

AEESP Newsletter

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2 AEESP News

7 Member News

Highlights

| | | |
|--------------------------|------|---|
| President's Letter | PAGE | 1 |
| Spotlight | PAGE | 3 |
| Award Nominations | PAGE | 4 |
| New Faculty Appointments | PAGE | 7 |

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AEESP Newsletter Submissions

Please send news, conference announcements, job postings, letters to the editor, and other contributions to the newsletter to Laura Arias Chavez at LChavez@tntech.edu. The next newsletter will appear in May 2018.

President's Letter

By LINDA WEAVERS
The Ohio State University



Dear AEESP Members:

With 2017 in our rear view mirror, a bit of reflection is in order. Over the last year, advocacy and activism has weighed on many of our minds—should we?, shouldn't we?, if we do, how and what?. Last January, Peter Vikesland wrote in his President's Letter about how we, as environmental engineers and scientists, need to find our collective voices and become better at disseminating our knowledge beyond our typical venues of journal publication. Similarly, David Sedlak in his December 20, 2016 "Environmental Populism" editorial in *Environmental Science and Technology* called for "our community" to communicate the message that we can solve environmental problems without destroying the economy. He used many examples of good environmental policy based on sound science to back up his claim and call to action.

We have many reasons to think about advocacy. At the start of 2017, many of us were worried about changes that may occur under EPA administrator Pruitt. Unfortunately, we are seeing policy changes that are at best detrimental and at worst downright destructive to the environment and economy in the long-term. We ended the year with a scare on tax changes for tuition that would have affected many of our members. Beyond government, the "raw water" movement has made news.

Advocates and activists are people that intend to influence others, typically with the aim to affect change of a social, political, or economic system. Advocacy is typically defined as working inside the system while activism is working outside the system to affect change. Both are necessary tools in causing change. One could easily argue that through our research, we are advocates. But, the word "advocacy" to people in our community typically means much wider dissemination of our work. Moreover, there may be times in which it

is appropriate for us to work outside the system as activists. How do we become stronger advocates either as an individual or as AEESP? What should we advocate? How do we know we have run out of options trying to affect change through the inside and resort to activism? These are very complicated and challenging questions without easy answers. AEESP is beginning to dip its toe into the advocacy waters and I suspect some of you are doing the same yourselves.

Advocacy can involve raising awareness on issues, communicating to the public, civic engagement, lobbying to decision-makers, and campaigning on an issue. As an association, to provide effective advocacy, we need to evaluate our best opportunities. During my late-night web-surfing sessions on the subject, I came across a very nice (but long—144 pages) advocacy toolkit put together by UNICEF (https://www.unicef.org/evaluation/files/Advocacy_Toolkit.pdf). Core components in advocacy include credibility, knowledge, good judgement, creative problem solving, support from our leadership and membership, capacity to generate and communicate evidence, ability to assess risks of advocacy, capacity to create effective partnerships and networks, and of course, resources. With the exception of resources, AEESP has reasonable depth in many of these core components. As we dip our toe into these waters, I have been thinking a good deal about the risks and our strengths. An important strength for AEESP and its members is our credibility and thus, the risk of harming that credibility is a risk that needs to be carefully managed as we develop an advocacy strategy.

So, what are effective roles for us as environmental engineers and scientists and AEESP as an organization as advocates and "honest messengers"? The UNICEF toolkit lays out nine questions to help in our thinking:

What do we want?, Who can make it happen?, What do they need to hear?, Who do they need to hear it from?, How can we make

Continued on page 2



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sure they hear it?, What do we have?, What do we need?, How do we begin to take action?, and How can we tell if it's working?

At this point, AEESP's toe-dipping has not been strategic but opportunistic (and perhaps reactionary). Over the second half of my presidency, I plan to take our advocacy in a bit more of a strategic direction. We have some exciting projects already in progress. In October, the AEESP Board approved the formation of an ad-hoc committee, the Environmental Science and Policy Advisory Committee (ESPAC). The goal of this committee is to provide unbiased reviews of the science supporting selected planned regulatory actions under consideration by the EPA. In addition, our Membership and Demographics Committee is currently evaluating entries from student teams for the AEESP/EESF Student Video Competition, administered in partnership with AAEEES. This year's theme is The Value of Water. Beyond the winning students getting some cash, AEESP and AAEEES aim to increase awareness about environmental engineering and science.

I'll be honest, talking to journalists, lawmakers, and the public about environmental engineering and science is frightening for me. Over the past year, I have been working on swallowing my fear, arming myself with tools, and practicing my skills to become better at communicating to these groups. I have found a wealth of resources through various memberships in societies. I participated in an American Chemical Society webinar on communicating with journalists in December. I had a call from a journalist the next day—talk about good timing! Most importantly,

I was able to use information from the webinar and felt better prepared than a time a few years earlier when a reporter took information from me out of context and twisted the information in an unintended way (for me, not for the reporter). The important tips I learned from the webinar were to be prepared, have a clear and consistent message, don't be afraid to ask the reporter questions AND practice is important (just like any other skill, we must work on it to improve).

Peter, in his letter last January, appropriately indicated that our collective voice is stronger than individual voices. Thus, over the past year, AEESP has been working to figure out ways we can help our members endeavor on these activities. AEESP has an ad-hoc committee working on a web-based toolkit of advocacy resources for our members. Further, we are exploring partnerships with organizations and associations to leverage AEESP's skills and resources with those of partners as we work on advocacy. As an example, one of our sustaining members, the Water Environment Federation (WEF), has a legislative affairs staff that has been lobbying for expanding research on water issues. They are happy to have our members use their resources (see: <https://www.wef.org/advocacy/water-advocates2/>). Additionally, our Government Affairs Committee is working with them on needs they have where we have skill.

How deep have you dipped your toe into advocacy waters? How deep do you think AEESP should dip its toe? I'm happy to hear your thoughts!

Linda Weavers

AEESP Journal Environmental Engineering Science Spotlight

Derick G. Brown (Member of the AEESP Publications Committee), **Catherine A. Peters** (EES Deputy Editor),
Susan J. Masten (Chair of the AEESP Publications Committee), **Domenico Grasso** (EES Editor-in-Chief)

The “spotlight” column draws attention to selected articles in *Environmental Engineering Science*, the official journal of the Association of Environmental Engineering and Science Professors (AEESP). Spotlight articles appear regularly in the Journal as an Editor’s Note, as well as in the AEESP Newsletter. Through publication of high-quality peer-reviewed research, the *EES* journal helps AEESP achieve its mission of developing and disseminating knowledge in environmental engineering and science. In this entry, we shine the spotlight on selected articles from the August 2017 issue through the November 2017 issue of *EES*. Congratulations to all whose work is highlighted.

Waller T., Chen C. and Walker S.L. (2017) “Food and Industrial Grade Titanium Dioxide Impacts Gut Microbiota.” *Environ. Eng. Sci.* 34, 537.

Titanium dioxide (TiO₂) nanoparticles are used in many consumer applications including foods, personal care products, and pharmaceuticals. Waller et al. (2017) examined how exposure to TiO₂ nanoparticles can affect human health, focusing on the composition and phenotype of human gut microbiota. Using a reactor simulating the human colon, they demonstrated that exposure to TiO₂ altered the microbial ecology and reduced the colonic pH. Their results have important implications for environmental exposure and risk of TiO₂ nanoparticles.

Cho Y., Kim D., Kim J., Jang M. and Wachinski A.M. (2017) “Scale-Up Testing of a Novel Cleaning Method for Low-Pressure Hollow Fiber Membranes Treating High Algae Surface Waters.” *Environ. Eng. Sci.* 34, 835.

The occurrence of harmful algal blooms and potential transmission of algal toxins through water treatment systems poses a threat to human health. Addressing this issue, Cho et al. (2017)

demonstrated that a combined treatment process, including conventional coagulation, low-pressure membrane filtration, and granular activated carbon, was highly effective in removing blue-green algae. They also developed a new dynamic backwashing method for maintaining filter operation during algal blooms.

Klaus S., Sadowski M., Jimenez J., Wett B., Chandran K., Murthy S. and Bott C.B. (2017) “Nitric Oxide Production Interferes with Aqueous Dissolved Oxygen Sensors.” *Environ. Eng. Sci.* 34, 687.

Klaus et al. (2017) studied the impact of NO²⁻, N₂O, and NO on the operation of aqueous dissolved oxygen (DO) sensors. They found that the presence of NO results in positive interference in DO readings with some models of optical DO probes and this can affect the monitoring and control of both bench-scale and full-scale wastewater treatment processes.

Orner K.D., Ozcan O.Y., Saetta D., Boyer T.H. Yeh D.H., Anderson D. and Cunningham J.A. (2017) “House of Quality Planning Matrix for Evaluating Wastewater Nutrient Management

Technologies at Three Scales Within a Sewer-shed.” *Environ. Eng. Sci.* 34, 773.

Orner et al. (2017) developed a House of Quality planning matrix for evaluating wastewater nutrient management technologies at the individual building, sewer (conveyance), and community scales. This customizable methodology can be used to determine the most appropriate technologies for any given municipality and it provides a means to identify emerging nutrient recovery technologies that may be preferable over current baseline technologies.

Kogo A., Payne S.J. and Andres R.C. (2017) “Impact of Corrosion Control on Biofilm Development in Simulated Partial Lead Service Line Replacements.” *Environ. Eng. Sci.* 34, 711.

Kogo et al. (2017) used a partial lead service line replacement simulation loop to study the effects of corrosion inhibitors, water quality and flow conditions, and chlorine disinfection on biofilm growth and lead accumulation. A key finding was that biofilms can act as a lead reservoir and biofilm detachment and changes in water quality conditions could result in a significant release of lead.

2018 AEESP Award Nominations

Submitted by Rob Nerenberg (University of Notre Dame), AEESP Awards Committee Chair

The AEESP Awards Committee is pleased to call for nominations for 2018 AEESP awards. **Nominations may be submitted through March 15, 2018.** A brief description for each award is provided below. Please consider nominating a worthy colleague or student for one of these prestigious awards. All nomination materials must be submitted online. The submission link for each award, full instructions, and a list of prior award winners can be found online at <http://aeespfoundation.org/awards>. Unless stated otherwise below, awards will be presented on Monday, October 1, 2018 at the AEESP Meet and Greet at WEFTEC 2018 in New Orleans.

STUDENT AWARDS

CH2M/AEESP Outstanding Doctoral Dissertation Award

This award, endowed by CH2M, recognizes an outstanding doctoral dissertation that *contributes to the advancement of environmental science and engineering*. The award will consist of a plaque and cash prize of \$1,500 for the student and a plaque and cash prize of \$500 for the faculty advisor. Student and faculty award recipients who attend the award ceremony will receive up to \$750 in travel support. In the case of faculty co-advisors, the \$750 travel allotment must be shared. Faculty advisors should nominate dissertations completed under their supervision. Self-nominations by students will not be accepted. Only one submission is allowed per advisor is allowed. However, the nomination for this award is automatically considered for the Paul V. Roberts Outstanding Doctoral Dissertation Award as well (see below).

Paul V. Roberts/AEESP Outstanding Doctoral Dissertation Award

This endowed award is given annually to recognize a rigorous and innovative doctoral thesis that *advances the science and practice of water quality engineering for either engineered or natural systems. Special consideration is given to physical-chemical process research and/or research that especially supports underserved communities, environmental awareness, or sustainable solutions*. The award consists of a plaque and cash prize of \$1,500, and a plaque and cash prize of \$500 for the faculty advisor. Student and faculty award recipients who attend the award ceremony will receive up to \$750 in travel support. In the case of faculty co-advisors, the \$750 travel allotment must be shared. Faculty advisors are encouraged to nominate dissertations completed under their supervision, but must limit themselves to a single entry. Please note that each nomination for this award is automatically considered for the CH2M/AEESP Outstanding Doctoral Dissertation Award as well (see above).

AEESP Master's Thesis Awards

This award recognizes the top two *most outstanding M.S. theses that contribute to the advancement of environmental science and engineering*. Each award consists of a plaque and \$1,000 for the student as well as a plaque for the faculty advisor. The award also provides up to \$750 in travel support to student and faculty award recipients who attend the award ceremony. In the case of faculty co-advisors, the \$750 travel allotment must be shared.

William Brewster Snow Award

This award, administered in conjunction with the American Academy of Environmental Engineers and Scientists (AAEES), is given annually to recognize an *environmental engineering graduate student who has made significant accomplishments in an employment or academic engineering project*. Nominees for this award must be enrolled part- or full-time in an environmental engineering graduate program pursuing a Master's degree in Environmental Engineering or a closely related degree program, or have completed a Master's degree in Environmental Engineering or a closely related program one year or less from January 1 of the year in which the Brewster Snow Award is presented. The award consists of a plaque and a \$250 cash prize, which will be awarded at the AAEES Awards Luncheon in Washington, D.C., April 19, 2018.

W. Wesley Eckenfelder Graduate Research Award

This AAEES award recognizes a student whose research *contributes to the knowledge pool of wastewater management*. The award selection is based on original, innovative research of publishable quality, as well as other factors including academic program performance, professional or community service, engineering project accomplishment, and future goals. Consideration for this award is open to Master's and Ph.D. students performing research in the field of wastewater management. The recipient receives a plaque and cash honorarium of \$1,500. The student's faculty advisor also receives a plaque. A travel allotment of up to \$500 is also available to the student for travel to Washington, D.C., where the award will be presented at the AAEES Awards Luncheon, April 19, 2018.

Innovyze Excellence in Computational Hydraulics Hydrology Award

This AAEES award, co-sponsored by Innovyze, recognizes a student *whose research contributes to the knowledge pool in the area of Computational Hydraulics & Hydrology*. The award selection will be based on original, innovative research of publishable quality. Specific criteria are listed on the <http://aeespfoundation.org/awards> web page. Consideration for this award is open to Master's and Ph.D. students. The recipient receives a plaque and a cash honorarium of \$1,500 for the student, and a plaque and cash honorarium of \$500 for the major faculty advisor. A travel allotment of up to \$500 is also available to the student for travel to Washington, D.C., where the award will be presented at the AAEES Awards Luncheon, April 19, 2018.

EDUCATION, RESEARCH, AND PRACTICE AWARDS

AEESP Signature Awards

AEESP Award for Outstanding Contribution to Environmental Engineering & Science Education

This award recognizes an environmental engineering or science professor *who exhibits excellence in teaching scholarship and/or professional society educational initiatives*. Examples of such contributions include development or authorship of educational or instructional material or a text that enhances the student learning process, demonstrated effectiveness in course and/or curriculum development; and publication of original work, through peer-reviewed publications and/or presentations at professional meetings, that enhances the engineering education process or adds value to teaching methodology literature. Additional examples can be found on the awards web page. The recipient of this award will receive a plaque and a cash prize of \$500.

AEESP Award for Outstanding Teaching in Environmental Engineering & Science

This award recognizes an environmental engineering or science professor *who exhibits excellence in classroom performance and related activities*. The recipient will receive a plaque and a cash prize of \$500. Although open to nomination at any rank, the award is intended primarily to recognize a demonstrated commitment to teaching early in a person's career.

AEESP Outstanding Publication Award

This award recognizes the author(s) of a *"landmark environmental engineering and science paper that has withstood the test of time and significantly influenced the practice of environmental engineering and science."* At least one of the authors must be living and previous winners are ineligible for a period of three years. The recipients of this award will receive plaques in honor of their achievements.

OTHER AEESP AWARDS

Walter J. Weber, Jr. AEESP Frontier in Research Award

This award recognizes an environmental engineering or science professor *who has advanced the environmental engineering and science field through recognized research leadership and pioneering efforts in a new and innovative research area*. The selected recipient will receive a plaque and a cash prize of \$1,500. The sponsor also provides up to \$750 in travel support to be used by the recipient to attend the awards ceremony.

Perry L. McCarty AEESP Founders' Award

This award recognizes an environmental engineering and science professor who has made *"sustained and outstanding contributions to environmental engineering education, research, and practice."* The recipient of this award will receive a plaque, a cash prize of \$1,500, and up to \$750 in travel support to attend the awards ceremony.

Steven K. Dentel AEESP Award for Global Outreach

This award recognizes *outstanding contributions and leadership by a faculty member through involvement in environmental engineering and science outreach activities to the global community*. The recipient of this award will receive a plaque and a cash prize of \$1,500.

Charles R. O'Melia AEESP Distinguished Educator Award

This award is given annually to recognize the significant contributions of Professor O'Melia to environmental engineering education and will be awarded to an environmental engineering or science professor who has a record of excellent teaching in the classroom and through graduate student advising; significant research achievements that have contributed to environmental engineering knowledge; and an outstanding record of influence through mentoring of former students and colleagues. The recipient of this award will receive a plaque, a cash prize of \$1,500, and a \$750 travel allotment to attend the awards ceremony.

JOINT AEESP/AAEES AWARDS

The Frederick George Pohland Medal

This award honors an individual who has made *sustained and outstanding efforts to bridge environmental engineering research, practice, and education*. This award is jointly administered by AEESP and AAEES and members of AEESP and/or AAEES are eligible to receive this award. The award will consist of a medal, a \$1,000 cash award, and reimbursement of travel costs of up to \$1,000 for travel to the award ceremony.

Excellence in Environmental Engineering Education (E4) Award

This award, administered in conjunction with AAEES, recognizes an educator who has *excelled in the development of educational material or text that enhances the ability of students and/or practitioners to succeed as professional environmental engineers serving as practitioners in roles such as infrastructure design and project leadership*. The recipient will receive a monetary award of \$1,000 with an up to \$500 in travel support to attend the AAEES Awards Luncheon in Washington, D.C. on April 19, 2018.

AEESP/Mary Ann Liebert Award for Publication Excellence in Environmental Engineering Science.

Starting in 2018, this award will be given annually to the authors of an outstanding paper published in *Environment Engineering Science* during the previous calendar year. *Environmental Engineering Science* is the official journal of AEESP, and this award recognizes publication excellence among its members.

This award is determined by a selection committee comprised of the *EES* Editor-in-Chief (presently Domenico Grasso), the *EES* Deputy Editor (presently Catherine Peters) and the Chair of the AEESP Publications Committee (presently Susan Masten). In the future, the selection committee may be supplemented as needed to ensure that there are always at least 2 members of the committee who are members of AEESP.

The determination of publication excellence will be based on an integrated assessment of the following factors:

- The research must address an important research question that is relevant to environmental engineering science.
- The paper must be well written, clearly conveying the significance of the work and the broader impacts.

- The research must be high-quality, significantly original, and projected to withstand the test of time.
- The research must be substantial in scope and make a consequential advancement in the field.

The award-winning paper is selected among papers published in the January through December issues of the previous calendar year. Nominations are not required for consideration.

One of the authors, preferably the first author or the corresponding author, must be an AEESP member. All the co-authors are considered winners of the award and will receive certificates, but the monetary award of \$1000 will be given to a single author as determined by the selection committee.

Previous award winners will be eligible to receive this award only after five years beyond receiving the award.

Sponsor: Mary Ann Liebert, Inc. Publishers

Award amount: \$1,000

2018 AEESP Fellow Nominations

Submitted by Susan Powers (Clarkson University), Chair, AEESP Fellows Steering Committee

Nominations are being accepted for the AEESP membership classification of Fellow. Eligible nominees must have a minimum of 15 years of faculty-level membership in AEESP. It is expected that nominees will have achieved full promotion or emeritus status at their respective home institutions. Nominees for Fellow status will be evaluated based on an integrated assessment of their contributions in:

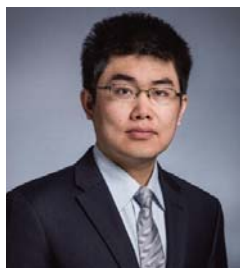
- research and scholarship
- the education of our students, the general public and/or the EES workforce
- service to the Association
- service in the promotion of the discipline of EES

Nomination packages must include (i) a letter of nomination and a one-paragraph citation from the nominator who must be an AEESP member, (ii) a full curriculum vitae and one-page statement from the nominee, and (iii) three supporting letters (each a maximum of one page). Self-nominations will not be accepted. Support letters must all be from individuals affiliated with different institutions. Application materials should be submitted electronically as a single pdf file to the Board Secretary (Greg Lowry, glowry@cmu.edu) by March 1, 2018. Application materials will be maintained and reevaluated for three consecutive years. Please note that the 2018 AEESP Fellows will be recognized at a ceremony held in conjunction with the 2019 Biennial AEESP Research and Education Conference (location TBD).

The AEESP Fellows Steering committee will coordinate review of the nominations. The committee will submit a recommended list of new Fellows to all Fellows for a vote (67% approval required) and then to the AEESP Board of Directors for final approval. Although there will be no absolute limit on the number of AEESP Fellows, as a guideline, it is anticipated that the number of Fellows will not exceed five percent of the AEESP faculty membership and that no more than five Fellows will be added in a single year.

New Faculty Appointments

Dr. Tiezheng Tong joins the Department of Civil and Environmental Engineering at Colorado State University



Dr. Tiezheng Tong joined the Department of Civil and Environmental Engineering at Colorado State University as an assistant professor in August 2017. Prior to joining the CEE faculty, he worked as a Postdoctoral Research Fellow at Yale University. Dr. Tong received his Ph.D. degree in Civil and Environmental Engineering from Northwestern University in 2015. He holds a B.S. degree (2008) with honors in Environmental Engineering from Beijing Normal University, a M.S. degree (2010) in Environmental Science and Engineering from Tsinghua University, and a second M.S. degree (2011) in Civil and Environmental Engineering from Northwestern University. He is the leading author or co-author of 23 peer-reviewed journal articles, and the recipient of several academic and professional awards, including the Environmental Chemistry Graduate Student Award from American Chemistry Society, a student award from Sustainable Nanotechnology Organization, and the prestigious Chinese Government Award for Outstanding Self-Financed Student Abroad. Dr. Tong and his group will apply an interdisciplinary approach to improve sustainability at the water-energy-health nexus. His research interests include (i) design and development of novel membrane materials and processes for sustainable water supply; (ii) environmental applications and implications of nanotechnology; and (iii) resource recovery from wastewater treatment processes.

environmental Engineering from Beijing Normal University, a M.S. degree (2010) in Environmental Science and Engineering from Tsinghua University, and a second M.S. degree (2011) in Civil and Environmental Engineering from Northwestern University. He is the leading author or co-author of 23 peer-reviewed journal articles, and the recipient of several academic and professional awards, including the Environmental Chemistry Graduate Student Award from American Chemistry Society, a student award from Sustainable Nanotechnology Organization, and the prestigious Chinese Government Award for Outstanding Self-Financed Student Abroad. Dr. Tong and his group will apply an interdisciplinary approach to improve sustainability at the water-energy-health nexus. His research interests include (i) design and development of novel membrane materials and processes for sustainable water supply; (ii) environmental applications and implications of nanotechnology; and (iii) resource recovery from wastewater treatment processes.

Dr. Matthew E. Verbyla joins the Department of Civil, Construction, and Environmental Engineering at San Diego State University (SDSU)



Dr. Matthew E. Verbyla joined the Department of Civil, Construction, and Environmental Engineering at San Diego State University (SDSU) as an Assistant Professor in August 2017. He received a B.S. in Civil Engineering from Lafayette College in 2006, and M.S. and Ph.D. degrees in Environmental Engineering in 2012 and 2015 from the University of South Florida. Matthew also completed a year of postdoctoral work in

Switzerland at École Polytechnique Fédérale de Lausanne (EPFL), where he learned to use cell culture and molecular methods to study the resistance, persistence, and adaptation of enteric viruses to disinfection.

Matthew's current research focuses on understanding the microbiological processes relevant to health protection for water, sanitation, and hygiene (WASH) services, in particular those that prioritize water reuse and resource recovery. His research interests include studying the fate and transport of pathogens (especially viruses) in wastewater systems and the environment,

quantitative microbial risk assessment (QMRA), stochastic modeling, and the development and application of statistical methods tailored to the needs of engineers and microbiologists. Matthew is currently a co-editor for the Sanitation Technologies group of the Global Water Pathogens Project (GWPP; waterpathogens.org), an initiative led by Michigan State University and UNESCO to produce an online open access platform for scientific knowledge on pathogens in water.

Kyle Bibby joins the University of Notre Dame

Submitted by Robert Nerenberg (University of Notre Dame)



Dr. Kyle Bibby joined the Department of Civil & Environmental Engineering & Earth Sciences at the University of Notre Dame in July 2017 as an associate professor and the Wanzek Collegiate Chair. Dr. Bibby received his Ph.D. (2012) in Environmental Engineering from Yale University and B.S. (2008) from the University of Notre Dame. Dr. Bibby is also a registered professional engineer. Prior to joining Notre Dame, he was an assistant professor at the University of Pittsburgh (2013-2017).

Dr. Bibby's research focus is microbiology relevant to water quality and public health protection. Specific research foci include the detection and fate of human pathogenic viruses in the environment and the microbiome of the built environment. To conduct these investigations, Dr. Bibby's research group uses molecular biology tools, primarily DNA sequencing based approaches such as metagenomics. More information on Dr. Bibby's research and teaching interests can be found at <https://engineering.nd.edu/profiles/kbibby>.

Two new appointments at Alabama

Submitted by Mark Elliott (University of Alabama)



Prabhakar Clement joined the Department of Civil, Construction and Environmental Engineering at the University of Alabama as a full professor in Spring of 2018. He will also serve as the director of their new water center. Before joining UA, Dr. Clement was the Distinguished Alumni Professor in the Department of Civil Engineering at Auburn University, where he taught for over 15 years (2002-2017). He also worked at the Department of Environmental Engineering,

University of Western Australia for 3 years (2000-2002), and at the Battelle Pacific Northwest National Laboratory in Washington for 7 years (1994-2000). Dr. Clement is the lead author of the widely used MODFLOW-family groundwater model RT3D. He has supervised 10 PhD dissertations and authored over 100 peer-reviewed publications. He is an elected fellow of ASCE and EWRI. In 2016, he won the John Hem Award for Excellence in Science & Engineering from the National Groundwater Association. His current research interests include groundwater remediation, saltwater intrusion management, water quality assessment, oil spill management and numerical modeling of environmental systems.



Leigh G. Terry joined the Department of Civil, Construction and Environmental Engineering at the University of Alabama as an Assistant Professor in Spring of 2018. Dr. Terry received her Ph.D. and M.S. in Environmental Engineering from the University of Colorado, Boulder and B.S. in Civil Engineering from the University of Alabama. Her doctoral research focused on organic matter removal via biological filtration and removal efficiency based on optimized

quantifiable systems factors. Other research interests include disinfection by-products, life-cycle assessment, and treatment options available for small systems.

New faculty joins Environmental and Water Resources Engineering at the University at Buffalo — SUNY



Dr. Ian Bradley will be joining the Department of Civil, Structural and Environmental Engineering and the RENEW Institute at the University at Buffalo — The State University of New York (SUNY) as an Assistant Professor in January 2018. He received his Ph.D. (2017) in Environmental Engineering from the University of Illinois at Urbana-Champaign (UIUC), where he worked with Dr. Jeremy Guest on nutrient and carbon dynamics of algal-bacterial wastewater systems. Dr. Bradley

received his M.S. degrees in Civil and Environmental Engineering, also from UIUC. His research focuses on biological processes in engineered and natural systems for water and wastewater treatment and resource recovery, with a particular emphasis on eukaryotic and microalgal community interactions. His work utilizes molecular methods along with laboratory and field experimentation to link microbial community structure and function with design and operational parameters of systems. Dr. Bradley is also interested in sustainable biological water and wastewater treatment in a global context, and in how biological processes can offer low-input, decentralized treatment to areas that need it most.

Two new hires at Arizona



Dr. Kerri Hickenbottom and **Dr. Andrea Achilli** would like to announce their recent appointments as Assistant Professors in the Department of Chemical and Environment Engineering at the University of Arizona (U of A). Prior to joining U of A, Kerri graduated with her Ph.D. in Environmental Science and Engineering at the Colorado School of Mines under the advising of Prof. Tzahi Cath, then joined the Department of Environmental Resources Engineering at Humboldt State University, a primarily undergraduate serving institution. Her research is focused on the development of novel engineered systems for resource recovery and reclamation from concentrate streams. She has investigated the technical, economic, and environmental life cycle impacts of a hybrid, membrane-based process (pressure retarded osmosis-membrane distillation) for energy generation from low-grade heat, forward osmosis for advanced treatment and recovery of drilling



wastewater from hydraulic fracturing fluids, and membrane distillation for management of concentrate streams. Andrea completed his Ph.D. at the University of Nevada, Reno advised by Prof. Amy Childress and Prof. Eric Marchand and then spent a few years at Humboldt State University developing his undergraduate teaching portfolio and being the P.I. on several desalination and water reuse projects, including EPRI, CA DWR, EREF, and SERDP. He has over 10 years of research experience in membrane processes for desalination and water reuse, including membrane distillation and energy recovery. His research focuses on process integration, modelling, and optimization for water and wastewater treatments. At the U of A he is increasing the capacity of the Water Environment Sustainable Technology (WEST) center by adding a membrane processes component into a collaborative environment. They both look forward to developing the new environmental engineering B.S. program at U of A, advising graduate and undergraduate students in environmental and chemical engineering, and continuing their research by collaborating with other researchers and institutions across campus.

Elimelech Elected to the Chinese Academy of Engineering



Menachem (Meny) Elimelech, the Roberto Goizueta Professor of Chemical & Environmental Engineering at Yale University, has been elected to the prestigious Chinese Academy of Engineering (CAE). He is only one of eighteen foreign members elected to the CAE this year. The group of foreign members elected this year also includes Bill Gates, Nobel laureates James Fraser Stoddart and Andre Geim, and MIT president L. Rafael Reif.

The induction ceremony will be held in June next year at the 2018 CAE Annual meeting in Beijing, and will be attended by China's president, Xi Jinping. With his election to the academy, Elimelech will receive a diplomat card, affording him VIP privileges in China.

His election to the CAE is just the most recent of numerous major awards in recognition of his research and education accomplishments. Other notable examples include election to the National Academy of Engineering in 2006, the Eni Award for Protection of the Environment in 2015, often considered the Nobel Prize for Energy/Environment, and the Clarke Prize for excellence in water research in 2005. Elimelech is also a Clarivate Analytics (formerly Thomson Reuters) Highly Cited Researcher (top 1%) in two categories: Chemistry and Environment/Ecology.

In addition to his research achievements, Elimelech is an effective and dedicated mentor. He has advised 36 Ph.D. students and over 30 postdoctoral researchers, many of whom hold leading positions in academia and industry. In recognition of his excellence in mentoring, he received the Yale University Graduate Mentoring Award in 2004 and Postdoctoral Mentoring Prize in 2012. Elimelech is also the founder of the environmental engineering program at Yale University.

Announcements from the Water Environment & Reuse Foundation

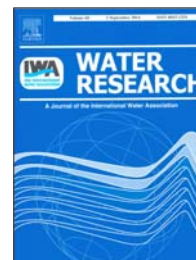
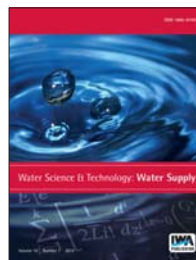
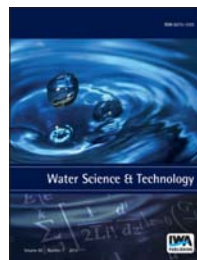
Submit Nominations for the 2018 Paul L. Busch Award

The Endowment for Innovation in Applied Water Quality Research is now accepting nominations for the Paul L. Busch Award to recognize an outstanding individual for innovative research in the field of water quality and the water environment. Previous award winners were recognized leaders in the field such as Nancy Love, Ph.D., Bruce Logan, Ph.D., and Kartik Chandran, Ph.D., who have all had major breakthroughs in the energy-water nexus. For more information, visit the Awards section of www.werf.org

2018 Research Conference Dates Extended – May 6-8, 2018

The 2018 Water Research Foundation Conference on Advancing Reuse & Integrated Water is designed to help communities prepare for the future by offering innovative approaches and solutions for managing our water resources. The conference will be held May 6-8 in Atlanta, GA. See <http://www.werf.org/2018researchconference> for more information.

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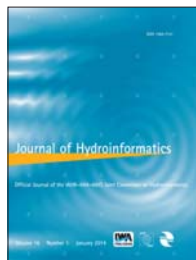
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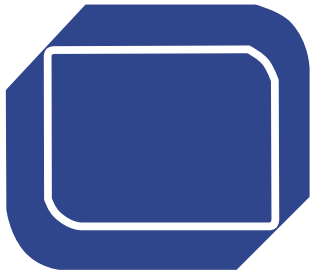
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