

AEESP Newsletter

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3 Award Recipients

9 AEESP News

14 New Faculty Appointments

Highlights

President's Letter	PAGE	1
Board Meeting Highlights	PAGE	9
AEESP Lecturers Committee		
Upcoming Events	PAGE	11

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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 Steve Mylon at mylons@lafayette.edu. The next newsletter will appear in January 2017

President's Letter

by PETER VIKESLAND
Virginia Tech

Dear AEESP Members:



At most universities, Fall is a time of transition from the less conscripted days of summer to the consistently full days of the Fall semester or quarter. In tune with the change in the color of the leaves and an expected drop in temperature, we prepare for classes and exponential increases in the number of meetings to attend and committees we are asked to serve on. This is the academic cycle that most of us in the AEESP community know extremely well and follow year-in, year-out. Cyclic regularity provides comfort, but also the potential for complacency in terms of the classes we offer and the research we conduct. However, the world outside of our academic campuses is not static. One only has to be moderately conscious to recognize that the Earth's climate is changing, water is becoming increasingly scarce, air quality is not what it should be, and new (or old) diseases continue to threaten us every day. In the face of these issues, the greater AEESP community is going through a time of transition in which many of us are questioning exactly what skills define an environmental engineer or scientist.

In response to this uncertainty, AEESP immeditate past President Greg Characklis, AEESP past President Amy Childress, and I organized the NSF sponsored workshops on "Redefining Environmental Engineering and Science in the 21st Century" that were held this past year at the University of Southern California, Rice University, and Virginia Tech's facility in Arlington, VA. Those workshops, which Greg described in detail in his letters this past year, brought together a broad array of AEESP members. While Greg, Amy, and I are still compiling and studying the data from these workshops, one thing that struck me personally was the extreme breadth of the field of environmental science and engineering. Within the AEESP family we have members conducting work and teaching classes in 'traditional'

areas such as local and global air pollution, water quality, and contaminant remediation. We also have members with interests in 'new' areas such as developing regions, carbon capture, nanoscience, economic and social impacts, systems engineering, and climate science. The breadth of the field is empowering, yet simultaneously scary.

Given the current and historic societal responsiveness of our community, the push and pull of funding, the globalization of our field, and our own ever-changing interests it is clear environmental engineering and science education is shifting and thus there is a need to think about whether we are providing our current students with the skills to address the unforeseen challenges of the future. We can, however, take solace in the fact that such a question is not new and as described in the publication 'AEEP - 25 Years' it is one that our community has addressed and re-addressed ever since the founding of our predecessor organization the American Association of Professors in Sanitary Engineering (AAPSE) in 1964. As early as 1967 at the 2nd National Conference on Environmental Engineering Education held at Northwestern University it was noted that courses in environmental chemistry and environmental biology are foundational, but that they should be augmented with courses that provide an understanding of social sciences (public policy, law, institutions, economics, planning, public administration, etc...) and systems analysis. Looking at the extended list, one is struck by the fact that while new topics may have been added (and some removed), the core of most environmental engineering and science programs remains the same as it was when the field was in its infancy. In that light, we are not necessarily looking to redefine the field, but instead are returning it to its roots by building upon our strengths and augmenting them with new fields of inquiry. Nonetheless, as an accredited profession we must consider how an engineer is edu-

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President's Letter

continued from page 1

cated and what knowledge is entrained with that education. It is in this capacity that I hope AEESP can provide guidance both within the US and internationally.

As an organization composed primarily of professors and students, AEESP must continue to play an important role disseminating information and advising our members about the educational programs of our membership. To aid in this endeavor, the AEESP Board of Directors recently established the Environmental Engineering and Science Program Leaders Committee. This important committee will serve as a conduit of information between AEESP, the academic leaders of environmental engineering and science programs, the American Academy of Environmental Engineers and Scientists (AAEES), and ABET. As this committee develops over the course of the current and future years, I expect it will provide guidance to AEESP and its members as we collectively navigate the waters of the ever-changing future.

Let me conclude by noting that within AEESP, the Fall of 2016 also brings about a transition as we see three long-serving Board of Directors members, Greg Characklis, Shankar Chellam, and Ching-Hua Huang rotating off. I thank Greg, Shankar, and Ching-Hua for their friendship and their collective service to AEESP over the years. It was a pleasure to work with all of them. Moving forward, I and my fellow continuing Board members welcome Karl Linden, Lut Raskin, and Timm Strathmann to the Board. In addition, we welcome Paige Novak back to the Board. Paige graciously accepted our invitation to serve the remainder of Jeanine Plummer's term. Jeanine recently left academia to accept a position in environmental consulting and we collectively wish her well in her future endeavors! I am honored and excited to lead this great organization over the course of the next year and I look forward to meeting many of you at the AEESP Biennial meeting in Ann Arbor, Michigan next June 21-22, if not before.

Peter Vikesland
[@petervikesland](https://twitter.com/petervikesland) on twitter

2016 AEESP Award Recipients

Submitted by LYNN KATZ (University of Texas)

The 2016 AEESP Awards were presented to attending recipients at the AEESP Awards Ceremony held at the 2016 Water Environment Federation's Annual Technical Exhibition and Conference (WEFTEC) in New Orleans on September 26, 2016. Below is a list of the recipients of these awards. Congratulations to all award winners!

Thank you to the members of the awards committee and sub-committees for thoughtful and thorough evaluation of the nominations: Helen Hguyen, Avery Demond, Kevin Finneran, Robert Nerenberg, Jeff Cunningham, Lucy Camacho, Ruth Richardson, Aria Amirbahman, Jianmin Wang, Jeff Nason, Boris Lau and James Stone. Thanks also to AAEEES members Cecil Lue-Hing, Richard Magee, John Tobiason, James Mihelcic, Hector Fuentes and Webster J. Owen, Jr., for serving on joint AAEEES/AEESP awards committees. The committee also notes with sadness the passing this summer of AAEEES awards committee member and University of Texas Emeritus Professor Joseph Malina.

Student Awards

CH2M/AEESP Outstanding Doctoral Dissertation Award

This award is given annually to recognize an outstanding doctoral dissertation that contributes to the advancement of environmental science and engineering.

Dr. Lauren B. Stadler (advised by Nancy Love)

University of Michigan

Elucidating the Impact of Low Dissolved Oxygen Wastewater Treatment on Pharmaceutical Fate



Dr. Lauren Stadler (center) accepts the CH2M/AEESP Outstanding Doctoral Dissertation Award from AEESP President Peter Vikesland and Advisor Dr. Nancy Love.

Paul V. Roberts/AEESP Outstanding Doctoral Dissertation Award

This award is given annually to recognize an outstanding doctoral dissertation that advances the science and practice of water quality engineering for either engineered or natural systems.

Dr. Sara Beck (advised by Karl Linden)

University of Colorado, Boulder

Wavelength-Specific Effects of Ultraviolet Light on Microorganisms and Viruses for Improving Water Disinfection



Dr. Sara Beck accepts the Paul V. Roberts/AEESP Outstanding Doctoral Dissertation Award from AEESP President Peter Vikesland (Advisor: Dr. Karl Linden, not pictured.).

The 2016 dissertation awards sub-committee noted that they received a number of exceptionally outstanding nominations this year, and selecting winners was challenging. Consequently, in addition to the two award winners, the Awards Committee recognizes **Nicolette Zhou** from the **University of Washington** with an **Honorable Mention** for her dissertation, *Trace Organic Contaminant Degradation by Isolated Bacteria Bioaugmented into Lab-Scale Reactors and Identification of Associated Degradation Genes*. Dr. Zhou was advised by **Professor Heidi Gough**.

MWH/AEESP Master's Thesis Award

This award annually recognizes the first and second most outstanding Master of Science theses that contribute to the advancement of environmental science and engineering.

First Place: Adel Soroush (advised by Saifur Rahaman)

Concordia University

Development of Antimicrobial Thin-Film Composite Forward Osmosis Membranes by Using Silver Nanoparticles and Graphene Oxide Nanosheets



Adel Soroush accepts the First Place MWH/AEESP Masters Thesis Award from AEESP President Peter Vikesland. (Advisor: Dr. Saifur Rahaman, not pictured.)

Second Place: Meng Wang (advised by Shaily Mahendra)
University of California–Los Angeles

Peroxidase Enzymes Packaged in Vaults as an Innovative Bioremediation Technology



Meng Wang (center) accepts the Second Place MWH/AEESP Masters Thesis Award from AEESP President Peter Vikesland. (Advisor: Dr. Shaily Mahendra, right.)

W. Wesley Eckenfelder Graduate Research Award

This award, jointly administered by AEESP and AAEEES, is given annually to recognize a student whose research contributes to the knowledge pool of industrial wastewater management.

Dr. Matthew Verbyla (advised by James Mihelcic)
University of South Florida

William Brewster Snow Award

This award, jointly administered by AEESP and AAEEES, is given annually by the American Academy of Environmental Engineers and Scientists (AAEES) to an outstanding environmental engineering student currently pursuing or recently completing a Master's degree in Environmental Engineering or closely related degree program.

Mr. Gregory Hinds (advised by Sarina Ergas)
University of South Florida

Graduate Research Award in Computational Hydraulics & Hydrology

This award is given annually by AAEEES and is cosponsored by Innovyze to recognize an M.S. or Ph.D. student whose research contributes to knowledge in the area of computational hydraulics and hydrology.

Ms. Jennifer Jefferson (advised by Reed Maxwell)
Colorado School of Mines

Education, Research, Practice and Outreach Awards

AEESP Award for Outstanding Teaching in Environmental Engineering and Science

This award is given annually to recognize excellence in classroom performance and related activities.

Paola Passalacqua, The University of Texas at Austin



Dr. Paola Passalacqua, right, accepts the AEESP Award for Outstanding Teaching in Environmental Engineering and Science from AEESP President Peter Vikesland.

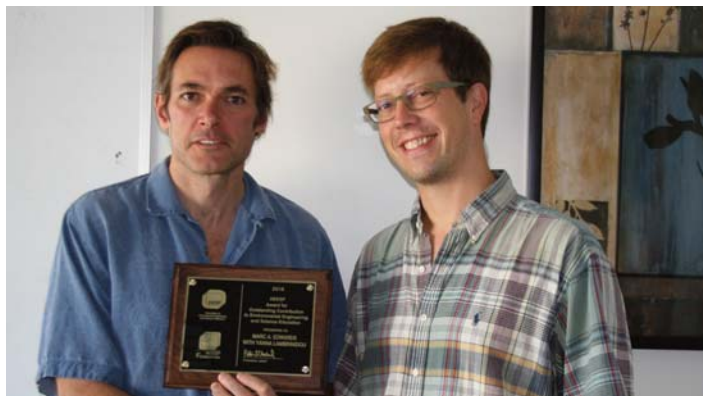
Paola Passalacqua joined the University of Texas in January 2011 and immediately demonstrated her excellence in the classroom. Paola's instructor teaching evaluations are superb, averaging 4.8 out of 5.0 for her undergraduate classes in Hydraulics and Hydrology. She has completely revised the laboratory exercises in Hydraulics, developed a series of classroom exercises that guide students through theory and practical problems, and introduced examples based on recent disasters such as floods and fires. Her nominator, Professor Desmond Lawler, noted, "rarely, if ever, have I seen such a dramatic impact of a faculty member on students through undergraduate teaching as I see in Paola." Her students comment on her passion, the clarity, organization and "orchestration" of her lectures, and her mentoring skills.

AEESP Outstanding Contribution to Environmental Engineering and Science Education

This award is given annually to recognize and honor the development of innovative teaching methods, including the application of these methods in the classroom and the dissemination of methods to the academic community.

Yanna Lambrinidou, Parents for Nontoxic Alternatives and Marc Edwards, Virginia Polytechnic Institute and State University

Dr. Lambrinidou is the Founder and President of Parents for Nontoxic Alternatives and has been an adjunct faculty member at Virginia Tech. Marc Edwards is the Charles P. Lunsford Professor of Civil and Environmental Engineering at Virginia Tech. Over the past nine years, Yanna and Marc have inspired many in our field with their commitment to public health, sound science and ethics. Their dedication and perseverance to exposing drinking water crises in Washington D.C. and Flint, MI have led to changes in policy, advances in research efforts, and pedagogical development in teaching engineering ethics. Their course "Engineering Ethics and the Public" is a model for engaging students in active discussions of broader engineering topics. Their NSF grant, "Bridging the Gap Between Engineers and Society: Learning to Listen" helped produce a series of modules on ethics that include coordinated reading assignments, presentation materials, videotaped interviews, and suggested discussion questions, exercises, and projects. They have presented their unique approach toward ethics education at national meetings hosted by AEESP, ASEE and others, and their efforts have already had a profound impact on broadening the definition of ethics in engineering.



Dr. Marc Edwards (left) accepts the AEESP Outstanding Contribution to Environmental Engineering and Science Education Award from AEESP President Peter Vikesland. Co-winner Yanna Lambrinidou is not pictured.

Steven K. Dentel/AEESP Award for Global Outreach

This award, established in 2014, is given annually to recognize outstanding contributions and leadership by a faculty member through involvement in environmental engineering and science outreach activities to the global community.

David Sabatini, University of Oklahoma

David Sabatini is the Boyd Professor and Sun Endowed Chair of Civil Engineering and Environmental Science at the University of Oklahoma, and Director of the Water Technologies for Emerging Regions (WaTER) Center. He has demonstrated extraordinary commitment to global outreach, education and research since the beginning of this century by developing international educational programs and research collaborations in Germany, Thailand, and Ethiopia. Through these collaborations he has become a leader in demonstrating how improving water and sanitation in the developing world can be integrated into a graduate environmental engineering research program of a major U.S. university. His model for collaboratively engaging multiple stakeholders, graduate students and communities to improve water supply and sanitation issues in developing countries is exemplary.



Dr. David Sabatini (right) accepts the Steven K. Dentel/AEESP Award for Global Outreach from AEESP President Peter Vikesland.

Charles R. O'Melia/AEESP Distinguished Educator Award

This award recognizes the significant contributions of Professor O'Melia to environmental engineering education and is awarded to an environmental engineering or science professor who has a record of excellent classroom teaching and graduate student advising; significant research achievements; and an outstanding record in mentoring of former students and colleagues.

James Edzwald, University of Massachusetts, Emeritus and Clarkson University

Jim Edzwald is widely regarded by his colleagues and students as one of the finest teachers in our field. He brings a wealth of theoretical and practical knowledge to his students that comes from decades of active research, teaching and consulting. He has advised over 60 graduate students who have gone

on to successful careers in academia, industry and consulting. Jim has also been engaged in education and service beyond the university. He has been a leader in bringing fundamentals and current research to industry. For example, there are currently over 600 graduates of the Institute in Drinking Water Treatment, an annual 3-day short course, that Jim created in 1988. Among his extensive honors and awards are the AEESP Founders Award, AEESP Outstanding Publication Award, the AWWA A.P. Black Award, and the ASCE Walter L. Huber Research Prize. He has also received multiple teaching awards including the James L. Tight Civil Engineering Distinguished Teaching Award from the University of Massachusetts. Jim Edzwald is truly a distinguished educator in our field.



Dr. James Edzwald accepts the Charles R. O'Melia/AEESP Distinguished Educator Award from AEESP President Peter Vikesland.

ARCADIS/AEESP Frontier in Research Award

This award is given annually to recognize 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.

Paul Anastas, Yale University

Dr. Paul Anastas is the Teresa and H. John Heinz III Professor in the Practice of Chemistry and the Director of the Yale Center for Green Chemistry and Green Engineering at the Yale School of Forestry and Environmental Studies. For the past twenty years, Dr. Anastas has not only pioneered the field of Green Chemistry, he coined the phrase. His vision, dedication and sustained leadership have led to the development and application of a set of 12 design principles of green engineering and provided a framework for sustainable technology development. Moreover, it has revolutionized the global chemical industry and fostered the growth of an entire field of research and education which emphasizes resource recovery. His impact on the field has been felt in the classroom, in industry and at EPA. As Assistant Administrator and chief scientist at EPA, Paul realigned the entire structure of EPA's research portfolio around the concept of sustainability while leading the effort to address environmental challenges such as Deepwater Hori-

zon. His reach goes well beyond the U.S. as his vision has received international recognition. He has given numerous keynote talks both nationally and internationally and helped found green chemistry networks in Africa, India, China and South America. As his colleague states, "Paul Anastas has changed the world."



Dr. Paul Anastas (right) accepts the ARCADIS/AEESP Frontier in Research Award from AEESP President Peter Vikesland.

Outstanding Publication Award

This award is given annually to recognize 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 selected recipient will receive a plaque.

**Authors: Dominic Di Toro, University of Delaware
Paul Paquin, HDR Inc.
Karuppanan Subburamu
D. Gruber**

for their paper:

"Sediment Oxygen Demand Model: Methane and Ammonia Oxidation", *Journal of Environmental Engineering*, 116 (5), pp 945 - 986. 1990

This landmark paper established the theoretical basis for linking settling organic particles and water boundary conditions with the resulting fluxes of gases and dissolved nutrients across the sediment-water interface. Prior to this, sediment oxygen demand (SOD) and dissolved nutrient fluxes were not modeled explicitly, but rather were set as constant boundary conditions based on direct measurements, model calibration, or "educated guesses". This paper provided the mechanistic modeling of sediment-water interactions thereby filling the missing link for predictive water-quality modeling. With a simplistic and elegant mathematical model, these researchers provided a theoretical explanation for the relationship between sediment oxygen demand and sediment organic matter concentration. Subsequent publications expanded the theory and formulated the full numerical form that is integrated in most current management-oriented public-domain

water quality models. Thus, this work has stood the test of time and continues to be a significant contribution to our field.

Perry L. McCarty/AEESP Founders' Award

This award, established in 1991 and endowed in 2014, is given annually to recognize a member of AEESP who has made "sustained and outstanding contributions to environmental engineering education and practice."

Bruce E. Rittmann, Arizona State University

Like his advisor Perry McCarty, Bruce's leadership in environmental biotechnology spans decades. As his nominator Paul Westerhoff reminds us, "Beginning in the late 1970s, he was among the pioneers in the field of biofilm modeling, and he continues to expand the scope and biofilm modeling to new technologies whose biofilms have complex microbial communities. In the 1980s, Dr. Rittmann teamed with Dr. David Stahl to introduce environmental engineering and the water field to the powerful new tools of molecular biology. ... In the 1990s, he and Dr. Jeanne VanBriesen introduced multi-component biogeochemical modeling to be able to describe the complex interactions between microbial reactions and the many chemical reactions occurring in aqueous solution. In the 2000s, Dr. Rittmann, along with Drs. Andrew Marcus and César Torres, developed quantitative understanding of how anode-respiring bacteria (ARB) conduct electrons to the anodes of microbial electrochemical cells." Bruce's textbook, *Environmental Biotechnology: Principles and Practices*, co-authored with Perry McCarty, is another of his outstanding contributions to our field. In addition to being one of the world's most highly cited researchers and holding twelve patents for his innovations in biotechnology, Bruce's numerous achievements include election to the National Academy of Engineering, the inaugural Clarke Prize for Outstanding Achievement in Water Science and Technology, and the American Academy of Environmental Engineers and Scientists' Grand Prize for University Research. At ASU, he is a Regent's Professor, the highest honor awarded to a faculty member at the University. He has clearly made outstanding contributions to environmental engineering education and practice throughout his career.



Dr. Bruce Rittmann (right) accepts the Perry L. McCarty/AEESP Founders' Award from AEESP President Peter Vikesland.

Fredrick George Pohland Medal

This award honors a member of AEESP and/or the American Academy of Environmental Engineers and Scientists (AAEES) who has made sustained and outstanding efforts to bridge environmental engineering research, education, and practice.

Glen T. Daigger, University of Michigan and One Water Solutions

There are few individuals in our field who have done more to bridge environmental engineering research, education, and practice than Glen Daigger. As his nominator, Nancy Love suggests he helps "researchers understand the setting for practice and practical problems that need to be solved and likewise brings new discoveries into practice." He has held leadership positions in industry and academia, serving as senior vice president of Ch2M Hill (now Ch2M), president and founder of One Water Solutions and department chair of Environmental Systems Engineering (ESE) at Clemson University. As a practicing engineer, he has been involved in the planning, development, design, construction, start-up and operation of wastewater treatment facilities for industry and municipalities. As an educator, Glen has taught hundreds of short courses and professional development seminars to practicing engineers and treatment plant operators. He has co-authored widely used educational materials, such as the graduate level textbook *Biological Wastewater Treatment*, now in its third edition and co-authored with Les Grady (a Pohland Medal winner), Nancy Love, and Carlos Filipe. His researcher's and practitioners' reference guide, *Manual on the Causes and Control Activated Sludge Bulking, Foaming, and Other Sludge Settling Problems*, is also in its third edition and co-authored with David Jenkins (a Pohland Medal winner) and Mike Richard. In his current role of Professor of Engineering Practice in the Department of Civil and Environmental Engineering at the University of Michigan, he brings "real world" experience into the classroom and the research program. His ability to bridge research, education and professional practice has led to numerous awards including election to the National Academy of Engineering and being listed as Most Influential Individual in Water for 2015 by Water and Wastewater International.



Dr. Glenn Daigger (right) accepts the Frederick George Pohland Medal from AEESP President Peter Vikesland.

Distinguished Service Awards

AEESP Distinguished Lecturer Award

Dr. Nancy G. Love, University of Michigan

Award for service as AEESP's Lecturer for the 2015-16 Distinguished Lecturer Series.



AEESP Board Members

Gregory W. Characklis, University of North Carolina
Distinguished Service Award for Outstanding Service as AEESP President and Board Member

Shankar Chellam, Texas A&M University
Distinguished Service Award for Outstanding Service as Chief Information Officer and AEESP Board Member

Ching-Hua Huang, Georgia Institute of Technology
Distinguished Service Award Outstanding Service as AEESP Secretary and Board Member

AEESP Committee Chairs

Lee M. Blaney, University of Maryland, Baltimore County
Distinguished Service Award for Outstanding Service as Chair of the AEESP Membership and Demographics Committee

David A. Ladner, Clemson University
Distinguished Service Award for Outstanding Service as Chair of the AEESP Student Services Committee

Karl Linden, University of Colorado, Boulder
Distinguished Service Award for Outstanding Service as Chair of the AEESP Lecturers Committee

Jeffrey A. Cunningham, University of South Florida
for Outstanding Service as Chair of the AEESP Ph.D. Dissertation Awards Sub-committee

Lynn E. Katz, University of Texas at Austin
for Outstanding Service as Chair of the AEESP Awards Committee

Highlights of the AEESP Board of Directors Fall 2016 Meeting

Submitted by MAYA TROTZ (University of South Florida, AEESP Vice-President)

The AEESP Board of Directors met on September 12 & 13 at the Ohio State University. The Board was joined by Brian Schorr, AEESP's manager of business operations, from Technology Transition Corporation (TTC). The following is a summary of highlights from the board of directors meeting:

New Board Members: The Board welcomed the following newly elected members from the 2016 board elections:

Karl Linden, University of Colorado, Boulder

Lutgarde Raskin, University of Michigan

Timothy Strathmann, Colorado School of Mines

Jeanine Plummer, unfortunately, resigned from the AEESP board after 1 year of service. Previous board member Paige Novak (University of Minnesota) agreed to replace her to complete her three year term. The board welcomed her return.

Membership: AEESP has 129 new members for 2016 (64 Regular Members, 4 Affiliate Members, 60 Student/PostDoc Members, and 1 Sustaining Members). As of September 2016, there were 1023 members with 182 in arrears. Reminders will be sent for members in arrears. The Board encourages members to check their online membership profile to determine his/her status, renew his/her membership online if necessary, and consider multi-year renewal.

AEESP Branding: The Board agreed to fund mementos for distribution at various events to publicize AEESP. The Board would like the student services committee to develop an online crowd sourced activity that lets AEESP members identify high visibility, sustainable, and affordable mementos for the organization. The board was delighted that treasurer Cindy Lee brought a lovely AEESP banner to use at various AEESP sponsored events.

Activities of Committees: The Board discussed the various committees that make AEESP work. Secretary Greg Lowry will find out which committees need new members and then we will encourage new members to volunteer to serve the

organization Members can sign up for committees using the online form: <https://aeesp.org/committee-guidance-and-application-form>.

Conference Planning: The Board looks forward to the 2017 AEESP conference at Ann Arbor, Michigan from June 20 to June 22, 2017.

AEESP Distinguished Lecture Series: Dr. Menachem Elimelech (Yale University) will speak on either "The Global Challenge for Water Supply: Is Seawater Desalination a Sustainable Solution?" or "High-Performance Membranes for Energy-Efficient Desalination and Wastewater Reuse." The Board discussed this high visibility lecture series that attracted 33 proposals in 2016 with 16 lectures scheduled. The board will ask the lectures committee to investigate the cost to sponsor this series, and opportunities for the development of additional lecture series like one featuring mid-career speakers.

Demographics Committee: The Board was pleased with the reach of the first AEESP Student Video Competition and supports a proposal to partner with the Environmental Engineering and Science Foundation (EESF) to offer this competition annually starting in 2017. <http://tinyurl.com/aeespvideocompetition2016>

Grand Challenges and Opportunities in Environmental Engineering and Science in the 21st Century: The Board was pleased to learn that 250 people participated in the three Grand Challenges workshops, that they were successful, and that a final report will soon be completed by the organizers. Copies of presentations can be found here: <https://aeesp.org/nsf-aeesp-grand-challenges-workshops>.

Government Affairs Committee: The Board approved the AEESP Policy on Diversity and this was placed on <http://www.aeesp.org/about>. The policy states, "AEESP supports and encourages ethical behavior, diversity, inclusion, and non-dis-

crimination in all environmental engineering and science activities. Individuals should not be discriminated against based on their race, color, ethnicity, religion, national origin, sex, age, marital status, personal appearance, sexual orientation, gender identity or expression, family responsibilities, genetic information, disability, political affiliation, or veteran status."

New Business: The Board committed funds to support international member participation at the 2017 AEESP conference and will work with the conference planning committee to determine the best way to use the conference to address international reach of AEESP. The Board also appointed a working group to address AEESP's international reach and appeal.

New AEESP Officers: Peter Vikesland (Virginia Tech) assumed the role of President. The following new officers were installed following board elections:

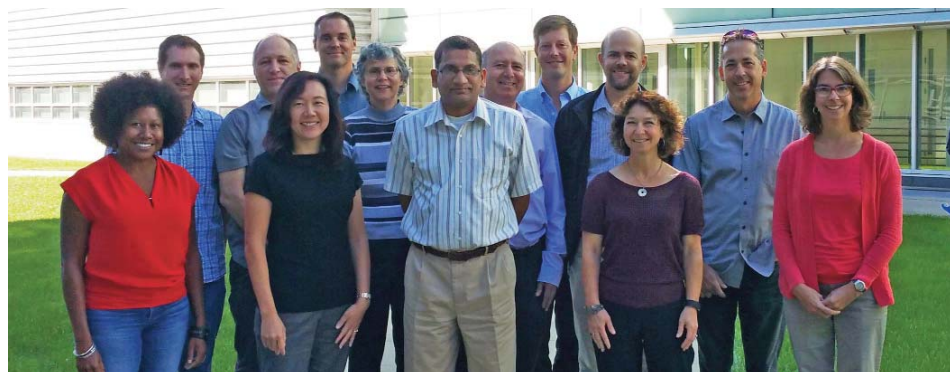
President-elect: Linda Weavers, Ohio State University

Vice President: Maya Trotz, University of South Florida

Secretary: Greg Lowry, Carnegie Mellon University

Chief Information Officer: Paige Novak, University of Minnesota

The Board is grateful for the service of outgoing Board members: Greg Characklis (President), Ching-Hua Huang (Secretary), and Shankar Chellam (CIO). The Board also thanks Jeanine Plummer for her service and wishes her success with her future endeavors. We look forward to their continued service to AEESP. The Board thanks President-elect Weavers for organizing a wonderful meeting at Ohio State University, and highly recommends the Glass Axis, a local non-profit, for those interested in team building while making artistic and useful glass ornaments.



L-R: Maya Trotz, Brian Schorr, Karl Linden, Ching-Hua Huang, Greg Characklis, Cindy Lee, Shankar Chellam, Dionysios Demetriou Dionysiou, Peter Vikesland, Timothy Strathmann, Paige Novak, Greg Lowry, Linda Weavers.

“AEESP Journal Environmental Engineering Science Spotlight”

DOMENICO GRASSO (EES Editor-in-Chief), CATHERINE A. PETERS (EES Deputy Editor), and SUSAN MASTEN (Chair, AEESP Publications Committee)

This “Spotlight” draws attention to selected articles in *Environmental Engineering Science*, the official journal of the Association of Environmental Engineering and Science Professors (AEESP). This is the third piece in a column that appears regularly in the AEESP newsletter, as well as in the journal as an Editor’s Note. Through publication of high-quality 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 articles from the April through July 2016 issues of EES. Congratulations to all whose work is highlighted.

van den Brand, T.P.H.; Roest, K.; Chen, G.H.; Brdjanovic, D.; Mark C.M. van Loosdrecht, M.C.M (2016) “Adaptation of Sulfate-Reducing Bacteria to Sulfide Exposure” *Environmental Engineering*, 33, 242-249. van den Brand et al. operated two sequencing batch reactors (SBRs) to study the effect of high sulfide concentrations on sulfate-reduction. The authors found that the organisms present in the SBRs adapted to higher sulfide exposure and they concluded that SBRs can be used to treat wastewaters with high COD levels.

Islam, M.S.; Bonner, J.S.; Fuller, C.S; Kirkey, W. (Clarkson University) “Impacts of an Extreme Weather-Related Episodic Event on the Hudson River and Estuary” *Environmental Engineering Science*. Apr 2016, 33(4): 270-282. Islam et al. studied the effects of Hurricane Irene on hydrodynamics and sediment transport in the Hudson River and Estuary. They demonstrated enhanced mobilization and transport of contam-

inated sediment from a Superfund site. The work provides guidance to water resource managers, allowing them to optimize strategies to mitigate the effects of extreme weather events.

Aponte-Morales, V.E.; Tong, S.; Sarina J. Ergas (University of South Florida) “Nitrogen Removal from Anaerobically Digested Swine Waste Centrate Using a Laboratory-Scale Chabazite-Sequencing Batch Reactor” *Environmental Engineering Science*. May 2016, 33(5): 324-332. Aponte-Morales et al. demonstrated that the use of a sequencing batch reactor amended with particulate chabazite resulted in simultaneous nitrification-denitrification in the biofilm surrounding the particulates. Improved removal efficiencies for total nitrogen and chemical oxygen demand were observed. The process shows promise for the treatment of high ammonia strength wastewaters.

Mostafa, S.; Rubinato, M.; Fernando L. Rosario-Ortiz (University of Colorado – Boulder); Karl G. Linden (University of Colorado – Boulder) “Impact of Light Screening and Photosensitization by Surface Water Organic Matter on Enterococcus Faecalis Inactivation” *Environmental Engineering Science*. June 2016, 33(6): 365-373. In this study, Mostafa et al. (2016) demonstrated the importance of organic matter as a photosensitizer for the inactivation of *Enterococcus faecalis* by sunlight. The formation of reactive intermediates predominately involving singlet oxygen contributes significantly to inactivation. This study contributes to the fundamental understanding of photoinactivation in surface waters and the improvement of treatment process design.

Bergman, L.E; Wilson, J.M.; Small, M.J. (Carnegie Mellon University); and VanBriesen, J.M. (Carnegie Mellon University) “Application of Classification Trees for Predicting Disinfection By-Product Formation Targets from Source Water Characteristics” *Environmental Engineering Science*, 33, 455-470. Bergman et al. used classification trees to develop a watershed-level source water-based disinfection byproduct model. Model validation using data from each collection site demonstrated the potential use of classification models across spatially variable regions for drinking water plants unable to collect their own source water data.

Fourth Class of AEESP Fellows Selected

(submitted by STEVE CHAPRA, Chair, AEESP Fellows Committee)

On behalf of the other AEESP Fellows, I am pleased to announce that we have selected the fourth class of AEESP Fellows. The Fellows membership classification is intended to recognize members who have served AEESP and our profession with distinction for a period of at least 15 years. As exemplified by the current AEESP Fellows, the individuals who receive this honor may include members who have exhibited exceptional long-term excellence in environmental research, teaching, and/or service to the environmental engineering and science community. The four individuals honored as members of the 2016 class of AEESP Fellows are:

- Joel Burken, Missouri University of Science and Technology
- Jim Mihelcic, University of South Florida
- Catherine Peters, Princeton University
- Mark Rood, University of Illinois at Urbana-Champaign

Note that a more complete announcement accompanied by the new Fellows’ accomplishments will appear in the next AEESP Newsletter. In addition, they will be publicly recognized and presented their Fellow Medals at a future AEESP meeting/conference.

AEESP 2016-2017 Distinguished Lecturer Schedule



The AEESP Lecturers Committee announces the dates of the lecture tour for the 2016-2017 Distinguished Lecturer:

Professor Menachem (Meny) Elimelech, Ph.D., NAE
 Department of Chemical and Environmental Engineering
 Yale University

About Professor Elimelech: Menachem (Meny) Elimelech is the Roberto Goizueta Professor at the Department of Chemical and Environmental Engineering at Yale University. Professor Elimelech received his BS and MS degrees from the Hebrew University in Israel and PhD from Johns Hopkins University in 1989. His research is in the area of physicochemical and membrane processes at the water-energy nexus. Professor Elimelech has received numerous awards in recognition of his research and mentoring. Notable among these are his election to the National Academy of Engineering in 2006, the Eni Prize for 'Protection of the Environment' in 2015, and the Clarke Prize in 2005. Webpage: <http://www.yale.edu/env/elimelech/bio.html>

Professor Elimelech will present two lectures in the 2016-2017 Tour

1: The Global Challenge for Water Supply: Is Seawater Desalination a Sustainable Solution?

2: High-Performance Membranes for Energy-Efficient Desalination and Wastewater Reuse

Questions? Contact Ramesh Goel, Chair, AEESP Lecturers Committee: rgoel@civil.utah.edu

Lecture Tour Dates: September 2016 through April 2017

University	Date	Primary Contact	Contact e-mail
Clemson University	16-Sep-16	David Ladner	ladner@clemson.edu
Texas A&M University	23-Sep-16	Shankar Chellam	chellam@tamu.edu
University of Florida	30-Sep-16	Christine Angelini	c.angelini@ufl.edu
Concordia University	26-Oct-16	Saifur Rahaman	saifur.rahaman@concordia.ca
Columbia University	28-Oct-16	Ngai Yin Yip	n.yyip@columbia.edu
Tennessee Technological University	10-Nov-16	Laura Arias Chavez	lchavez@tntech.edu
Northeastern University	14-Nov-16	Philip Larese-Casanova	phil@coe.neu.edu
Carnegie Mellon University	18-Nov-16	Dave Dzombak	dzombak@cmu.edu
Oregon State University	11-Jan-17	Tyler Radniecki	tyler.radniecki@oregonstate.edu
NC State University	24-Feb-17	Detlef Knappe	knappe@ncsu.edu
University of Colorado - Boulder	10-Mar-17	Zhiyong (Jason) Ren	jason.ren@colorado.edu
Michigan State University	15-Mar-17	Vlad Tarabara	tarabara@msu.edu
Syracuse University	24-Mar-17	Cliff Davidson	davidson@syr.edu
University of Minnesota	31-Mar-17	Santiago Romero-Vargas Castrillon	sromerov@umn.edu
University of Illinois-Urbana	14-Apr-17	Jeremy Guest	jsguest@illinois.edu
Washington University in St. Louis	21-Apr-17	Daniel Giammar	giammar@wustl.edu

See: <http://www.aeespfoundation.org/distinguished-lecture>

AEESP 2015-2016 Distinguished Lecture Report

NANCY G. LOVE

I had the distinct honor and privilege of representing AEESP as the 2015-2016 Distinguished Lecturer. I offered two talk options: “The Interplay Between Chemicals and Microbiomes: An Environmental Biotechnology Perspective,” and “At the Confluence: Nutrients, Trace Chemicals and Sustainability in the Urban Water Sector.” The first title reflects more of a storyline of my group’s biologically-oriented research efforts directed at chemical pollutants across my career, while the second title was a reflective look at the wastewater treatment industry’s more recent progression toward sustainable solutions as they pertain to nutrient and trace chemical management, and some of my group’s efforts in this area. Although the first talk (given 5 times) was the one that reflected my research passions most directly, the second talk title was (by far) the most requested (given 13 times). I think the preference for the second talk reflects our professional community’s strong interest towards sustainability, plus it was more conducive to a student audience with broad (and not necessarily a research-focused) background. Among my 18 trips (representing 46 university and USEPA hosts and co-hosts), I ventured outside the U.S. twice with trips to Germany (Technical University of Munich) and Canada (University of Toronto). In addition, while I was in Europe Technical University of Delft asked me to come by and give a talk, as did University of Southern California while I was on the west coast. Since I could not offer the AEESP talk to them (which would be unfair to those universities who paid to host me), I came up with two more talks to share with those audiences. I also taught both terms, something I DO NOT RECOMMEND for anyone doing this lecture tour. Therefore, I made 18 official AEESP visits plus two additional visits linked with my AEESP travels plus taught during the tour period. I loved it, and, at the same time, was completely exhausted by it. I also want to acknowledge the Board, who offered to cover child care expenses I incurred on any trips where I had to take my kids (who are still young, in grade school and preschool). I think this is a worthwhile and progressive offering and I encourage the Board to continue it into the future. Finally, if you missed the talk, it was taped and posted by a few schools and you can see them here under past lectures: <http://www.aeespfoundation.org/distinguished-lecture>.

I came out of this tour inspired about our profession and hopeful about the next generation of faculty and students. Our discipline is undergoing substantive change and while we’ve had moments like this before, I see some interesting trends coming together. Certainly, I see more people framing their work within a systems context because they recognize that environmental systems are not isolated or simple. Another area that seems to be peaking among researchers I met with relates to electrochemistry as a treatment method and to produce new technologies. While we have historically been a very interdisciplinary bunch, I spoke with many people who are actively working with social scientists, public policy experts, business entrepreneurs and economists. I also saw the strong emergence of stormwater as an important topic. Perhaps I was paying closer attention to it because of my current interest in the topic, but I suspect it is also true that our discipline finally understands its importance in both arid and wet regions. I found that we still have a limited emphasis on air, despite its importance on public health around the world. Finally, I asked all programs about research and teaching activities associated with low resource settings (a passion of mine) and schools generally fell into one of two camps. In the first camp, (typically) one person championed the work as an outreach effort, had limited resources but pursued it as a personal passion, there were limited changes in curriculum to address applications in developing economies, and all questions were to be directed to the one champion. In the second camp, there was an acceptance across most faculty that incorporating teaching, outreach and research efforts around low resource settings was a core need and obligation. In these cases, a major effort existed either as part of the curriculum, a center, a well-supported university-wide initiative, or some combination of these. I do think our discipline has an important role to play and that we all need to eventually migrate toward the second camp. I am happy to see the AEESP Board re-ignite an emphasis on international engagement, which was highlighted in the strategic plan effort that occurred when Peter Adriaens was President. The importance of our involvement in global issues, and recognition that many of the systems we teach, design, research and manage do not benefit the vast majority of the world’s population today, will only become more critical for AEESP in the future.

I had the pleasure of meeting up with some former AEESP distinguished lecturers as well as my successor (Meny Elimelech). I looked back at the reports and vignettes from former lecturers. Rather than give you a long list, I want to list a few memorable highlights of the trip and also to direct you to twitter. I did not create a hashtag but you can search @AEESProfs and see some photos and tweets about my travels along the way. Here are five highlights:

New Friends: Although I made many new friends along the way, my trip to Pittsburgh/Carnegie Mellon was memorable as my flight was cancelled and I ended up driving there along with a co-stranded CMU student desperate to make it back before having to teach a class that she was TA for. We both made it in time and enjoyed the trip.

Breakfast Beer: I have never ever had beer for breakfast before...until now! I couldn’t take the bottle of Weihenstephan from Munich home easily and so...well, you guessed it.

Most people in a picture: University of South Florida—take a look on @AEESProfs. And I met some great Peace Corp students there, one (Lorena) stayed in touch and I met up with her a few months later in Ethiopia.

Coolest Side Tour not related to Environmental Engineering and Science: A tie between the mineral museum at Colorado School of Mines and the Art Museum at University of Oklahoma. Both were really awesome treasures and you need to stop and see them if you have a chance.

Best nap: Lehigh. I was ill the day I visited and really needed to lay down to avoid passing out during my talk. They adjusted my schedule and I made it through without incident. Thank you!

In closing, I want to (again) thank all my hosts for being so gracious with their time and making this an enjoyable experience. I dedicated this series to Steve Dentel, who nominated me several years ago as the Distinguished Lecturer in a spirit of advocacy. I was saddened that Steve died before my nomination was selected, but I have been inspired by his life’s work on environmental needs in low resource settings and consider my own activities in this area to be an outcome, in part, of his encouragement to do this work.

A Middle Westerner Celebrates 70 Years of Fulbright

Submitted by DANIEL OERTHER

In 2005, as a professor of Environmental Engineering at the University of Cincinnati, I had the honor of serving as a Fulbright-Nehru scholar to the Indian Institute of Science where I taught wastewater treatment in the School of Civil Engineering and as a Fulbright-Pai fellow to Manipal University where I taught enzymology in the Department of Biotechnology. Today, the United States-India Educational Foundation (USIEF) is the largest exchange program within the Fulbright program. Over the past decade, I've returned to India more than a dozen times, often bringing with me students from the United States for study abroad to India (see photograph). In 2012, I had the pleasure of a second Fulbright experience serving as the inaugural Fulbright-ALCOA Distinguished Chair in Environmental Science and Engineering to the University of Western Para, Brazil. The Distinguished Chair Awards comprise approximately forty awards and are viewed as among the most prestigious appointments in the Fulbright program. My two Fulbright experiences prepared me well for my selection as a 2014 Jefferson Science Fellow, and my appointment as a Foreign Affairs Officer in the Secretary's Office of Global Food Security where I have served as a science advisor supporting United States diplomacy related to food security and nutrition. Since returning from D.C. to my faculty position at the Missouri University of Science and Technology, I have continued to work remotely as a FAO. At Missouri S&T, I



serve as the campus-coordinator for our participation in Diplomacy Lab, a public-private partnership that enables the State Department to “course-source” research and innovation related to foreign policy challenges to teams of students and faculty experts at United States colleges and universities. The Fulbright program opened doors for me to learn about the people of India and Brazil, and it provided me with a template I have used to lead students on study-abroad trips.

My experience in the Fulbright program underpins my ongoing engagement with the Department as I encourage students from the “Middle West” to consider careers in diplomacy and foreign development. As I explain to any of my students who are skeptical of international relations, Senator Fulbright was born just 200 miles away in nearby Sumner, Missouri, and cultural understanding is just as important today as it was at the end of the Second World War.

New Faculty Appointments

Lauren Beckingham Joins Faculty at Auburn University



Dr. Lauren E. Beckingham joined the Civil Engineering department at Auburn University as an Assistant Professor in January 2016. Dr. Beckingham received a B.S.E. in Environmental Engineering (2007) from Michigan Technological University and a Ph.D. in Civil and Environmental Engineering (2012) from Princeton University under the advisement of Professor Catherine A. Peters. Her doctoral research focused on understanding inter- and intra-granular mineral dissolution and precipitation reactions and their impact on pore network structures and permeability in the context of the Hanford, WA site. Before joining Auburn University, Beckingham was a geochemical postdoctoral fellow at Lawrence Berkeley National Laboratory in the Energy Frontier Research Center titled the Center for the Nanoscale Control of Geologic CO₂. In her work, she couples multi-scale imaging with numerical modeling and laboratory experiments. Her current research interests focus on subsurface water-rock interactions in energy-related systems including enhancing understanding and prediction capabilities of mineral reactions, reaction rates, and their corresponding impact on hydrologic properties.

Dr. Timu Gallien joins the Department of Civil and Environmental Engineering at University of California Los Angeles



Dr. Timu Gallien joined the Civil and Environmental Engineering Department in the Henry Samueli School of Engineering and Applied Science at the University of California Los Angeles (UCLA) as an Assistant Professor in July 2016. Before joining UCLA, Dr. Gallien was a Postdoctoral Scholar at the Scripps Institution of Oceanography at the University of California San Diego. Dr. Gallien received her B.S. (1996) and M.S. (2008) from Purdue University in Agricultural Engineering and Agricultural and Biological Engineering respectively and her Ph.D. (2012) from University of California Irvine in Civil Engineering. At Scripps, Dr. Gallien developed integrated hydrodynamic coastal flood prediction methodologies responsive to beach dynamics, permanent and temporary flood control infrastructure, tides, surge, waves, sea level rise and ground water. Dr. Gallien's research interests include urban coastal flood prediction, wave runup and overtopping, coastal hazards, sea rise level, flood control infrastructure and mitigation methods, nearshore remote sensing and observation, beach morphodynamics and groundwater, and integrated upland-coastal modeling. In addition, through the Birch Aquarium Beach Science Program, Dr. Gallien has served as the primary scientist for engaging underserved students in quantitative beach observations using the Mobile Beach Erosion Monitoring (MoBERM) platform.

Dr. Sanjay Mohanty joins the Department of Civil and Environmental Engineering at University of California Los Angeles



Dr. Sanjay Mohanty joined the Civil and Environmental Engineering Department in the Henry Samueli School of Engineering and Applied Science at the University of California Los Angeles (UCLA) as an Assistant Professor in July 2016. Dr. Mohanty comes to UCLA from the University of Pennsylvania where he served as a Postdoctoral Scholar in the Department of Earth and Environmental Science. Prior to this appointment, Dr. Mohanty was a Postdoctoral Scholar at Stanford

University in the Department of Civil and Environmental Engineering. Dr. Mohanty received a B.S. (2000) and M.Sc. (2002) in Physics from Utkal University. He received a M.S. (2006) in Civil Engineering from the University of Hawaii, Manoa and Ph.D. (2011) in Environmental Engineering from the University of Colorado, Boulder. At the University of Pennsylvania, Dr. Mohanty studied bioremediation of asbestos fibers at the NIEHS-funded Superfund Research and training Program (SRP) Center, examined geochemical and biological methods to reduce the mobility and toxicity of asbestos fibers in contaminated soils. Dr. Mohanty's research interests include the effect of climate change on water quality, sustainable urban development at the water-energy nexus, transport of contaminants and colloids in the subsurface and groundwater, stormwater capture, treatment and reuse, and bioremediation.

Drs. Walter McDonald and Anthony Parolari join the Marquette University Department of Civil, Construction and Environmental Engineering



Dr. Walter McDonald joined the Department of Civil, Construction and Environmental Engineering (CCEE) at Marquette University as Assistant Professor in Fall 2016. Dr. McDonald obtained a PhD in Civil Engineering from Virginia Tech in 2016 and holds a MS in Civil Engineering (2012) from Texas A&M University and a BS in Civil Engineering (2010) from Texas Tech University. While at Virginia Tech his PhD research integrated an innovative span of environmental sensors,

urban stormwater management, and statistical hydrology. Specific projects include improved methods of parameterization in flood frequency analysis, evaluating uncertainty in stormflow sensors, and analyzing time-based stormwater sampling strategies. He also worked on a number of engineering education research projects that integrated real-time continuous watershed data into courses at universities in the U.S. and India. At Marquette, Dr. McDonald will pursue novel methods to design, manage, and monitor green stormwater infrastructure under changing land use patterns

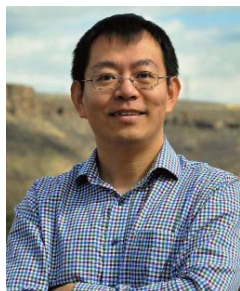
and climate variability. His work will also evaluate the uncertainty and quality of hydrologic data, while concurrently seeking to develop a greater understanding of how we can use that data to solve increasingly complex and ambiguous problems. In addition, he will continue his passion for engineering education by pursuing research focused on improving student learning and motivation within engineering using novel pedagogical practices.



Dr. Anthony Parolari joined the Department of Civil, Construction, and Environmental Engineering at Marquette University as an Assistant Professor in Fall 2016. Dr. Parolari holds BS (2004) and MS (2005) degrees in Civil and Environmental Engineering from the University of Michigan and a PhD in Civil and Environmental Engineering from the Massachusetts Institute of Technology (2012) where he received the National Defense Science and Engineering Graduate

Fellowship. For the previous four years, he held a postdoctoral research fellowship at Duke University. Dr. Parolari's research merges civil engineering and hydrology, with a focus on the dynamic role of water in the structure and function of natural ecosystems, agriculture, and infrastructure. This work aims to develop quantitative theory and predictive models that link hydrologic variability to energy-water-carbon exchange, rainfall-runoff processes, and human-water interactions.

Jinyong Liu begins at the University of California, Riverside



Dr. Jinyong Liu joined the faculty as an assistant professor at the University of California, Riverside, in the Department of Chemical and Environmental Engineering in August 2016. Dr. Liu received his Ph.D. in Environmental Engineering (2014) from the University of Illinois at Urbana-Champaign, M.S. in Environmental Science and Engineering (2008) and B.S. in Chemistry (2005) from Tsinghua University. Prior to joining UC Riverside, Dr. Liu was a postdoctoral research fellow at Colorado School of Mines and UIUC. He is interested in environmental technology innovation and environmental process elucidation for 1) chemical and photochemical treatment of highly recalcitrant pollutants such as perchlorate and fluorinated compounds, 2) characterization of key contaminants in natural and engineered systems, and 3) environmental behavior and recovery of valuable elements. In Dr. Liu's research, rational design and chemical synthesis of functional molecules and materials, spectroscopic and microscopic characterization, and engineering tests are integrated to understand and control chemical (and biomimetic) systems toward solving challenges at the water-energy-food nexus.

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Seven New Faculty Members Join the Environmental and Water Resources Engineering Program at the University of California, Davis



Heather Bischel will join the Department of Civil and Environmental Engineering at UC Davis in Spring 2017 as an Assistant Professor. Heather received her Ph.D. in Environmental Engineering & Science from Stanford University under the supervision of Dr. Richard Luthy, where she developed expertise in the analysis of perfluoroalkyl substances (PFAS) to inform bioaccumulation models. That work revealed how these emerging pollutants associate strongly

with proteins, which serve as the primary biological reservoir for PFAS in organisms. Working on this topic led her to investigate the challenges that water reuse system managers face as new persistent and toxic chemicals like PFAS are detected in water systems. After finishing her Ph.D., Heather served as a Postdoctoral researcher in the NSF Engineering Research Center for Re-inventing the Nation's Urban Water Infrastructure (ReNUWIt) evaluating the potential to use recycled water for streamflow augmentation and restoration. Currently, Heather is completing her Postdoctoral work with Dr. Tamar Kohn at the Laboratory of Environmental Chemistry at EPFL, where she has been since November 2012. Heather has collaborated with researchers at the Swiss Federal Institute of Aquatic Science and Technology (Eawag) and practitioners at the eThekweni Water and Sanitation municipality in South Africa to develop safe technologies to recover nutrients from human waste at scale.



Colleen Bronner joined the Department of Civil & Environmental Engineering at UC Davis in Fall 2015 as a Lecturer PSOE. She received her Ph.D. from the State University of New York at Buffalo in 2014 and M.S. from UC Berkeley in 2005. She came to Davis from California State University, Chico where she was an assistant professor in civil engineering. Her professional activities focus on undergraduate education, engineering teaching and assessment strategies, K-12 engineering outreach and increasing diversity in the engineering profession. She serves as faculty advisor to the UC Davis Engineers Without Borders Chapter, which has active projects in Peru, Bolivia and Uganda. Colleen teaches classes in water quality management, green engineering design and sustainability, engineering ethics and project management, and educational outreach design in civil engineering. In preparation for a new environmental engineering major, she is developing an introductory environmental engineering course and senior capstone design course. She works with graduate students and local K-12 educators to develop activities that satisfy Next Generation Science Standards and spark interest in engineering

reach and increasing diversity in the engineering profession. She serves as faculty advisor to the UC Davis Engineers Without Borders Chapter, which has active projects in Peru, Bolivia and Uganda. Colleen teaches classes in water quality management, green engineering design and sustainability, engineering ethics and project management, and educational outreach design in civil engineering. In preparation for a new environmental engineering major, she is developing an introductory environmental engineering course and senior capstone design course. She works with graduate students and local K-12 educators to develop activities that satisfy Next Generation Science Standards and spark interest in engineering

Alex Forrest joined the Department of Civil and Environmental Engineering at UC Davis in Spring 2016 as an Assistant Professor. Alex received his PhD in Environmental Fluid Mechanics from the Department of Civil and Environmental Engineering at the University of British Columbia, Canada. He received his Bachelor's Degrees in Chemical Engineering and Society and in Environmental Science from McMaster University in Canada, in



2002. He comes to Davis from the Australian Maritime College at the University of Tasmania, where he was Lecturer and Course Coordinator. The primary focus of Alexander Forrest's research is related to creating sustainable solutions for environmental engineering problems with specific focus on marine and freshwater ecosystem assessments. His future research plans will apply his expertise to address some of the water quality and management challenges faced by California. He

plans to work closely with the Tahoe Environmental Research Center (TERC) as he embarks on his UC Davis career.



Jon Herman joined the Department of Civil & Environmental Engineering at UC Davis in Fall 2015 as an Assistant Professor. He received his Ph.D. from Cornell University in 2015, M.S. from Penn State University in 2012, and B.E. from Dartmouth College in 2010. His research focuses on multi-objective decision support for water resources systems under uncertainty. Since joining UC Davis, his ongoing projects involve climate impact assessment and adaptive policy design for

California's built water system; future work will include system dynamics modeling of the impact of drought on coupled food and energy systems. Jon teaches courses in water resources planning and management, with an emphasis on data science and open source software.



Maureen Kinyua joined the Department of Civil and Environmental Engineering at UC Davis in Fall 2016 as an Assistant Professor. Maureen completed her Ph.D. at the University of South Florida (USF) under the guidance of Dr. Sarina Ergas examining energy production and effluent reuse during treatment of livestock waste in small-scale anaerobic digesters in Costa Rica. As part of that work, Maureen performed multidisciplinary research that combined qualitative analysis, field

and laboratory studies to develop biological, physical and microbial risk assessment models to determine how design, operation and maintenance of tubular digesters affected biogas production, pathogen inactivation and risk of infection. For her doctoral research, Maureen was awarded the 2014 American Academy of Environmental Engineers and Scientists, W. Wesley Eckenfelder Graduate Research Award and the USF Signature Doctoral Research Award. Maureen's future research plans are aimed at better understanding the biological processes occurring inside small-scale anaerobic digesters, in particular investigating the development and morphology of microbial aggregates in these digesters to improve bio-energy production, safe reuse of effluent and nutrient recovery. Most recently, Maureen served as a postdoctoral research scientist at Columbia University and Hampton Roads Sanitation District (HRSD) working with Dr. Kartik Chandran and Dr. Charles Bott.

Veronica Morales will join the Department of Civil and Environmental Engineering at UC Davis in Spring 2016 as an Assistant Professor. Veronica has been an AXA Research Fund Post-Doctoral Fellow at ETH Zurich, since 2014. Prior to this, she was a visiting scientist at Cornell. She received her PhD (2011) in Biological and Agricultural Engineering and Masters in Earth and Atmospheric Sciences (2007), both from Cornell. Prior to this she re-



ceived two Bachelor's degrees – one in Environmental Science, and another in Spanish, both in 2007 from the University of California at Santa Barbara. She is the recipient of several awards and honors, including the prestigious AXA Research Fellowship she currently holds at ETH, and the Teresa Heinz Foundation for Environmental Research dissertation award. Veronica's work addresses contaminant transport through soils and groundwater. At ETH, she currently leads her own

line of research to understand environmental disturbances that trigger the release of colloidal contaminants from soils. Veronica is also interested in serving marginalized populations; having taught prison inmates as part of the Cornell Prison Educational Program; she plans to continue these activities, along with her research at UC Davis.



Holly Oldroyd will join the Department of Civil and Environmental Engineering at UC Davis in Winter 2016 as an Assistant Professor. Holly is currently a postdoctoral research assistant at the Ecole Polytechnique Fédérale de Lausanne (EPFL). She received her Ph.D. from EPFL in 2015, her Master's degree (in 2010) and Bachelor's degree (in 2006), both from the University of Utah. Her research interests fall in the area of environmental fluid mechanics, turbulence and hydrology. A significant

portion of her work addresses the effects of buoyancy on turbulent flows as found in rivers, lakes, and the atmosphere. Her particular interests concern water-land-atmosphere interactions, and the turbulent boundary layer. At UC Davis, she plans to innovate techniques for water resource management and forecasting, which is a critical need given the drought in California, especially as climate change affects global weather and precipitation patterns.

Daniel McCurry to Join Faculty at the University of Southern California



Dr. Daniel McCurry will join the University of Southern California Astani Department of Civil and Environmental Engineering as an Assistant Professor of Civil and Environmental Engineering in January 2017. Dr. McCurry completed his Ph.D. in Civil and Environmental Engineering at Stanford University in 2016. Prior to Stanford, he completed an M.S. in Environmental Engineering from Yale University and a B.S. in Civil Engineering from the University of Cincinnati, and worked as a research assistant at the USEPA Office of Research and Development.

Dr. McCurry's research focuses on protecting public health by improving the long-term safety of engineered water sources. He applies the tools of environmental organic chemistry to water quality problems arising from chemical and ultraviolet disinfection of wastewater and drinking water. At USC, he plans to continue to expand his research in the field of direct potable reuse of wastewater, collaborating closely with water reuse utilities in Southern California and colleagues. In the Astani Department, Dr. McCurry joins a unique team of faculty members who work collaboratively in research areas of water, air, energy, and the environment.

Dr. Andrew D. Bragg to Join Faculty of Duke University



Dr. Andrew D. Bragg has joined the faculty of Duke University as an Assistant Professor of Civil and Environmental Engineering in Duke's Pratt School of Engineering. Dr. Bragg's research focusses on fundamental and applied problems in fluid dynamics, especially turbulence, and its role in environmental problems. Particular problems include understanding the microphysical processes governing rain formation in clouds and their implications for global climate, the mixing of organisms in the ocean, water treatment, ecophysiology, and the dispersion of pollution in the atmosphere. His work combines methods from applied mathematics, statistical physics, and computational science.

Before joining the Duke University faculty, Dr. Bragg was a Postdoctoral Associate in the Applied Mathematics and Plasma Physics Group at the Los Alamos National Laboratory. Prior to that, he was a Postdoctoral Associate in the Sibley School of Mechanical and Aerospace Engineering at Cornell University. Dr. Bragg holds an MEng in Mechanical Engineering with Mathematical Modeling, and a PhD in Theoretical Fluid Dynamics, both from Newcastle University in England.

Dr. Mark E. Borsuk to Join Faculty of Duke University



Dr. Mark E. Borsuk has joined the faculty of Duke University as Associate Professor of Civil and Environmental Engineering in the Pratt School of Engineering. Dr. Borsuk's research concerns the development and application of mathematical models for integrating scientific information on natural, technical, and social systems. He is a widely-cited expert in Bayesian network modeling with regular application to environmental and human health regulation and decision making. He

is also the originator of novel approaches to climate change assessment, combining risk analysis, game theory, and agent-based modeling. Borsuk's highly collaborative research has been funded by NSF, EPA, NIH, NIEHS and USFS, and he has authored or co-authored 75 peer-reviewed journal publications and 6 book chapters.

Borsuk received the Chauncey Starr Distinguished Young Risk Analyst Award from the Society for Risk Analysis in 2013 and the Early Career Research Excellence Award from the International Environmental Modelling and Software Society in 2008. Before joining the Duke faculty, Dr. Borsuk

was a member of the Dartmouth College faculty for 10 years where he held an appointment in the Thayer School of Engineering. Dr. Borsuk received a B.S.E. in Civil Engineering and Operations Research from Princeton University, an M.S. in Statistics and Decision Sciences from Duke University, and a Ph.D. in Environmental Science and Policy from Duke University. He did his post-doctoral training in the Department of Systems Analysis, Integrated Assessment, and Modelling (SIAM) at the Swiss Federal Institute for Aquatic Science and Technology (EAWAG), where he advanced to head of the Decision Analysis and Integrated Assessment group.

As part of his appointment at Duke, Dr. Borsuk will be directing a new interdisciplinary research and teaching initiative in risk, uncertainty, optimization and decision-making.

Sudeep Popat joins faculty at Clemson



Dr. Sudeep Popat joined the Department of Environmental Engineering and Earth Sciences at Clemson University at the start of the Fall 2016 semester. Dr. Popat came to Clemson after six years at the Swette Center for Environmental Biotechnology in the Biodesign Institute of Arizona State University. At ASU, Dr. Popat worked with Drs. César Torres and Bruce Rittmann on microbial electrochemistry technologies. His work on cathodic limitations in these technologies has especially garnered international attention, through highly cited journal articles, as well as best paper and presentation awards from the International Society for Microbial Electrochemistry and Technologies. During his time at ASU, Dr. Popat was a co-PI on three grants from the Office of Naval Research, and one from the National Science Foundation. In addition, he served as project manager for a SERDP grant awarded to Dr. Torres.

Dr. Popat obtained his Ph.D. in Chemical and Environmental Engineering from the University of California, Riverside, in 2010 under the guidance of Dr. Marc Deshusses (Duke University). His thesis project focused on reductive dehalogenation of trichloroethene vapors. In addition to these, Dr. Popat has worked on several other areas within the field of environmental biotechnology including gas-phase bioreactors, anaerobic digestion, and membrane biofilm reactors. Dr. Popat's research has resulted in >20 peer-reviewed publications in top-tier journals such as Environmental Science & Technology, Water Research, Bioresource Technology, Langmuir and ChemSusChem. At Clemson, Dr. Popat plans to continue his work in the exciting field of microbial electrochemistry technologies for wastewater treatment, as well as expand into emerging areas such as anaerobic membrane reactors and algal wastewater treatment.

John Sivey Named Fisher Endowed Professor at Towson University



Dr. John Sivey has been selected as a Jess & Mildred Fisher Endowed Professor in the Biological and Physical Sciences at Towson University. Sivey began his faculty appointment at Towson in 2012, where he specializes in environmental and analytical chemistry. Sivey earned his Ph.D. in Environmental Engineering and Chemistry from the Johns Hopkins University. He holds a bachelor's degree from Central Michigan University, and a master's degree is from Clemson University. Before joining Towson

University, Sivey was a postdoctoral associate in the Department of Chemical and Environmental Engineering at Yale University.

Sivey teaches Analytical Chemistry, Instrumental Analysis, Environmental Chemistry, and an Honors course entitled, "The Polluted States of America." His research group examines the kinetics of halogenation processes associated with disinfection by-product formation and dehalogenation reactions involving emerging contaminants. Sivey has served as PI or co-PI on several funded projects, including grants from the American Chemical Society Petroleum Research Foundation, the U.S. Geological Survey, and the National Science Foundation. He was a finalist for the 2015 AGRO New Investigator Award from the American Chemical Society's Division of Agrochemistry. Sivey's appointment as a Fisher Endowed professor continues through 2018.

Daniel B. Oerther named Honorary Fellow of American Nurses Association



The American Academy of Nursing celebrated **Professor Daniel B. Oerther, PhD, PE, BCEE, FAAN** as one of four Honorary Fellows inducted during its annual policy conference this autumn in Washington, DC. The Academy is comprised of approximately 2,400 nurse leaders in research, policy, practice, management, and education selected from the more than 160,000 members of the American Nurses Association that advances and protects the interest of the more than three million Registered

Nurses throughout the United State. The Honorary Fellow designation bestowed on Oerther recognizes his leadership in promoting and improving health care in ways that value the important contributions of nurses.

Oerther, a past board member of AEESP, is a Professor of Environmental Health Engineering at the Missouri University of Science and Technology. He is also a Foreign Affairs Officer at the U.S. Department of State. Dedicated to preventing disease and promoting wellness, Professor Oerther has partnered with nurses, physicians, and other professionals to focus his interventions on water, sanitation, hygiene, nutrition, food security, and food safety. His international efforts have provided clean drinking water and access to improved health care to more than 100,000 villagers in Brazil, Ghana, Guatemala, India, Kenya and Tanzania.

To become an Honorary Fellow, an individual must be sponsored by three Academy Fellows and demonstrate extraordinary contributions to nursing and health care. The Academy's board of directors annually selects only a small number of nominees to become inducted as Honorary Fellows.

Pitt Creates Environmental Engineering Major

In response to student interest and a changing job market, the University of Pittsburgh's Swanson School of Engineering offers a new environmental engineering major starting in the 2016-2017 academic year. Enrollment in the program is underway and the first sophomore class will have more than 15 students. A cohort of upperclassmen has already adopted the new curriculum and we anticipate our first graduate in April 2017. The environmental engineering major joins bioengineering, chemical and petroleum engineering, civil engineering, electrical and computer engineering, engineering sciences, industrial engineering, mechanical engineering and materials science in the Swanson School.

This major was created together with Pitt alumni and employment partners who indicated very strong support and readiness to hire the new graduates. The U.S. Bureau of Labor Statistics indicates a great demand for environmental engineers in response to evolving societal needs, and the Department of Civil and Environmental Engineering responded by creating this major to give our students an advantage in the future.

Developing this program was possible thanks to the depth and breadth of Pitt faculty, many of whom are nationally and internationally recognized for their research in water and wastewater management, sustainability and green design, the water-energy nexus, hydrology and water resources, and management of unconventional energy resources. Our highly interdisciplinary program that tackles many of the most pressing global issues is expected to attract a diverse pool of undergraduates and strengthen the diversity of our engineering program.

The Department of Civil and Environmental Engineering has approximately 300 undergraduate students (sophomore, junior, and senior) and 150 graduate students (MS, PMS, and PhD). It is also one of Pitt's oldest academic programs, established in 1867 as a direct result of the impact of the civil engineering field during the Civil War.

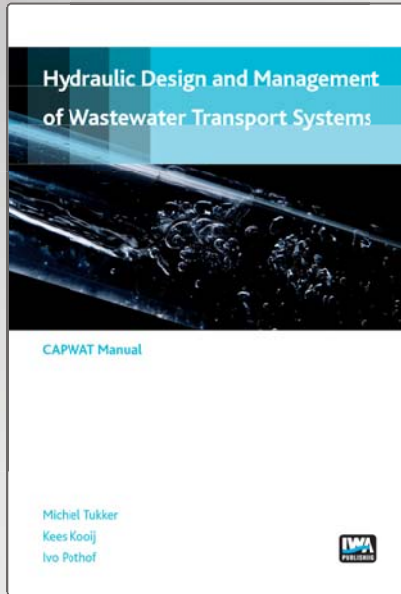
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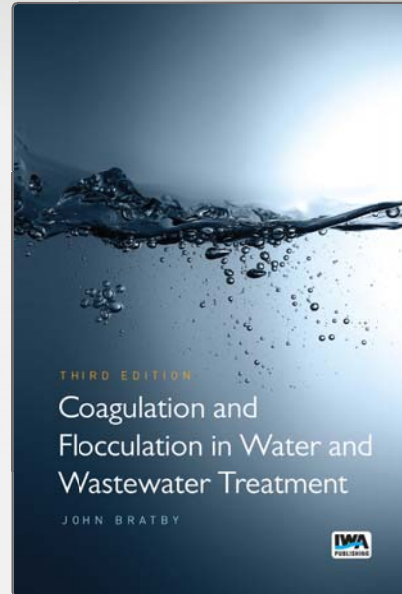
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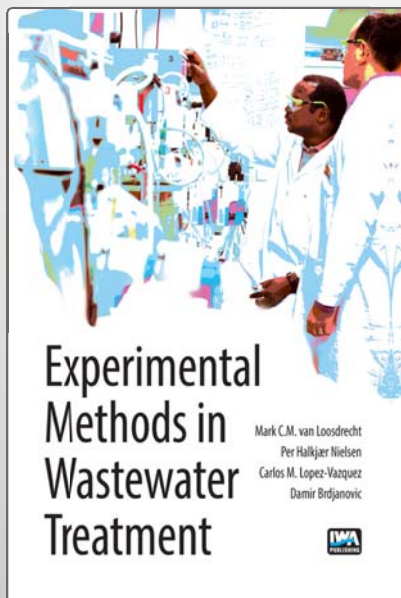
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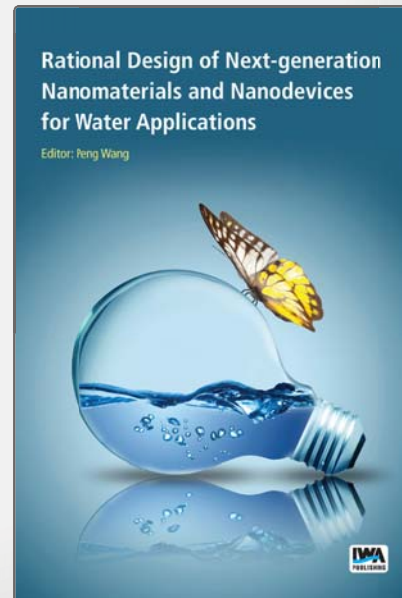
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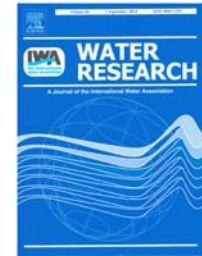
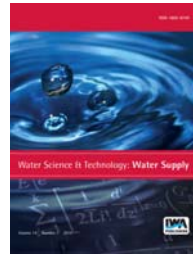
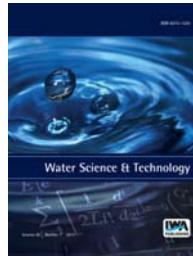
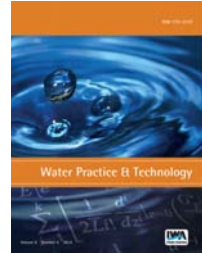
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Borchardt-Glysson Water Treatment Innovation Prize
and
2017 Borchardt Conference

24th Triennial Symposium on Advancements in Water & Wastewater
University of Michigan, Ann Arbor, MI
February 21-22, 2017

Nominations for the inaugural Borchardt-Glysson Water Treatment Innovation Prize are due on October 15, 2016. Detailed [nomination guidelines and an application form](#) are available.

The Borchardt-Glysson Water Treatment Innovation Prize is a new honor consisting of a \$10,000 cash award to acknowledge a senior or mid-career professional whose accomplishments in the water or wastewater treatment fields have been nationally and internationally recognized. The Prize will be presented at the Borchardt Conference. As part of the award ceremony, the recipient is invited to deliver the Borchardt-Glysson Water Treatment Innovation Lecture.

Abstracts for oral and poster presentations for the 2017 Borchardt Conference are due on October 15, 2016. Detailed [abstract submission guidelines and an abstract submission form](#) are available.

Every three years, the Borchardt Conference brings together a diverse group of engineers, scientists, practitioners and students to present and discuss the latest issues and advances in water and wastewater science and engineering. In addition to the Borchardt-Glysson Water Treatment Innovation Lecturer and two invited keynote speakers, presenters for oral and poster presentations will be selected from submitted abstracts on recent developments in the drinking water and wastewater fields. Graduate and undergraduate students are encouraged to submit abstracts.

Keynote speakers:

Borchardt Keynote Lecturer: Dr. Janet Stout, Director and President, Special Pathogens Laboratory, Pittsburgh, PA and Research Associate Professor, Dept. of Civil and Environmental Engineering, University of Pittsburgh.

Glysson Keynote Lecturer: Dr. Sudhir Murthy, Innovations Chief, District of Columbia Water and Sewer Authority (DC Water).

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Please direct any other questions to:

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AEESP Membership

Membership in AEESP offers important benefits to educators, researchers, students, professionals, corporations and organizations engaged in the environmental engineering and science profession. All who are eligible for membership are welcome to join the Association and to participate in the full range of benefits and opportunities. Membership categories and fees are described below, with complete definitions provided in the AEESP Bylaws. Applying online is easy! We welcome your participation!

Regular and Student Membership

Regular Membership in AEESP is open to persons of full-time faculty or instructional rank (instructors, lecturers, assistant, associate, full professors) in environmental engineering or environmental science at academic institutions that offer baccalaureate, diploma, or graduate degrees in environmental engineering, environmental science or related fields.

Rank	Annual Fee
Full Professors	\$100
Associate Professors	\$75
Assistant Professors	\$50
Students and Post-docs	\$15

Applying for Regular membership is made by submitting a completed application form and a brief two page curriculum vitae online with payment. Alternatively, application materials may be mailed to the Business Office with a check enclosed.

Affiliate Membership

Affiliate Membership is open to individuals who are not eligible for regular membership including:

- Individuals primarily employed outside academia who also hold academic appointments in an environmental engineering or related academic program (e.g. adjunct faculty).
- Individuals primarily employed outside academia who have made contributions to education in environmental engineering or related fields.
- Educators in environmental engineering or related fields who are employed at junior colleges or other educational institutions that do not offer the degrees specified above.
- Individuals who were members at one time and who have retired from active teaching.

Application for Affiliate membership is the same as for regular membership. The annual dues for Affiliate members are \$60.

Sustaining Membership

Sustaining Membership is open to individuals and organizations whose concern for education in environmental engineering and related fields stimulates them to assist in strengthening university programs devoted to this area. Sustaining members are often those who employ or interact closely with graduates of environmental engineering and science programs such as consultants, utilities, research foundations, professional organizations, publishers and equipment manufacturers. The financial support provided by Sustaining Members allows AEESP to carry out a variety of special programs that benefit all members of the profession. Sustaining Members have access to all AEESP publications and are invited to all AEESP events. Organizations or individuals desiring more information on Sustaining Membership should write to the Secretary, the President, or the Business Office.

Annual dues for Sustaining members are \$500. Organizations or individuals desiring more information on sustaining membership should contact the Business Office at the phone number below.

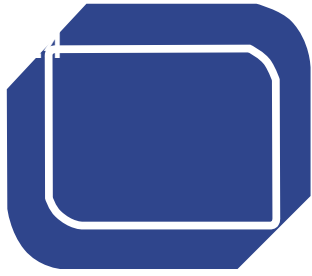
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<https://aeesp.org/user/register>

More information can also be obtained from the AEESP Business Office:

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