirically based. Besides, it was my belief that the problem was caused by material failure as the extra arch piece had likely formed a plastic hinge under the loading and had given way. The units which it was supporting were now unsupported on one side and collapsed. To do the calculations, one would need to know all the physical properties of the HDPE material from which they were molded. I told the lawyer to challenge him to do the calculations in under two minutes and even provide him with a full piece of paper and not just the back of an envelope on which to work. I explained my reasoning and the two engineers both agreed. The lawyer quoted us the old legal axiom that you should never ask a question to which you do not know the answer. I told him that we knew the answer. He decided to call the president of my company, explained the situation and put me on the line. I explained my reasoning and put on one of the engineers who explained why they agreed with me. The president of the firm told the lawyer to go with my advice.

When it came time for cross examination the lawyer asked their expert if he stuck by his statement that any engineer worth their salt could do the calculations on the back of an envelope in less than two minutes and show that it would fail. Our lawyer asked the judge to have their engineer do the calculations and we would time him to see how long they took. We would even give him a full sheet of paper. The judge said that he would take a short recess and the engineer could do the calculations without the stress of everyone watching him. He sent out the jury and everyone else left the courtroom except for their lawyer and our lawyer. Fifteen minutes later we all went back into the courtroom and our lawyer was grinning

Turn to "Forensics" on Page 4

"Forensics" (continued from page 3)

from ear to ear. Their engineer was not able to solve the problem at all. When he was asked he said that he would actually need a computer. Our lawyer asked him if he would need the material properties of this particular HDPE and from where would he get them if he needed them. Their engineer said that the manufacturer of the units should be able to supply that information. Our lawyer jumped on him and asked why he would be willing to accept the manufacturer's information for some things but not for others. He didn't have a good answer for that question and basically crawled out of the courtroom.

Now it was my turn. On direct I testified that engineers have a right to depend on data supplied by the manufacturer and certified by a professional. If an engineer had to go through the testing procedure described by the other side's engineer for every product they specified, no one would ever specify a new product. It would be time and money consuming and very few clients would be willing to pay for that unless there was a potential for big savings. I felt it would kill innovation. On cross examination the contractor's lawyer went after me but I stuck to my guns. I added that the manufacturer had, up until the added arch, a great reputation. I said, "Cadillac doesn't make a mini-van, but if they did I am sure it would be up to their standards". The original units had a great reputation and engineers felt that the added arches would be to the same standard of quality. Their lawyer then asked me how I could justify using a new technology without going through a litany of tests and exploration. My response was, "It's not a new technology. The Romans used it more than 2,000 years ago to build their aqueducts." The lawyer came charging at me screaming, "They didn't build them out of plastic, did they?" The judge told him to get back behind the podium and that he was taking his actions to be an attempt to intimidate the witness. The judge said, "You asked him a question and he gave you an answer, a darn good answer." The judge told him that he would deal with him after lunch and sent out the jury.

Toys for Tots

PES once again with ASCE RI Younger Member Group hosted a Toys for Tots drive on December 4th, 2017 at Malted Barley in Providence. Despite the snow, approximately 100 members, and friends of the two organizations stopped by and helped brighten the holiday season for children in need.

Attendees who donated generously with gifts for the cause were awarded with a complimentary beverage happily supplied by the hosts. This annual event before the year end is a perfect opportunity to re-connect with friends, and make new acquaintances over a glass of beer and finger foods.

Thank you to all who participated and helped brighten the holiday season for these children! ■



Some of the attendees at the Toys for Tots event

After lunch, before the jury came back in, the judge called the lawyer to the bench. Before the judge could speak, the lawyer said, "Your honor, I don't care what you think of me or my firm, but you made a statement that the witness gave a darn good answer in front of the jury. You prejudiced my client's case." The lawyer kept on in this vain and at some point the judge swiveled his chair around and stared at the wall with his back to the lawyer. The lawyer finally stopped speaking. The judge asked him if he was done and when the lawyer said that he was, the judge swiveled back to face the courtroom and asked the sheriff to bring in the jury. Once the jury was seated the judge spoke to them saying "Counsel for the plaintiff points out that I made a statement in front of the jury that the witness had given him a darn good answer and that by my laying into him in front of the jury I may have prejudiced his client's case. He's right. However, understand that I am a hot headed old Irishman and when I saw how he charged the witness I lost my temper. He is right, though, I should have sent all of you out of the courtroom before I laid in to him, so please don't consider anything I had said in your deliberations." He now turned to the lawyer and told the lawyer, "You may continue counselor, but stay behind the podium." A few more short questions and he rested. The case went to the jury.

The jury came back with a weird decision. Remember, the supply house had settled for \$250,000 and they were capped at that figure, although they were still one of the defendants. The jury found the supply house and the engineer responsible, but only for \$200,000. That amount was to be collected jointly and severally against the two defendants. As the supply company had already paid more than that, the design engineer did not have to pay anything. That is what forensic engineering entails. ■

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Corporate Spotlight

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I-95 Providence Viaduct Replacement



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URI Capstone Project

by: Christopher Duhamel

The Providence Engineering Society is pleased to support the URI Capstone senior civil engineering design course in 2018. The course introduces senior students to a real-world design project to enrich their academic experience with engineering challenges they might encounter after graduation. This year PES provided a cash donation for the purchase of software licenses for the HydroCAD site hydrology analysis program. Department Chair Mayrai Gindy, Ph.D. expressed the universities gratitude stating, "it is with partnerships like this that continue to improve our program and make a direct impact to our students."

The class of 2018 has 38 students tasked with designing the 420,000 sf Citizens Bank Campus that is currently under construction in Johnston, RI. This is a project where many of Rhode Island's engineering firms have participated. The students had the benefit to tour the site with Citizens Bank Executive Vice President Michael Knipper. Mr. Knipper expressed a positive experience working with engineering consultants as well as state and municipal regulators to achieve success. It is hard to believe such a challenging site would be chosen for the students first project, but Instructor John Steere and mentor Len Bradley wouldn't have it any other way!

The most significant impact on the Capstone students is realized from the interaction with mentors from the professional engineering community. We are grateful to those firms and engineers who continue to donate valuable time to the students to bring them professional experience. The firms and mentor contacts that are helping this year include BETA Engineering (Paul Bannon and Kevin Aguiar), Steere Engineering (Joe Cardello, III), Crossman Engineering (Steve Cabral), DiPrete Engineering (Len Bradley), Gordon R. Archibald (Todd Ravenelle), and GZA (Diane Baxter and Russ Morgan). The class is also supported by RIDOT's Office of Stormwater Management (Alicia Richardson) and Waterman Engineer's Mr. L. Robert Smith who lectures on practical engineering design and engineering ethics.

The URI 2018 Capstone class is run with department chair Mayrai Gindy, Ph.D., professor Leon Thiem, Ph.D. and instructors John Steere and Chris Duhamel. For those who wish to participate to mentor the Capstone students, please contact Chris Duhamel at DiPrete Engineering. ■



Len Bradley, P.E., Principal with DiPrete Engineering introducing the URI 2017 Capstone project to the students at the site walk.

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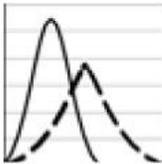


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