The Periodical of the American Academy of Environmental Engineers and Scientists®

Fall 2017 | Volume 53, Number 4

ENVIRONMENTAL ENGINEER & SCIENTIST

Included in this issue:

AAEES Events Roundup
New Officers and Trustees

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Fall 2017 | Volume 53, Number 4

FEATURES

DEPARTMENTS

Postmaster: Please send address changes to AAEES, 147 Old Solomons Island Road, Suite 303, Annapolis, MD 21401.

Environmental Engineer and Scientist (ISSN 2325-842X) is published quarterly by the American Academy of Environmental Engineers and Scientists.

Subscriptions: Member dues are applied, in part, as a subscription to *Environmental Engineer and Scientist*. By way of membership, all members (BCEEs, BCEEMs, BCESs, AAEES Members, and Student Members) are automatically provided digital issues of *Environmental Engineer and Scientist* and must opt in to receive a hard copy (except for Student Members). Additional subscriptions, sold only to those not eligible for AAEES Membership are $20 ($50 outside North America); single copies are $10 ($20 outside North America).

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PRESIDENT'S PAGE

Robert C. Williams, P.E., BCEE

When Do We Think About Water?

WATER. Environmental engineers and scientists often believe we have this topic well at hand. We understand clean water and wastewater, water reuse and recycling, and the necessity to, at times, control water in the environment. Natural disasters like Hurricanes Harvey, Irma, and Maria tend to upset our comfortable feelings. We become, once again, acquainted with the unforgiving power of water.

My family was affected by Hurricane Harvey. Their home in Dickinson, Texas, was flooded as were many in proximity to Dickinson Bayou. They were able to reach safety during the flooding by wading more than 100 yards through chest-deep water. The flooding waters were not at the Bayou's edge or near a creek or river, but several hundred feet inland – normally dry ground. The currents of the flooding waters, that appeared tranquil, were so strong that my brother was nearly swept off his feet as he struggled to get out. Had he not kept his footing, it is likely he and his family would have been forced downstream, to deeper, more treacherous waters. Fortunately, they made it to higher ground and were picked up and taken to a shelter by some of the flotilla of volunteers who came to Dickinson's rescue.

In the aftermath, when able to return home, they and their neighbors faced another struggle – to clean up. I joined them in this effort. As I was driving into the area, the effects of the flood waters were everywhere. Piles of refuse from the flooding were joined by piles, upon piles, of household items, appliances, sheetrock, wood, clothing, toys, etc. The extent of the devastation was vast – hotels in the area were closed, restaurants closed, grocery stores closed, gas stations closed – even us well-meaning out-of-towners could not provide help in many cases because no facilities were available. The disaster was immediately a social, humanitarian and an economic crises, and, obviously, extremely personal to those in the area.

Aftermath of Hurricane Harvey on Dickinson, Texas neighborhood. *Credit: Eric V Overton/Shutterstock*

My family's home was destroyed; the first level had to be completely gutted. Mud and muck was everywhere and, by the second day, the odors were overwhelming. Environmental professionals are generally used to the smells of sewage and decay, but this stench was altogether of another order of magnitude. And the mud and muck were everywhere and into everything. It took more than 10 days and work by dozens of people to carry out the demolition, cleaning, and drying – and much had to be thrown out.

The people of Dickinson are a very resilient lot – many have lived on or near the Bayou for years. They have endured floods before, saying things like "...the water came almost to the house...," but never of this magnitude, nor with this much devastation. Still, they love the area and the life that being on or near the water affords them. But, they will always remember Harvey, and the time the power of water was almost more than they could bear.

Water. By the time you read this editorial, "Imagine a Day Without Water", October 12th, will have passed. Many utilities and companies support this effort to help Americans imagine a day without water; without safe, reliable water and wastewater service. The recent Hurricanes helped our imaginations because, in reality, many were without water and wastewater service in the aftermath. For example, state and federal environmental agencies report Harvey knocked out five drinking-water systems and seven sewage systems in 58 Texas counties. The extent of damage to systems in Puerto Rico is still not fully known, but we do know that thousands of individuals are without drinking water at the tap – even more are without any water at this time.

A wastewater treatment plant in Houston, flooded by Hurricane Harvey. *Credit: DllMSA Researcher/Shutterstock*

Some communities in America already know how impossible it is to try to go a day without our most precious resource. Imagine a Day Without Water 2017 was the third annual day to raise awareness and educate America about the value of water. More than 500 organizations participate each year; several of the Academy's Sponsoring Organizations, Patrons, and members are active participants each year. The program appears to be working.

The Value of Water Campaign reports that the American people are already widely supportive of increased investment in our nation's water infrastructure. Above any other pressing political issue, Americans name rebuilding our nation's infrastructure as the issue they most want our elected officials to address. Americans view water infrastructure investment as an even greater priority than infrastructure generally, with 82 percent of voters saying that they view the issue as either important or very important. No other issue facing our public officials enjoys such a broad consensus. People also seem to understand that investing in our drinking water and wastewater systems is key; neglecting our nation's waters systems poses grave health and economic dangers.

Here in Texas, it's not hard for people to imagine a day without water. Annual drought conditions fester. In Central Texas, the rise and fall of the Edwards Aquifer level is reported daily on the evening news and, with each new subdivision proposed the first questions that nearby neighbors ask is "Where are they going to find water for all those new homes?" Yet, a recent assessment of public water utilities in Texas by the Texas Living Waters Project found that while Texas retail water utilities are making progress on water conservation, the overall rate of progress is slow. Even we Texans can get complacent from time to time about our water resources, so an annual reminder of what water means to us is an important step. Better still, as environmental professionals across America, shouldn't we all be supporting the annual Imagine a Day Without Water?

> "The Value of Water Campaign reports that the American people are already widely supportive of increased investment in nation's water infrastructure.

> "Thanks to all of you, my 25th year in the Academy has been quite rewarding.

Water. The Fall Meeting of the AAEES Board of Trustees and the Fall Technical Conference have just passed. We convened these in San Antonio, Texas, in October. Our theme for the Conference was *Protecting our Precious Resource – Texas Waters*. We are fortunate that some of the best environmental professionals from across public utilities, academia, industry, consulting, and resource planning provided their perspectives and insights on the constraints Texans are facing with regard to water resources. These notable experts presented available options and programs that have worked to secure the future of Texas waters. The Conference Agenda is included on pages 28 and 29 of this issue.

In closing, my year as President of the Academy is drawing to a close. It has been a very enjoyable year, and I have learned a considerable amount about the Academy. I already knew much about the basics, the ways, the when, and the wherefore, that we have Board Certifications. However, when you have the opportunity to look at all facets of the Academy, the work of the various committees, State Representatives, and members in general, you come even more to appreciate the value of the people of the Academy. Working with the staff, you see the tremendous efforts they make to ensure the Academy operations are in order, and that important issues do not fall through the cracks – they care about what they do, and they care about the members. As you reach out to other professional entities and to environmental professionals in general, you hear of the value of the Academy to the profession. People see great value in the work of the Academy, and they want to be affiliated with all of you. *Thanks to all of you, my 25th year in the Academy has been quite rewarding.*

I look forward to working next year in the capacity of Past President with President Hunter Nolen, President-Elect Kris Morico, and Vice-President Jim Patterson – they will be taking over the reins of the Academy in January 2018.

Best wishes for 2018,

Bob

EXECUTIVE DIRECTOR'S PAGE

Burk Kalweit

Building a Foundation for the Academy

One thing that separates not-for-profit organizations in a given market or technology space is whether or not they have a foundation. Those with a strong educational component or mission long ago discovered that a foundation is an excellent way to go about raising funds. Foundations can support everything from funding a specific cause or activity across the spectrum to creating a general pool of funding that accepts requests for support in loosely-defined areas. An example of the former would be a large medically-related foundation agreeing to fund a specific line of cancer research for $1m per year for the next 5 years. The latter would be a foundation agreeing to cover the cost of an internship stipend for graduate students working in the cancer research program.

There is very little that foundations cannot do. If you look closely, you soon find that foundations are ubiquitous in terms of what they support. We also find that they are very big business in terms of the amounts of funding they control. Just to put some scale on what we're talking about, let's take a look at the Bill and Melinda Gates Foundation. In fiscal 2016, the organization had an operating budget of $5.35 billion. At the end of the year its balance sheet showed unrestricted net assets of $40.6 billion. Second on the list is the Ford Foundation, which has net assets of just over $12 billion. The total assets of all foundations in 2016 was just over $865 billion.

So you're probably wondering why am I telling you this. The simple answer is that I wanted to ask you a question. Did you know that the Academy created a foundation to serve the broadly-defined environmental causes that are part of the Academy's mission statement? Hopefully, you have noticed the Environmental Engineering and Science Foundation (EESF) logo that appears on the Academy's homepage. Better yet, perhaps you have even clicked on the logo which will take you to the Foundation's website. (www.eesfoundation.org)

Once there, if you browse around, you will see that the foundation has set a general direction and mission for its activities. The EESF was initially chartered in 1998 with a dual mission. The first mission was to develop an organization that would serve as a funding source for activities related to the broadly-defined promotion of environmental engineering. Science was not added until 2012 when the Academy added that community and the science certification specialties. The actual definition of the sorts of activities and projects to be supported was left intentionally vague. The thinking was that it would be better not to determine specific areas for support. Instead, the underlying construct was that once the organization was up and running, it would define its funding and support programs.

The second mission was to create an organization that could become a magnet for the thought leaders of the environmental engineering and science community. An important aspect of this intent was to create the EESF as a 501(c)(3) charitable organization as defined by the IRS. This meant that individuals would be able to give tax-deductible gifts to the EESF and that organizations of all types would be able to provide funding to the foundation. These organizations include businesses, government agencies, and other not-for-profit organizations such as foundations, professional societies, and trade associations. Being a charitable organization provides the EESF with a maximum amount of flexibility in terms of how it conducts its business dealings with other entities. It can accept outright gifts and it can also establish itself as a supplier of services in a business relationship that is a strictly commercial transaction.

More important than the organization-to-organization constructs is the fact that the EESF enables individuals to make tax-deductible gifts to the foundation in support of either generalized activities or for specific programs and activities that the individual wants to designate as a condition of the gift being made. In foundation-speak this refers to gifts being made that are restricted or unrestricted.

"Did you know that the Academy created a foundation to serve the broadly-defined environmental causes that are part of the Academy's mission statement?

Restricted gifts have strings tied to them that require the funding recipient to agree to the donors' stipulations as to how the funding will be used. Unrestricted gifts are just that; donations that are made with no conditions in terms of how the funds will be used or the types of activities that will be eligible for support. As one might expect, there are pros and cons to either type of gift. The important part is that the receiving entity and the donor have the flexibility to determine which is a better match for the specific activity being supported by the individual, or the organization, making the gift.

Something else worth mentioning is that the subtleties and nuances of the donation process for individual donors are typically covered by what is referred to as a planned giving program (PGP). A planned giving program is a structured activity that enables a foundation to offer potential donors a 'laundry list' of options that are available for maximizing the impact that a donation can have while minimizing the cost of the donation to the individual making the gift.

The majority of planned giving programs are designed to work within the tax laws to avoid trap doors and potential unpleasant surprises that might arise through the unintended error or misuse of tax rules and regulations. This is a concern primarily where individuals are giving substantial gifts and using specific aspects of allowable structures to optimize the giver's and the recipient's standing in the transaction. For example, gifts can be made using 401(k) or IRA funding that is tax-free in the case of the funds being part of an estate. While these types of retirement accounts typically have a high tax burden imposed on them in the process of settling the estate, if the benefactors of the estate agree, they can make a direct charitable contribution to a qualified entity and have the contribution be treated as tax-free.

But enough of that. There are many experienced financial and legal counsel available to assist people in making the right choice when dealing with large potential gifts. What's more relevant to the EESF and to the Academy is the fact that we have set up a planned giving program that is targeted to enabling environmental professionals to make small gifts either on a transactional or recurring basis. The best way to describe what we've done is to say that we have used the NPR/PBS model to create our program. The primary difference between those entities and EESF is that they have 1) much larger donor lists and 2) a much larger platform from which to make their regularly-scheduled fund drives.

Being small requires that we are also nimble. Instead of banks of phone volunteers taking pledge donations, the EESF enhances its visibility through the use of the Academy's website, the EESF website, and the use of the Academy's ability to do broadcast e-mails to the individuals who are on the Academy's mailing lists. The Academy and the EESF are, in a sense, looking at the same list of potential funders. The EESF seeks to ignite interest in the Academy and the foundation as a way of helping us create and support programs that target professional pride. We also want to make the public aware of the potential impact that environmental engineers and environmental scientists have on our lives on a daily basis.

Success in the world as we define it consists of individuals offering the EESF a small gift on a routine basis. We are thinking along the lines of $5 to $10 per month. While not a substantial amount, when summarized on an annual basis across a donor list of perhaps a thousand active contributors, the total involved becomes significant. Perhaps not at the game-changing level that the 'super' foundations are able to provide, but more than enough to support an educational mission, as well as a mission of professional development, in ways that are simple and inexpensive.

There is every reason to believe that a small planned giving program can have significant impact over time. We invite you to take a look at what the EESF has done in creating its pro-

> We have the Academy and the EESF established and primed to carry out a mission that will be beneficial to our audience of environmental professionals.

grams. We think it is a program that suits our needs, facilitates growth over time as we create a multifaceted program, and one that also meets the affordability test of our typical target donor.

All that's left to talk about is how this actually works. How does the EESF determine where the money it raises goes? How does the foundation know what its appropriate funding targets should be?

That's where the magic happens. The genius of the current game plan is that neither party is beholden to the other. The Academy is a 501(c)(6) organization with its own charter, set of bylaws, and membership rolls. The EESF is a 501(c)(3) charitable organization with its own charter, set of bylaws, and no membership rolls because it is not a membership organization.

The two organizations are legally distinct and expected it to engage in activities that are consistent with their organizational mandates and charters. There is no formal organizational link between the two and there is no expectation that either is required to support, on a preferential basis, activities with the other.

Instead, the boards of the two organizations are expected to have an informal link to each other in what might best be characterized as a symbiotic relationship. The expertise of the Academy is in developing the professionalism of individuals who are board certified environmental engineers or scientists. The expertise of the EESF is expected to be in fundraising for activities that are proposed and scheduled to be carried out by the Academy.

As things are currently structured, neither organization has an exclusive with the other. The Academy is more than free to find other sources of potential funding for specific projects that it wants to do. By the same token, the EESF is free to support activities with other organizations besides the Academy should the opportunity and the desire arise. Neither needs the blessing of the other in order to act.

Does that mean that the two organizations will necessarily be required to maintain an arm's-length arrangement with the other? Not at all. The appropriate perspective here might be one in which each organization is a preferred partner of the other. There are no obligations, but there is an expectation that the EESF will seek to fund projects for the Academy and that the Academy will go to the foundation as its preferred source of project funding. This is quite logical and practical, and also important in developing and using a consistent definition of

what environmental engineering and environmental science are to these two organizations.

Truth be told, the two organizations are already working in a relationship which very much resembles what is laid out above. A couple of examples might be useful. Earlier this year, the EESF sponsored a video contest that was a challenge to environmental engineering students that came from universities and colleges where the Academy has a student chapter. The top prize had a cash component in addition to the recognition provided. Seeking to broaden the experience offered by participation in the video contest, the Academy and the EESF determined that it would be valuable to have contest winners attend the Excellence in Environmental Engineering and Science Conference held in Washington in April. The foundation agreed and provided the travel funds for the students to attend the conference.

This ended up being a win-win as the students had a chance to speak about what they learned in developing the video, but also had the opportunity to interact directly with the technical competition winners in attendance there. This was a perfect match for the EESF being able to fund an activity that the Academy itself would not have been able to fiscally support.

Another example of the Academy and the foundation working together is in the area of the Academy- sponsored program of webinars. The Academy has hosted over a dozen webinars based on the Excellence in Environmental Engineering and Science competition. Doing this requires the Academy to use an outside supplier of software that provides the webinar platform. We have all probably seen the different versions of this that are used to present a speaker's PowerPoint slides while also managing a messaging service that enables real-time Q&A with the speakers. We have been averaging between 80 and 100 attendees per webinar, an audience comprised of everything from students to highly experienced members of the Academy.

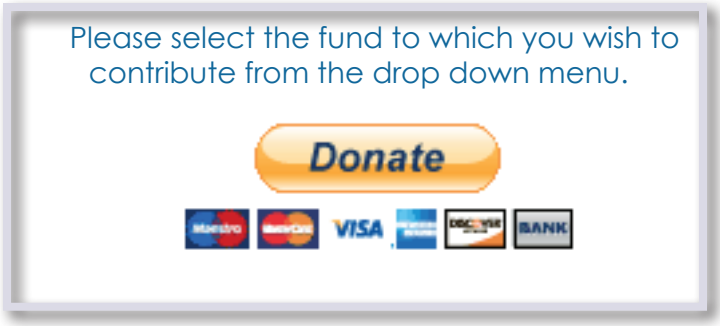
Because this is part of our educational mission, the Academy has not charged a registration fee for the events. The thinking at this time is that we are best served by building a broad and knowledgeable audience for the webinars. As such, the Acad-

emy has paid the roughly $150 cost of each session. Unfortunately, in the webinar business, success breeds incremental costs as the fee paid to the webinar software suppliers is a function of the number of people who show up for each event. The more people we get, the higher the incidental cost of the event.

Hearing about this, the Board of Directors of the EESF saw an opportunity to generate a win-win for the Academy and the foundation. On a motion that was approved by the EESF board, all the direct costs of an event will be paid for by foundation. That means that success will not cost the Academy more. It also made it possible to get a discount on an annual package with the software supplier. Rather than paying on an individual event basis, as we had been doing, the supplier offers a reduced cost for a full year of service provided that the year is prepaid. This was something that the Academy was considering when it was approached by the foundation. The EESF offered to pay for the annualized cost at the current level of activity, with a guarantee that the costs for potential higher attendance levels would also be covered if needed.

The lesson here is that we have an interesting productive working relationship between the Academy and the EESF. The Academy is responsible for developing programs and activities that suit its educational and public relations mission. The EESF's prime responsibility is to do what it can to gather funding that enables the things that the Academy wants to do on a high-priority basis. Because they are legally independent entities, there is nothing keeping the Academy from developing and implementing a funding program of its own. By the same token, there is nothing keeping the EESF from developing and implementing activities and programs that bear a great resemblance to what the Academy offers.

I hope you are thinking along the same lines as the Academy community is: namely, why in the world would we want to do that? Here we have a nice, simple system in which two organizations are collaborating to serve an audience comprised of individuals who are environmental industry professionals. The Academy is charged with developing the content that is offered as part of the Academy's program for growth and promotion.



The EESF is responsible for doing what it can to grow funding to support the mutual goals of the two organizations. That does not prevent the Academy from engaging in fundraising activities should the opportunity arise or be required in a certain circumstance. Nor does it mean that the EESF cannot offer and recommend opportunities that are programmatic in content. What we have created is a situation where there is collaboration without exclusivity.

Which brings us to the punchline to this article. We have the Academy and the EESF established and primed to carry out a mission that will be beneficial to our audience of environmental professionals. What we need is to have that audience seriously consider helping us out. We need ideas for programs and activities that represents solid value for the community. But equally as important, if not more important, is our need for tapping the potential of our planned giving program. We have all the pieces in place to make it simple to contribute $5 to the cause. By the same token, if someone wants to support us to the tune of $500, or even $5000, we are prepared to make that happen.

We are now getting ready to take those baby steps that are setting directions for what we might be doing in the kind of program we want to build. We are not shy of opportunities. Nor are we shy of ambition. We are looking to build a program that could become very significant to the Academy and the EESF over time. What we need now is the support of our community.

Borrowing from the lines used by our compatriots at NPR/PBS, the fact of the matter is that this is your Academy and your EESF. We have a lot of great ideas and opportunities to do things that are supported by the foundation and the Academy. But the truth of the matter is that we cannot do anything without the required level of support. For that, we look forward to relying on our audience of Academy members, as well as our partners and collaborators such as the EESF and its supporters.

The future is ours to build. Won't you join us in celebrating and promoting the community of environmental professionals who have gathered together under the AAEES and EESF banners to make a difference?

ACADEMY NEWS

2017 INSTALLATION BANQUET AND ANNUAL MEETING

The 2017 AAEES Installation Banquet and 2017 Annual Fall Board of Trustees Meeting were held at the San Antonio Rivercenter Hotel, San Antonio, Texas, on October 19 and October 20, 2017.

At the Installation Banquet, 2017 President Robert C. Williams reflected on the Academy's success in 2017 and presented the retiring AAEES Board Members. Among them was 2016 AAEES President Howard B. LaFever, who had just completed more than 27 years of serving as an officer of the Academy. Howard then inducted the 2018 AAEES Officers and Trustees who will officially take office on January 1, 2018.

Congratulations to:

- C. Hunter Nolen, President;
- Kristin Morico, President-Elect;
- James W. Patterson, Vice President;
- Dan Oerther, Treasurer; and
- Robert C. Williams, Past President.

Trustees serving their second three-year term are:

- Fred Ellerbusch, representing APHA
- David Vaccari, Trustee-at-Large

Trustees serving their first three-year term are:

- Robert E. Sommerlad, representing ASME
- Phillip C. Singer, representing AWWA
- James D. Fitzgerald, Trustee-at-Large
- Richard P. Watson serving a one-year term as Trustee-at-Large vacated by James W. Patterson.

The Board of Trustees meeting included two guest members: James D. Fitzgerald, Trustee-at-Large-Elect and Richard P. Watson, Trustee-at-Large-Elect. Also attending were Burk Kalweit, AAEES Executive Director, Sammi Olmo, Manager Special Projects, Joyce Dowen, Executive Assistant, and Yolanda Moulden, Production Manager.

The following were also approved:

2018 American Academy of Environmental Engineers Certification Board (AAEECB)

- Robert Williams, Chair
- Lamont Curtis, Vice Chair
- Jeanette Brown
- Christian Davies-Venn
- Hunter Nolen
- Wendy Wert
- Cecil Lue-Hing

AAEES Staff:
Joyce Dowen, Yolanda Moulden, and Sammi Olmo

Joyce Dowen, James Patterson, Ph.D., BCEEM, James Fitzgerald, P.E., BCEE, C.E.M. and David Gaddis, P.E., BCEE

David Vaccari, Ph.D., P.E., BCEE, and
AAEES Executive Director Burk Kalweit

Richard Watson, P.E., BCEE, and
Robert Schoenberger, Ph.D., P.E., BCEE

2018 President C. Hunter Nolen, P.E., BCEE, presenting 2017 President Robert C. Williams, P.E., BCEE, with the Presidential Scrapbook

2016 President Howard LaFever, P.E., BCEE, swearing in new officers

President Robert Williams presenting Certificate of Appreciation to Howard LaFever

Howard LaFever addresses audience

2018 American Academy of Environmental Scientists Certification Board (AAESCB)

- James Mihelcic, Chair
- James W. Patterson, Vice Chair
- Michael Kavanaugh
- Robert Schoenberger
- James Clarke
- Brian Flynn
- Benson Pair

Recipients of the 2018 AAEES Individual Awards were also approved. Full profiles of the recipients will appear in the Spring 2018 issue of *Environmental Engineer and Scientist* and they will be honored at the AAEES Excellence in Environmental Engineering and Science Awards Luncheon and Conference in April 2018. The honorees are:

- Stanley E. Kappe Award: Daniel Oerther
- Edward J. Cleary Award: Karen Pallansch
- Gordon Maskew Fair Award: Debra Reinhart
- Honorary Member Award: Rita Rossi Colwell
- International Honorary Member Award: Steve Burnage
- The Inaugural Science Award: Joel Burken

SPECIALTY CERTIFICATION RENEWAL FOR 2018

The 2018 Specialty Certification Renewal is currently underway. The initial notice was emailed in September. Log in to your account on the AAEES Center to renew now and to view and update your contact information. For those who cannot renew online, notices will be mailed to you before the end of the year.

The specialty certification issued by the Academy must be renewed by December 31. Renewals not completed by March 31 are considered expired.

AAEES NOW ACCEPTING ENTRIES FOR TWO PRESTIGIOUS AWARDS COMPETITIONS - GET THE RECOGNITION YOU DESERVE!

Excellence in Environmental Engineering and Science (E3S)

The Excellence in Environmental Engineering & Science (E3S) Awards Competition is the Gold Standard for identifying state-of-the-art projects in environmental engineering and science. Its criteria define what it takes to be the best in environmental engineering and science practices: a holistic environmental perspective, innovation, proven performance and customer satisfaction, and contribution to an improved quality of life and economic efficiency.

Entries are accepted in the following categories:

- Design
- Environmental Sustainability
- Industrial Waste Practice
- Operations/Management
- Planning
- Research
- Small Firms
- Small Projects
- University Research

Entry guidelines and submission forms can be found at http://www.aaees.org/e3scompetition.php along with profiles of previous winning projects. **Completed entries for the E3S Competition must be uploaded by February 1.**

Environmental Communications (EComm)

The Environmental Communications Awards Competition recognizes the efforts of organizations in communicating complex and challenging issues to environmental conservation groups, town councils, state and national legislative bodies, private sector companies, and the general public by highlighting the value and importance of their projects and their economic and public health benefits.

The judging criteria for the Environmental Communications Awards includes:

- Innovative approach to messaging or branding
- Future value to the water engineering profession
- Creativity and clarity in portraying and communicating the messages
- Effectiveness in delivery and achieving desired outcome
- Integrated Design Approach - Narrative and visual elements work together to achieve the communication objectives.

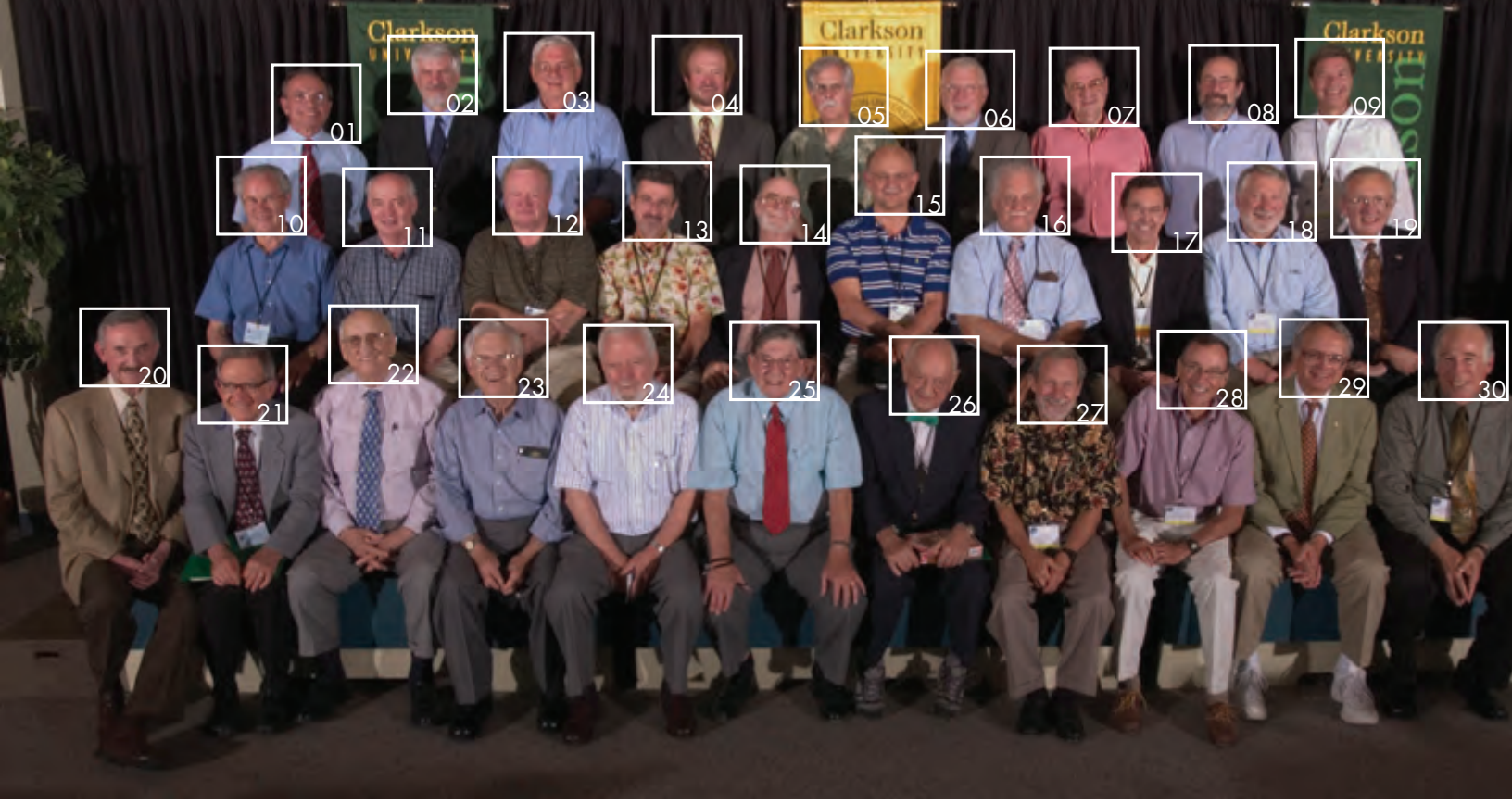
Entry guidelines and submission forms can be found at http://www.aaees.org/environmentalcommunicationsawards.php along with profiles of previous winning projects. **Completed entries for the EComm Competition must be uploaded by March 1**.

Entering either competition is easy and the submission process is done entirely online! It starts with simply downloading, completing, and submitted the respective reservation forms to Academy Headquarters. The reservation form acts as an intent to enter. You will then be assigned a personal and secured drop box for electronically submitting your projects.

Winners of both competitions qualify to compete for the IWA Project Innovation Awards (PIA). For more information, please visit http://www.iwa-network.org/iwa-project-innovation-awards/.

E3S award winners are also offered the opportunity to participate in our AAEES Webinar Series.

Award winners are invited to accept their trophies during the 2018 AAEES Excellence in Environmental Engineering and Science Awards Luncheon and Conference, which will be held on April 19, 2018, at the National Press Club in Washington, D.C.



In Case You Missed It (ICYMI): Legacy Photo

Dr. Tim Shea, P.E., BCEE, provided the above photo. The photo of "Legacies" was taken at the AEESP Meeting, Clarkson University, Summer 2005. "I treasure this photo because it has a lot of the early pioneers in our field, not counting a few then younger ones like yours truly?" stated Dr. Shea. How many of these pioneers can you name? Here's a hint for number one - his first name is Tim

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STUDENT CHAPTER NEWS

UCI 2018 CONFERENCE | Fifth Annual AAEES Conference at UCI

The University of California-Irvine (UCI) Student Chapter of the American Academy of Environmental Engineers and Scientists is dedicated to providing students in engineering and science with opportunities to better themselves professionally, academically and socially. We host an environmental conference each spring quarter at UCI to help our members learn about environmental topics as well as to network with professionals and fellow students.

We would like to invite you to be a speaker at our conference this year on Thursday, May 24, 2018, from 5:00 PM to 9:30 PM at Doheny Beach BCD in the UCI Student Center. Each speaker will be given a 45-minute frame to present on his or her topic.

We provide guest speakers with parking passes as well as with dinner at the conference. You are free to specify a preferred topic, but topics may need to be adjusted or changed if it conflicts with another speaker's.

If you are interested in this speaking opportunity, please feel free to email us back at aaees.uci@gmail.com or to contact me, the UCI-AAEES Student Chapter President, Connie Loo, at clloo@uci.edu and (626) 325-4047.


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The 2018 Kappe Lecturer

Mark J. Rood, Ph.D., BCEEM, FAEESP, FAWMA

Ivan Racheff Professor of Environmental Engineering
Department of Civil and Environmental Engineering
University of Illinois at Urbana-Champaign
http://aqes.cee.illinois.edu/

EDUCATION

- B.S., Environmental Engineering, Illinois Institute of Technology, 1978
- M.S., Environmental Engineering, University of Washington, 1982
- Ph.D., Environmental Engineering, University of Washington, 1985

PROFESSIONAL ASSOCIATIONS

- American Academy of Environmental Engineers and Scientists (AAEES)
- American Association of Environmental Engineering and Science Professors (AEESP)
- Air and Waste Management Association (A&WMA)

Mark J. Rood is the Ivan Racheff Professor of Environmental Engineering, at University of Illinois at Urbana-Champaign (UIUC), Illinois. Mark has over 35 years of research experience pertaining to gas separation and aerosol characterization.

He studied at Illinois Institute of Technology, Chicago, University of Washington, Seattle, and Stockholm University, Sweden prior to becoming a professor at UIUC.

Mark has published at least 130 peer-reviewed journal papers, co-authored one ASTM method, and six patents pertaining to gas separation techniques and ambient plume characterization. Mark is co-chief editor for *Environmental Technology & Innovation*, member of the Advisory Board for *Particuology*, was chief editor for ASCE's *Journal of Environmental Engineering*, and was an associate editor for *Journal of the Air and Waste Management Association*.

He is a Board Certified Environmental Engineering Member with American Academy of Environmental Engineers and Scientists. He is a Fellow and was a director for the Association of Environmental Engineering and Science Professors and Air and Waste Management Association.

Abstracts of Lectures Offered

Gas Separation with Activated Carbon Fiber Cloth for Reuse or More Effective Disposal of Organic Compounds

Development and evaluation of an activated carbon fiber cloth (ACFC) adsorption system using either electothermal swing adsorption (ESA) and microwave swing adsorption (MSA) will be described to selectively separate organic compounds from gas streams with bench-scale laboratory, pilot-scale field, and full-scale field tests. This research is important to reduce emissions of organic compounds to the atmosphere because they can adversely affect human health and contribute to the formation of secondary air pollutants. This research began by evaluating ACFC to adsorb environmentally relevant compounds at environmentally relevant concentrations. Consideration of multiple component adsorption for organic compounds and water vapor or other organic compounds then occurred to make results more relevant. Tests became more complicated to evaluate continuous treatment of laboratory generated gas streams while evaluating ESA and MSA. Extension of this research to organic gases with lower boiling points required treatment with cryogenic cooling and or compression for recovery and potential reuse. Experimental and modeled results from energy and material balances were used to evaluate these experimental and modeled results.

ESA was then improved to allow for in-vessel condensation of the organic compounds and eliminate cryogenic condensation to make the system more economically competitive. ESA was then evaluated for three different activated carbon morphologies (i.e., fibers, monolith, and beads) to better assess the appropriate morphology for activated carbons for an ESA system.

Our research group then modified the ACFC-ESA/MSA systems to allow for concomitant adsorption and regeneration to pretreat gas streams allowing for stable organic gas concentrations as inlet gas streams at appropriate concentrations for thermal oxidation or biofiltration. A life cycle assessment comparing ACFC-ESA, granular activated carbon-steam and regeneration, and thermal oxidation systems to better understand future research directions will also be discussed.

We have since successfully developed a technique to control ESA while using measurement of ACFC's electrical resistance without using temperature and hydrocarbon sensors. Such improvements simplifies the system and reduces cost.

Challenges to complete full-scale field tests will be discussed. Also challenges to publish high-quality peer-reviewed manuscripts, graduating students, and intellectual property while obtaining funding from National Science Foundation, Department of Defense, USEPA and the private sector to achieve these accomplishments will also be discussed.

Optical Remote Sensing of Particulate Matter to Quantify Plume Opacity and Mass Emission Factors

Development and field evaluation of optical remote sensing (ORS) techniques to quantify: 1) atmospheric plume opacity generated by point and fugitive sources and 2) particulate matter (PM) mass emission factors (EFs) from fugitive sources will be discussed. The abilities of these techniques to quantify the emissions of primary PM into the atmosphere are important because PM adversely affects human health and contributes to climate forcing.

"Visual Determination of the Opacity of Emissions for Stationary Sources" (Method 9) is a USEPA Reference Method to quantify plume opacity. However, Method 9 relies on observations from humans, which introduces subjectivity and is expensive due to certification requirements. The "Digital Optical Method (DOM)," was developed using digital still cameras and software as an alternative to human observations, reduce costs, provide archival records, and provide more objective measurements. DOM and its field evaluations will be described to evaluate DOM's performance. International ASTM developed D7520 Method based on field testing of the digital still cameras to determine plume opacity and such approval assisted USEPA to develop and approve USEPA ALT-82 allowing for the use of digital still cameras as an Alternative to using human observations.

The development and implementation of another ORS method using vertical-scanning **LI**ght **D**etection **A**nd **R**anging (LIDAR) and ancillary measurements will also be discussed. This method quantifies mass EFs for fugitive PM. In-situ range-resolved extinction coefficients measured by LIDAR and concurrent point measurements of PM mass concentrations were used to quantify two-dimensional PM mass concentration profiles of these fugitive plumes. Integration of these profiles with wind data, event duration, and source type provided fugitive PM EFs. Results quantifying EFs from vehicles travelling on unpaved roads, helicopters, open burning, and open detonation will be described and compared to other results. Field evaluation of this method demonstrates that it is well suited to improve quantification of PM EFs from fugitive sources when compared to similar emissions that were measured in controlled laboratory enclosures.

ORS has been used on a more limited basis compared to point measurements in the field of air quality to measure emissions to the atmosphere. Both techniques have their strengths and weaknesses. ORS has potential to more broadly impact not only air quality but also the field of Environmental Engineering.

What is the Kappe Lecture Series?

The Kappe Lecture Series was inaugurated by the Academy in 1989 to share the knowledge of today's practitioners with tomorrow's environmental engineers and scientists. It is an annually recurring series of lectures presented on college campuses during the Fall academic term. This focus enables it to complement the lecture series sponsored by the Association of Environmental Engineering & Science Professors, which brings renowned research engineers to universities in the Spring term.

The Academy's Awards Committee chooses lecturers from the practicing engineering community in the year preceding presentation of the lectures. An abstract of the lectures offered and a biographical profile of the lecturer is circulated to universities teaching environmental engineering together with an invitation to host the Kappe Lecturer. From among those universities expressing interest, the Awards Committee typically selects up to ten host universities. Host university responsibilities include payment of a nominal fee and publicizing the lecture to ensure widespread exposure of the lecturer to the academic and surrounding professional community.

This program was inspired by a grant from the estate of Stanley E. Kappe, P.E., DEE, a successful environmental engineer, believed he owed a debt to the profession that rewarded him so well. During his life, he gave of himself to his university and to his profession through countless hours of volunteer activity. And, through this Lecture Series, he continues to share his good fortune with tomorrow's environmental engineers and scientists.

He graduated from Pennsylvania State University in 1930 with a bachelor's degree in sanitary engineering. He served with the Pennsylvania State Health Department and the U.S. Army Corps of Engineers before joining the Chicago Pump Company as its Eastern Regional Manager in 1935. In 1945, he founded Kappe Associates, Inc., a water supply and wastewater equipment company headquartered in Rockville, Maryland, and continued as its Chief Executive Officer until his death in 1986.

His peers recognized his contributions to the profession by numerous awards, including the AWWA Fuller Award, the WEF Arthur Sidney Bedell Award, the WPCAP Ted Moses and Ted Haseltine Awards, and the AAEES Gordon Maskew Fair Award. In 1985, Pennsylvania State University named him Outstanding Engineer Alumnus.

Stanley E. Kappe was an activist member and leader in several national and Chesapeake region professional societies. He served as the Executive Director of the American Academy of Environmental Engineers (now the American Academy of Environmental Engineers and Scientists) from 1971 to 1981.

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info@aaees.org
www.aaees.org

2018 KAPPE LECTURE SERIES RESERVATION FORM
Dr. Mark J. Rood, BCEEM, FAEESP, FAWMA

University: _____

Address: _____

_____

Official Contact: _____

Telephone: _____ FAX: _____ Email: _____

Preferred Dates & Locations

1. _____
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Cooperating Universities

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If our school is selected to participate, we will pay to the **American Academy of Environmental Engineers & Scientists®** $1,225 and assume any other incidental on-campus expenses connected with the Lecturer's visit. The **American Academy of Environmental Engineers & Scientists®** will assume travel and off-campus expenses incurred by the Speaker.

Name: _____ Date: _____

Signature: _____

Printed: _____

Fax form to 410.266.7653 or email to Sammi Olmo at JSOlmo@aaees.org by February 1, 2018

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NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS
SOLID WASTE ASSOCIATION OF NORTH AMERICA
WATER ENVIRONMENT FEDERATION

MEMBER NEWS

AWARDS AND RECOGNITION

2017 WEF Fellows

The Water Environment Federation selected the 2017 WEF Fellows for their contributions to the water profession. The WEF Fellows Recognition Program recognizes individuals in a variety of areas, including design, education, operations, regulation, research, utility management, and leadership. More information about the WEF Fellows Program can be found at http://www.wef.org/weffellowsprogram/. Of the 11 distinguished WEF members selected as the 2017 recipients, six are Board Certified Individuals of AAEES. Congratulations to:

- **Eleanor J.M. Allen, P.E., BCEE**. Ms. Allen is CEO of Water for People (Denver, CO) and is a Board Certified Environmental Engineer in Water Supply and Wastewater Engineering.
- **Rajendra P. Bhattarai, P.E., BCEE**. Mr. Bhattarai is a Division Manager of Austin Water Utility (Austin, TX) and is a Board Certified Environmental Engineer in Water Supply and Wastewater Engineering.
- **James H. Clark, P.E., BCEE**. Mr. Clark is Senior Vice President of Black & Veatch (Los Angeles, CA) and is a Board Certified Environmental Engineer in Water Supply and Wastewater Engineering.
- **Paul A. Dombrowski, P.E., BCEE**. Mr. Dombrowski is Vice President of Woodard & Curran (Holyoke, MA) and is a Board Certified Environmental Engineer in Water Supply and Wastewater Engineering.
- **James E. Smith, Jr., Sc.D., BCEEM**. Dr. Smith (Cincinnati, OH) is a Retired Emeritus Chair and is a Board Certified Environmental Engineering Member in Water Supply and Wastewater Engineering.
- **Daniel H. Zitomer, Ph.D., P.E., BCEE**. Dr. Zitomer is a Professor at Marquette University (Milkwaukee, WI) and is a Board Certified Environmental Engineer in Water Supply and Wastewater Engineering.

IN MEMORIAM

Tracey Georgia Liberi, 55, of Fair Haven, NJ, passed away peacefully on June 8, 2017.

She was a professional engineer at Suez for over 20 years. A native of Summit, NJ, Tracey was a graduate of New Providence High School and Drexel University where she earned a B.S. in Civil Engineering in 1986. She was a loving mother, wife, aunt, daughter, sister, cousin, and friend. Daughter of Georgia Copulos and the late George Copulos. She married Joseph Liberi on April 30, 1988 in Westfield, NJ. In addition to her husband, Tracey is survived by her three children, Joe, Tessa, and Dana; her sister, Zachery, brother William; niece Callie, nephew Dimitri.

Ms. Liberi had been a Board Certified Environmental Engineer in Water Supply and Wastewater Engineering since 2010.

Published in Asbury Park Press.

SHINING THE SPOTLIGHT ON YOU

The Academy has special features on its website and in electronic and print publications in recognition of you, **the Academy's honored professionals**. Send your submissions to YMoulden@aaees.org for:

Volunteer of the Month

Part of the Academy's success lies with the selfless work of its members. Do you know of a member that always goes above and beyond? Then send a 350-word nomination for **Volunteer of the Month**.

Side Tracks

Interested in knowing about the extracurricular activities of your fellow Academy members? Or do you have fun (or possibly funny) stories you'd like to share? *Side Tracks* is intended to provide a vehicle for learning about the outside interests of your colleagues.

WHO'S WHO IN ENVIRONMENTAL ENGINEERING AND SCIENCE 2017 ERRATA

Editor's Note: The following individuals, who renewed their specialty certification prior to the January 31, were erroneously omitted from the Alphabetical section of the 2017 Who's Who in Environmental Engineering and Science.

Board Certified Environmental Engineer

Makson Esan **WW AP**
Principal Manager
MWH
235 Peachtree Street NE
Suite 2200
Atlanta, GA 30303 United States
Phone: (C) (678) 427-6177
E-mail: (O) makson.esan@mwhglobal.com
Education: BS, Civil Engneering, University of Lagos 7/18/1984; MS, Civil Engineering, Wayne State University 5/5/1988; MBA, Business Administration, University of Georgia 8/4/2007. **Licensed:** GA/PE028296. **Certification Date(s):** 11/14/1995, 10/15/2009. **Awards and Honors:** Presented Paper Basic Anaylsis for SSO Projects WEFTEC 2007 San Diego, CA 2007; Clean Water Atlanta Outstanding Contribution Award by Mayor Shirley Franklin, City of Atlanta 2004. **Sponsoring Organization Membership:** AWWA, WEF.
Certification Status: Active

Thomas P. O'Connor **WW**
8 Barlow Road
Edison, NJ 08817 United States
Phone: (O) (732) 321-6723
E-mail: (H) tpoyon@aol.com
Education: BS, Physics, Manhattan College 5/18/1986; MS, Environmental Engineering, Manhattan College 9/1/1993. **Licensed:** NJ/24GE5132700. **Certification Date(s):** 10/23/2015. **Awards and Honors:** US EPA Bronze Medal for Commendable Service, team award. 1999; US EPA Office of Research and Development (ORD): Exceptional/Outstanding Technical Assistance to the Regions or Program Offices Award. 2002; US EPA Bronze Medal, Award for Excellence, team award. 2006; US EPA Bronze Medal, Pervious Pavement Team. 2010; US EPA Region 2 Award for Outstanding Scientific Support. 2011; 2015 ASCE Outstanding Reviewer, J. of Hydrologic Engineering. 2016; 2016 (and 2014) ASCE Outstanding Reviewer, J. of Sustainable Water in the Built Environment. 2017; 2016 US EPA, ORD Scientific and Technological Achievement Awards (STAA) Award Level III. 2017. **Sponsoring Organization Membership:** ASCE, WEF.
Certification Status: Active

Douglas M. Owen **WW ES**
President
Owen Water Consulting LLC
4075 Syme Drive
Carlsbad, CA 92008 United States
Phone: (H) (914) 659-9980
E-mail: (O) dougowenwater@gmail.com
Education: AA, Mathematics, Miami University 1/1/1978; BS, Civil Engineering, Purdue University 5/18/1980; MS, Environmental Engineering, University of North Carolina 8/16/1982. **Licensed:** TX/59484 and 2 other state(s). **Certification Date(s):** 10/31/1994, 11/19/2010. **Awards and Honors:** Board Member, NACME 2009 to present; Board Member, Schol of Public Health Foundation, UNC Chapel Hill 2006 to present; Advisory Committee, Department of Civil, Architectural and Environmental Engineering, University of Texas at Austin 2006-2009; Industry Advisory Committee, Department of Civil Engineering and Engineering Mechanics, Columbia University 2005 to 2008; Environmental Engineering Advisory Board, Department of Civil Engineering, University of New Hampshire 2004 to 2008; Research Division Award, AWWA, Evaluation of GAC for NOM Control 1997; Member, National Drinking Water Advisory Council, USEPA 2007 to present; Chair, Journal Editorial Advisory Board, Journal of American Water Works Association 2007 to 2009 Board Member 2000 to 2006. **Sponsoring Organization Membership:** AWWA, WEF.
Certification Status: Active

Ned W. Paschke **WW**
Program Director, Professor of Practice
University of Wisconsin-Madison
432 N. Lake Street
Room 725
Madison, WI 53706 United States
Phone: (O) (608) 576-0656
E-mail: (O) ned.paschke@wisc.edu
Education: BS, Civil/Environmental Engineering, University of Wisconsin-Madison 8/1/1978; MS, Civil/Environmental Engineering, University of Wisconsin-Madison 8/1/1982. **Licensed:** WI/22044 and other state(s). **Certification Date(s):** 3/20/2013. **Awards and Honors:** Fulbright Specialist, Awarded by the US Department of State and the J. William Fulbright Program 2011; Golden Manhole Award, Water Environment Federation 2007; Teaching Excellence Award, University of Wisconsin-Madison, Department of Engineering Professional Development 2005; Award of Appreciation, President, ASCE, Wisconsin Section 2005; Served as member of the WEF delegation to China, the Yangtze River, and the Three Gorges Dam, WEF 2000; L.F. Harza Award, Harza Engineering Company 1986; L.F. Harza Award, Harza Engineering Company 1985; Elected as a Fellow of the American Society of Civil Engineers 2013. **Sponsoring Organization Membership:** ASCE, AWWA, WEF.
Certification Status: Active

Samuel A. Vigil **SW**
Professor
Cal Polytechnic State University
Civil/Environmental Eng. Department
San Luis Obispo, CA 93407 United States
Phone: (C) (805) 471-9310
E-mail: (O) svigil@calpoly.edu
Education: BS, Civil Engineering, University of California 1/1/1969; MS, Civil Engineering, Texas A&M College Station 1/1/1974; PhD, Engineering, University of California 1/1/1981. **Licensed:** CA/35624 and other state(s). **Certification Date(s):** 2/28/1991. **Awards and Honors:** Navy Commendation Medal, US NAVY 1994; Best Architectural Research Project in 1998, Energy Efficient Resource Recovery Project for Cal Poly State University, Architecture Magazine 1998; Best Air Quality Paper, 1998 TAPPI Environmental Conference, Evaluation of the EPA Recommended Approach to Predicting Air Emissions from Pulp and Paper Industry Landfills, TAPPI 1998; Richard I. Stessel Award, Air and Waste Management Association 2015; Elected as A Fellow, Air and Waste Management Association 2012. **Sponsoring Organization Membership:** A&WMA.
Certification Status: Life Active

Kent E. Zenobia **HW**
133 Darrington Drive
Folsom, CA 95630 United States
Phone: (H) (916) 985-8497, Fax: (O) (916) 574-0331
E-mail: (O) Kent.Zenobia@water.ca.gov
Education: BS, Civil Engineering, Newark College of Eng./NJIT 6/15/1974; MS, Environmental Engineering, Drexel University 6/1/1979. **Licensed:** CA/32750 and 6 other state(s). **Certification Date(s):** 11/15/1994. **Awards and Honors:** President's Award Outstanding Environmental Technical Award, Kleinfelder 1993; President's Award Outstanding Achievement, Kleinfelder 1996; Interdisciplinary Technical Excellence, Kleinfelder 1997; Interdisciplinary Technical Excellence, Kleinfelder 2001; Fellow Member, ASCE 2006; Outstanding Client Service Award, URS 2007; ASCE and John Wiley and Sons, Inc. Published a reference book titled, Civil Engineer's Handbook of Professional Practice; 2011, Hoboken, NJ 2011; I was the CA DWR Program Manager responsible for the Feather River Setback Levee which received the ASCE Region 9 Outstanding Flood Management Project of the year. Other DWR staff, Three Rivers Levee Improvement Authority, and GEI shared in this accomplishment. 2011. **Sponsoring Organization Membership:** ASCE, SAME.
Certification Status: Life Active

Board Certified Environmental Engineering Member

Mark A. Gilbertson **HW**
4710 33rd Street, North
Arlington, VA 22207 United States
Phone: (O) (202) 586-5042, Fax: (O) (202) 586-4314
E-mail: (O) mark.gilbertson@em.doe.gov
Education: BS, Chemical Engineering, University of Wisconsin 5/1/1981. **Certification Date(s):** 4/27/2012. **Awards and Honors:** DOE Special Act, Identification and Prioritization of Environmental Problems 1990; DOE Silver Medal, Leeading Secretary's Tiger Team Initiative 1991; Vice President's Hammer Awards, Establishment EM Science Program and Interstate Technology Regulatory Community 1998; DOE Special Act, Source Evaluation Board Chair Portsmouth and Paducah Infrastructure Procurements 2006; Secretarial Transformational Energy Action Management Program Effectiveness Award 2008; Presidential Rank Award at the Meritorius Level - Continued Superior Leadership 2009; Secretary's Appreciation Award - Portsmought Gaseous Diffusion Plant Contract Award 2011; Secretary's Appreciation Award, DOE Science Energy Plan Development Secretary's Achievement Award, Laboratory Operations Board 2016. **Sponsoring Organization Membership:** AIChE.
Certification Status: Active

Stand Out from the Crowd!

Be Recognized Among the Best Environmental Engineers and Scientists in the World

The American Academy of Environmental Engineers and Scientists identifies highly skilled environmental engineers and environmental scientists for the benefit of the public. These unique professionals are readily recognized through Academy credentials:

Board Certified Environmental Engineer (BCEE) and Board Certified Environmental Scientist (BCES).

Those with a degree in environmental engineering (or related engineering degree), at least 8 years of experience, and a P.E. license may qualify to take written and oral specialty examinations to obtain the BCEE credential.

Those with a degree in environmental science (or related science degree) and at least 8 years of experience may qualify to take written and oral specialty examinations to obtain the BCES credential.

Federal, state, and local agencies, educational institutions, and consulting firms recognize individuals holding Academy credentials as trustworthy, ethical experts with a strong commitment to protecting public health and the environment through their leadership and excellence in the practice of environmental engineering and science.

For more information, go to http://www.aaees.org and click on Become a Member.

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AAEES Events Roundup

AAEES has had a busy year! Since it has been featured so prominently in *Environmental Engineer and Scientist*, most of our readers know of the Academy's premier event, the annual Excellence in Environmental Engineering and Science Awards Luncheon and Conference (also known as the Annual AAEES Awards). But AAEES conducts or is visible at multiple events throughout the year.

SPONSORING ORGANIZATIONS AND PARTNERING ORGANIZATIONS

If you've never seen the Academy's well-traveled booth in person, several photos are featured below. Thanks to our active members, AAEES is well represented at the events of our Sponsoring and Partnering Organizations. The participation of AAEES at the events of our Sponsoring Organizations is primarily coordinated by AAEES Trustees representing their respective organizations.

For example, A&WMA Trustee Merlyn Hough, P.E., BCEE, coordinated the running of the booth at the Air and Waste Management Association's 2017 Annual Conference and Exhibition. He, joined by Dallas Baker, P.E., BCEE, as well as other members attending the conference distributed information about AAEES Board Certification.

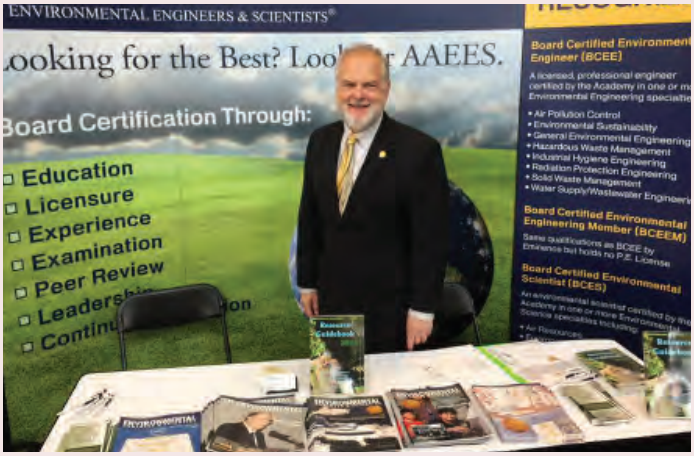
Another example is Steve Lippy, P.E., BCEE, who organized and coordinated the running of the booth in Baltimore at SWANA's WASTECON. In 2017, WASTECON was held jointly with World Congress, the annual event hosted by the International Solid Waste Association (ISWA).

AAEES also often has activities held in conjunction at these events. Other examples include:

- AAEES Breakfast presentation featuring Professor Robert Sharp, Ph.D., P.E., at the New York Water Environment Association (NYWEA) 89th Annual Winter Meeting
- AAEES holds the annual Wesley Eckenfelder Memorial Breakfast as well as a workshop at New Jersey Water Environmental Association (NJWEA) John J. Lagrosa Annual Conference & Exposition.

Dr. Hedi Alavi, P.E., BCEE and Steve Lippy, P.E., BCEE manning the AAEES booth at SWANA's WASTECON in Baltimore, Maryland

Dallas Baker, P.E., BCEE with the AAEES Booth



Merlyn Hough, P.E., BCEE at A&WMA ACE

- AAEES held a joint AAEES/AIDIS/AWWA Luncheon Presentation featuring Eleanor Allen, P.E., BCEE, Chief Executive Officer, Water For People, at AWWA ACE17; and
- AAEES held a breakfast featuring Dr. Krishna Pagilla P.E., BCEE, Professor and Environmental Engineering Program Director at the University of Nevada, Reno, at WEFTEC 2017.

KAPPE LECTURE SERIES

The AAEES Kappe Lecture Series is an annually recurring series of lectures presented on college campuses during the Fall academic term. More information on the Kappe Lecture Series is on page 17.

Dr. Danny Reible was the 2017 Kappe Lecturer. Among his many stops was the April 12, 2017 visit to the New Jersey Institute of Technology (NJIT).

"It was a great honor for us to host Dr. Danny Reible (NAE member) to give a talk on April 12th 2017 on Innovation in Sediment Remediation within the Kappe Lecture of the American Academy of Environmental Engineers and Scientists. We also appreciate that Dr. Joseph Hughes (DEE) of Drexel University, attended the event and introduced the speaker. Attendees included Professor Dibs Sarkar of Stevens Institute and Dr. Chris Sales of Drexel." *Michel C. Boufadel, Ph.D., P.E., BCEE, Director of Center for Natural Resources Development and Protection (NRDP)* and *Professor, John A. Reif, Jr. Dept. Civil and Environmental Engineering, The New Jersey Institute of Technology.*

The event was sponsored by the John A. Reif, Jr., Department of Civil and Environmental Engineering at NJIT.

THE AAEES WEBINAR SERIES

2017 was the first full year that AAEES presented a Webinar Series. This successful series primarily featured the Grand Prize and Superior Achievement Award Winners of the 2017 Excellence in Environmental Engineering and Science Awards Competition. Thanks to the support of the Environmental Engineering and Science Foundation, AAEES was able to present the series to registrants free of charge. Due to it's success, AAEES plans to continue the webinar series for 2018.

THE TECHNICAL CONFERENCES

We rounded out the year with a trio of technical conferences. In addition to environmental engineering and environmental science professionals at consulting firms, public agencies, utilities, and in academia, AAEES also invites students to our events and conferences. It provides a great networking opportunity for the students to identify and interact with leaders in the profession, as well as offers an opportunity for profession leaders to mentor students and young professionals. It also

2017 Kappe Lecturer Dr. Danny Reible, P.E., BCEE at NJIT

Dr. Joseph Hughes, P.E., BCEE, along with Dr. Reible and other attendees of lecture.

serves as an excellent opportunity for AAEES Board Certified Individuals to share the knowledge and value of Board Certification not only to these future environmental engineers and scientists, but with those already involved in the profession who have not yet taken the next step to Board Certification.

After Decades of Indirect Potable Reuse (IPR); Are We Ready for the Next Step, Direct Potable Reuse (DPR)

On October 12, AAEES held it's tenth "AAEES Annual West Coast Event". Timely topics and diligent organizers have ensured the longevity and success of this evening workshop held in the Southern California.

This year, a dinner and networking seminar was held at the Orange County Sanitation District in Fountain Valley, CA, and was organized by Sharon Yin, P.E., BCEE, Wendy Wert, P.E., BCEE, and Joseph Reichenberger, P.E., BCEE. The theme, *After Decades of Indirect Potable Reuse (IPR); Are We Ready for the Next*

Step, Direct Potable Reuse (DPR), addressed going the next step to Direct Potable Reuse after a decade of a successful operation of the Groundwater Replenishment System (GWRS) - a joint project of OCSD and the Orange County Water District (OCWD).

Some of the topics covered by the area experts included: *Moving DPR Forward: Research Efforts and Real World Experience*; *Water Resource Recovery*; and *Developing Uniform Criteria for Direct Potable Reuse*. Dr. Robert Peter Ghirelli, BCES, served as the master of ceremonies of the workshop which hosted over 85 attendees - making it one of the most successful and best-attended west coast events. The event concluded with the audience toasting the panel with bottled recycled water from the GWRS. Plans are already underway for next year.

Emerging Issues and Challenges

Last October, then President Howard B. LaFever organized a technical conference to accompany the Fall Board of Trustees Meeting. As Howard noted in the Fall 2016 (V54, N4) *Environmental Engineer and Scientist*: "Feedback was very positive, so much, that I have formed a small committee of four to plan for another Technical Conference to be held in Cazenovia on October 12, 2017." True to his word, Mr. LaFever organized a one-day environmental symposium in Cazenovia, NY.

The 2017 CNY Environmental Symposium featured the theme *Emerging Issues and Challenges*. Topics covered by area experts included: *Total Residue Chlorine (TRC) Evolution, Alternative*, and *Progress at OCDWEP; Emerging Issues and Challenges in CNY from a Regulatory Perspective*; and *Ammonia Removal and Recovery During Food Waste Anaerobic Digestion Using Selective Membranes*.

Michael Selna, P.E., BCEE, sharing information about Board Certification with attendees

Protecting Our Precious Resource - Texas Waters

In conjunction with this year's Board of Trustees Meeting, President Robert C. Williams organized a technical conference on October 19. Held at the San Antonio Marriott Rivercenter Hotel in San Antonio, TX, the theme was *Protecting Our Precious Resource - Texas Waters*. Some of the topics covered by experts and leaders representing area utilities, agencies, and universities included: *Challenges to Texas Water Quality and Availability*; *Challenges to Recycling and Reuse of Wastewater from Oil and Gas Wells*; and *The Regional Water Planning Process - A Success Story.*

Flyers with the full line-up of the distinguished speakers of all three conferences are presented beginning on the following page. PDFs of the presentations are available at aaees.org.

Thank you to all who supported our efforts this past year. We look forward to seeing you at an AAEES event in 2018.

Attendees of the West Coast Event

James Herberg, P.E., BCEE, Mike Markus, P.E., BCEE, Sandy Scott-Roberts, P.E., Traci Minamide, P.E., BCEE, Brian Bernados, P.E., and Shane Trussell, Ph.D., P.E., BCEE

2017 AAEES Annual West Coast Event

After Decades of Indirect Potable Reuse (IPR); Are We Ready for Next Step, Direct Potable Reuse (DPR)?

The American Academy of Environmental Engineers and Scientists (AAEES) is presenting a dinner and networking seminar on Thursday, October 12, 2017 at the Orange County Sanitation District.

Jim Herberg, P.E., BCEE
General Manager
Orange County Sanitation District

Mike Markus, P.E., BCEE
General Manager
Orange County Water District

Sandy Scott-Roberts, P.E.,
Groundwater Replenishment System(GWRS) Program Manager, Orange County Water District

Traci Minamide, P.E., BCEE
Chief Operating Officer
LA Sanitation

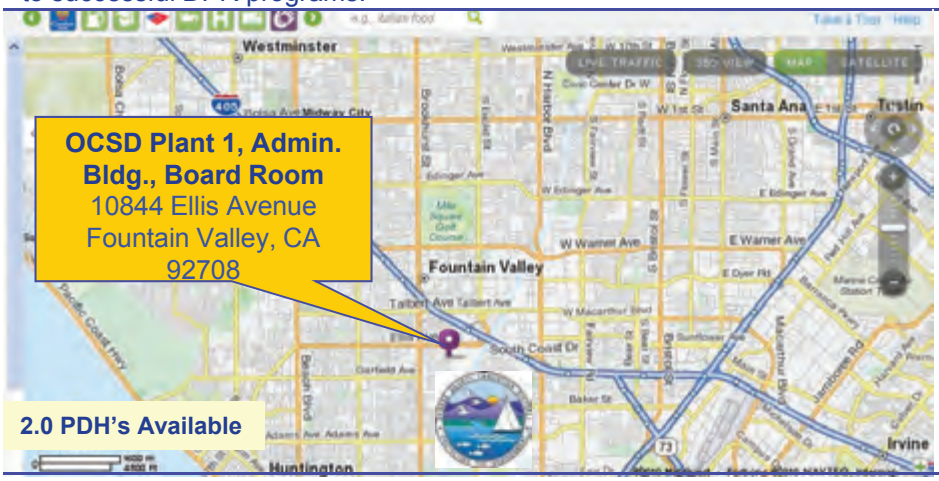
Brian Bernados, P.E.,
Recycled Water Specialist, Division of Drinking Water, State Water Resources Control Board

Shane Trussell, Ph.D., P.E., BCEE
President of Trussell Technologies

5:00 PM Registration 5:30 PM Dinner 6:30 PM IPR Successes 7:00 PM DPR Experts
8:00 PM Panel Discussion 8:30 PM Adjourn ***with a DPR Recycled Water Tasting Cheers!***

The **American Academy of Environmental Engineers and Scientists (AAEES)** is dedicated to excellence in the practice of environmental engineering to ensure the public health safety and welfare. In Southern California a key component of the practice focuses on meeting the challenge of securing future water supplies. Historically, water purchased from outside the region provided a reliable source. However, reduction in imported water supplies, combined with recurring droughts and population growth, indicate that demand for water will overwhelm supply unless new regional sources are developed.

Join **General Managers Jim Herberg** and **Mike Markus** as they share knowledge gleaned from the 10-yrs of successful water reclamation IPR operation by OCSD/OCWD, and the next 10-yrs perspective. **Sandy Scott-Roberts**, will provide details on the GWRS performance, lessons learned and next steps, and bottling GWRS water to support educational outreach efforts. **Traci Minamide** will introduce the DPR Advisory Panel's recommendations on the feasibility of developing uniform water recycling criteria for DPR. Effective strategies and challenges such as public acceptance will be reviewed. **Brian Bernados** will assess the reactions of the SWRCB DDW to DPR. Regulations on design, approvals, monitoring, and testing required for future DPR drinking water sources will be explained. **Shane Trussell** will examine the research underway to support DPR. Come find out how lessons learned from IPR could lead to successful DPR programs.



Cost: $60 Students: $30

Registration Link:
http://bit.ly/2017WestCoastEvent
Contact Yolanda Moulden via email YMoulden@aaees.org for registration questions, and scholarship for student fee.

Dinner includes: Sesame Almond Chicken w/Brandied Cherry Sauce, Garlic Mashed Potatoes, Grilled Vegetable Medley, Baby Mixed Greens Salad w/feta cheese and berries, Rolls & Butter and Asst. Cookies, Brownies & Dipped Strawberries

~PLEASE POST~

2017 ENVIRONMENTAL SYMPOSIUM

Emerging Issues and Challenges

Thursday, October 12, 2017 • Hampton Inn & Suites • Cazenovia, NY

The American Academy of Environmental Engineers and Scientists (AAEES) is hosting a one-day environmental symposium in Cazenovia, New York. Leading professionals from Central New York environmental specialties of water, wastewater, and solid waste will speak on emerging issues and challenges, and how to manage them in a sustainable, resilient, and cost-effective way. Attendees can earn up to 6 PDH credits.

Schedule for the Day

8:00 – 8:25 AM	Registration and Coffee
8:25 – 8:30 AM	Welcome *Howard LaFever, PE, BCEE, Associate (Past-President, AAEES)* *GHD*
8:30 – 9:30 AM	TRC Evolution, Alternatives, and Progress at OCDWEP *Dave Snyder, PE, Senior Process Control Engineer* *Jeanne Powers, Sanitary Engineer III* *Onondaga County Department of Water Environment Protection (OCDWEP)*
9:30 – 10:30 AM	Implementing a Framework for Efficiency and Resiliency from Intake to Tap *Dick Goodney, PE, Director of Engineering* *Mohawk Valley Water Authority (MVWA)*
10:30 – 10:45 AM	Break
10:45 – 11:45 AM	Trash to Treasure: Climate Solutions Through a Local Solid Waste System *Dereth Glance, Executive Director* *Onondaga County Resource Recovery Agency (OCRRA)*
11:45 – 1:00 PM	Lunch and Networking *Students from Clarkson University, Cornell University, Syracuse University, and Colgate University will be invited to join us in a networking opportunity*
1:00 – 2:00 PM	Emerging Issues and Challenges in CNY from a Regulatory Perspective *Matthew Marko, PE, BCEE, Regional Director* *NYSDEC – Region 7*
2:00 – 3:00 PM	Poster Board Session from an Academic Perspective • Water Quality Monitoring in the Streams and at a Water Resource Recovery Plant in Madison County, New York *Linda Tseng, Assistant Professor of Environment Studies and Physics* *Noah Campbell, Student* *Colgate University* • Ammonia Recovery During Food Waste Anaerobic Digestion Enhancing Biogas Yield While Maintaining Effluent Fertilizer Value *Taylor Lenney, Graduate Student, Institute for a Sustainable Environment* *Clarkson University*
3:00 – 4:00 PM	Ecosystem-Based Approach to Lake and Watershed Management *Elizabeth Moran, PhD, President* *EcoLogic, LLC*
4:00 – 4:05 PM	Summary and Adjournment *Peter Radosta, PE, BCEE, Senior Vice President* *Koester Associates, Inc.*

REGISTRATION FEES

Members $100.00
Non-Members $125.00
Students $25.00

Register online now at:
http://bit.ly/AAEES2017NYConference

HOTEL INFORMATION

Hampton Inn and Suites
25 Lakers Lane
Cazenovia, NY 13035
315-655-7666

$139 per night
Room block available 10/11/17 and 10/12/17

HOWARD LAFEVER, PE, BCEE, PAST-PRESIDENT, AAEES

Howard earned his B.S. in Civil Engineering from Clarkson University and his M.S. in Sanitary Engineering & Water Resources Planning from Cornell University. He has worked his way up through the engineering ranks in the past 46 years, specializing in wastewater and solid waste services at Stearns & Wheler to his current position as an Associate with GHD (formerly Stearns & Wheler). Howard is a licensed Professional Engineer in New York and is a Board Certified Environmental Engineer (BCEE) of the American Academy of Environmental Engineers and Scientists. He is currently serving on the Board of Directors through 2017 as Past-President.

DAVID SNYDER, PE, SENIOR PROCESS CONTROL ENGINEER

David has over 19 years of experience with the Onondaga County Department of Water Environment Protection and provides engineering support and project management for Onondaga County's six wastewater treatment plants. David's areas of focus include low-level phosphorus treatment (<0.10 mg/l), TMDL compliance, facility planning, capacity constraints, flow management, odor controls, retro-fit and rehabilitation, low-level mercury compliance, and capital improvement planning.

JEANNE POWERS, SANITARY ENGINEER III

Jeanne has 30 years of experience as an environmental engineer with the Onondaga County Department of Water Environment Protection. Her responsibilities currently include supervision of the process control engineering, source control engineering, and water quality monitoring sections of the department. She received a B.S. in Civil and Environmental Engineering from Clarkson University and is a licensed wastewater treatment plant operator.

DICK GOODNEY, PE, DIRECTOR OF ENGINEERING

Dick has over 38 years of experience in Municipal Infrastructure Engineering in both the private and public sectors. Dick is a graduate of the University of Buffalo and has worked for 20 years with the Stetson-Dale & Harza Engineering Companies in Utica and Chicago. Since 1999, Dick has been with the Mohawk Valley Water Authority, first as the Capital Projects Engineer, and more recently, as Director of the Engineering, Distribution and Maintenance Departments overseeing a staff of 50.

DERETH GLANCE, EXECUTIVE DIRECTOR

Dereth brings extensive knowledge of the Onondaga County Resource Recovery Agency to her position, having served on its Board of Directors for six years (2004-2010), including several years as the Vice Chair and Recycling Committee Chair. She served as a U.S. Commissioner at the International Joint Commission (IJC) charged with preventing and resolving disputes and promoting cooperation for the shared waters of the United States and Canada. Prior to that, she served as the Executive Program Director of the Citizens Campaign for the Environment (CCE) directing water, energy, and waste reduction programs for five regional offices in New York and Connecticut. She has served on New York State's Great Lakes Basin Advisory Council, the Clean Water Network, and the Onondaga Lake Partnership Outreach Committee. Dereth graduated from James Madison College of Public Affairs at Michigan State University with a degree in Political Theory and Constitutional Democracy.

MATTHEW MARKO, PE, BCEE, REGIONAL DIRECTOR

Matthew is the New York State Department of Environmental Conservation Region 7 Director, taking that position in October of 2016. He is a New York State licensed Professional Engineer, an American Academy of Environmental Engineers Board Certified Environmental Engineer (BCEE), and has traveled extensively both domestically and internationally serving the environmental needs of public and private clients for over 23 years. In 2008, Matthew was appointed by the New York State Governor to serve as Trustee for the SUNY College of Environmental Science and Forestry where he continues to serve as Chairman of the Board. He's a Past-President of the Syracuse Section of the American Society of Civil Engineers and proud to be elevated to Fellow. He's a graduate of the University at Buffalo, and studied abroad at the University of North London. He is well known for his presentations and publications on civic infrastructure, specifically green stormwater infrastructure, and embracing a style of adaptive management.

ELIZABETH MORAN, PH.D., PRESIDENT

Dr. Liz Moran is a water quality specialist who has spent much of her career at the interface of environmental science, engineering, and public policy. She earned a M.S. and Ph.D. from Cornell University. Liz is experienced in defining the interrelationships between land uses, point and nonpoint sources of pollution, water quality standards, and ecological integrity of surface waters. In 1997, she founded EcoLogic LLC, a woman-owned environmental consulting firm located in Cazenovia, serving public and private sector clients throughout the Northeast. Liz is currently working on several complex lake and watershed management projects, including Cayuga Lake, Owasco Lake, and Onondaga Lake.

PETER RADOSTA, PE, BCEE, SENIOR VICE PRESIDENT

Pete is an environmental engineering graduate of Clarkson University and has a master's degree from Syracuse University. He is a licensed Professional Engineer in New York State and is a Board Certified Environmental Engineer (BCEE) of the American Academy of Environmental Engineers and Scientists. Pete is experienced in the design and application of solids handling and dewatering systems for municipal wastewater.

AMERICAN ACADEMY OF ENVIRONMENTAL ENGINEERS & SCIENTISTS®

Protecting Our Precious Resource - Texas Waters

Thursday, October 19, 2017 | San Antonio Marriott Rivercenter Hotel
101 Bowie Street
San Antonio, Texas 78205

The American Academy of Environmental Engineers and Scientists (AAEES) has assembled leaders from across public utilities, academia, industry, consulting, and resource planning to provide perspective and insight on the constraints they are facing with regard to Texas water resources. Attendees will learn the scope of issues being addressed by small and large utilities and gain insights into the strategies being employed to meet water demands and energy needs. Addressing today's complex water needs requires careful planning and innovative solutions. Our collection of notable experts will present available options and programs that have worked to secure the future of Texas waters.

Time	Session	Speaker
8:25 a.m.	**Welcome and Introduction**	 **Robert C. Williams, P.E., BCEE** *President* American Academy of Environmental Engineers and Scientists
8:30 a.m. - 9:15 a.m.	**State of the San Antonio Water System**	 **Robert R. Puente** *President/CEO* San Antonio Water System
9:15 a.m. - 10:00 a.m.	**Headwaters at the Comal: Restoration, Education, Community**	 **Nancy Pappas** *Project Director* New Braunfels Utilities
10:00 a.m. - 10:45 a.m.	**Challenges to Texas Water Quality and Availability**	 **Dr. Danny D. Reible, P.E., BCEE** *Donovan Maddox Distinguished Engineering Chair* Texas Tech University
	Break	
11:00 a.m. - 11:45 a.m.	**Innovation in Resource Recovery – A Texas Perspective**	 **David R. Jackson, P.E., BCEE** *Principal, Vice President* Freese & Nichols
11:45 a.m. - 12:30 p.m.	**Challenges to Recycling and Reuse of Wastewater from Oil and Gas Wells**	 **Dan Mueller** *Director, Natural Gas Exploration and Production* The Environmental Defense Fund

12:30 p.m. - 1:30 p.m.	**Lunch** (Box lunch included with registration)		
1:30 p.m. - 2:15 p.m.	**Insights into Water Utilization & Engagement in the South TX Oil Field**	 **Christopher Ashcraft** *Vice President* South Texas Energy and Economic Roundtable  **Pete Spicer** *Senior Environmental Scientist* ConocoPhillips Eagle Ford Water Leader	steer South Texas Energy Economic Roundtable ConocoPhillips
2:15 p.m. - 3:00 p.m.	**What Makes the San Antonio River Important**	 **Suzanne Scott** *General Manager* San Antonio River Authority	San Antonio River Authority
3:00 p.m. - 3:45 p.m.	**The Regional Water Planning Process – A Success Story**	 **Kathleen Jackson** *Board Member* Texas Water Development Board	Texas Water Development Board
3:45 p.m. - 4:00 p.m.	**Closing Summary Roundtable**	**All Speakers**	
4:00 p.m.	**Adjourn**	**Robert C. Williams, P.E., BCEE** *President* American Academy of Environmental Engineers and Scientists	

Event Information

AAEES Members:.....$175.00
Non Members:.....$200.00
Student Members: $60.00*
*Limited number of Student Sponsorships available upon request

Registration Link:
http://bit.ly/2017TXConference

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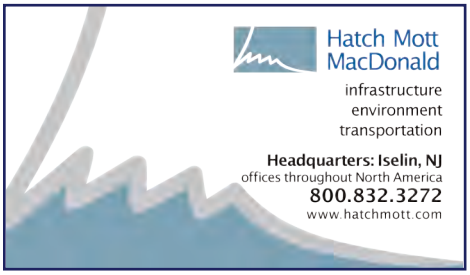

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Entries are accepted in the following categories:

- ❖Design
- ❖Industrial Waste Practice*
- ❖Planning
- ❖Small Firms
- ❖University Research
- ❖Environmental Sustainability
- ❖Operations/Management
- ❖Research
- ❖Small Projects

**The top prize for Industrial Waste Practice will also be presented with the W. Wesley Eckenfelder Industrial Waste Management Medal sponsored by AquAeTer*

To see profiles of the 2017 winning projects, go to **http://www.aaees.org** and click on **Excellence in Environmental Engineering and Science**.

Entries are due by February 1, 2018.

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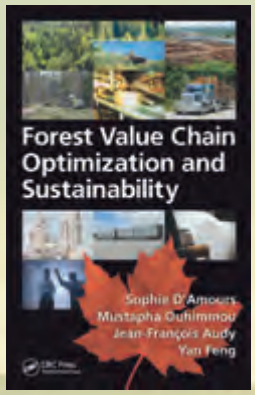

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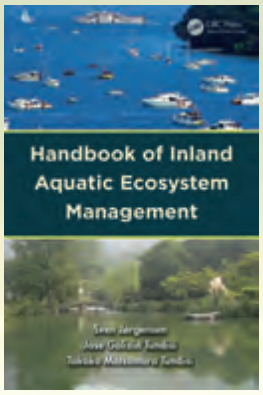

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