AEESP Newsletter

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2 AEESP News
5 Member News
9 Workshop Report
10 AAEES News
12 Announcements

Highlights

AEESP Distinguished Lecturer 2013–2014 PAGE 2

AEESP 50th Anniversary Conference PAGE 3

Bruce Logan elected to NAE PAGE 7

Need to renew your 2013 AEESP membership? Go to "Membership > Online Renewal" on the AEESP website: ***AEESP.org***

AEESP Newsletter Submissions

Please send news, conference announcements, job postings, letters to the editor, and other contributions to the newsletter to Upal Ghosh at ughosh@umbc.edu. The next newsletter will appear in September, 2013.

President's Letter

Submitted by MARK WIESNER (DUKE UNIVERSITY)

Dear AEESP members,

The interdisciplinarity that defines environmental science and engineering has always been a source of consternation and creativity as we continually grapple with the direction and scope of our work. Where does our field begin and end? Early AEESP documents (back when we were called the American Association of Professors in Sanitary Engineering, AAPSE) discuss the inadequacy of any single engineering or professional society to represent our profession. A 1960 Conference on Graduate Education of Sanitary Engineers held in Cambridge, MA identified chemistry, microbiology, radiological hygiene, statistics, and epidemiology as common core courses that should be included in emerging curricula in "sanitary engineering," "public health engineering," or "environmental health engineering." A 1976 report from the AEEP Education Committee on Guidelines for Environmental Engineering Accreditation reflects a broadened field that recognizes that "environmental engineering education is based on a solid framework which includes an understanding of biological systems, natural and physical processes, and human institutions." Today, our field takes on issues of the environmental impacts of the materials we make and use, the impacts of energy generation and use, as well as the wastes that our society develops. The socio-economic dimensions of our field are more important than ever as we recognize that although technological solutions exist to environmental problems ranging from potable water in the developing world to cleaner energy, the implementation of these technologies is often limited by the nature of human institutions. Then AEEP President Charlie O'Melia summarized the trajectory of our field in 1979 stating that "In the future resources can only become more scarce and the stresses on the environment from population growth and from man's technical and cultural activities are likely to increase. [Therefore] [t]he opportunities and challenges for those who teach and those who are taught [environmental science and engineering] seem limitless."

As we arrive at the 50-year mark for our Association, we continue to be presented with possibilities for growth as an organization with the goal of facilitating dialogue in a complex, interdisciplinary environmental field. Although water has been the dominant area of focus for AEESP members, the community of individuals working on problems related to energy, materials, air, economics, ecotoxicology, solid waste, and others continues to expand. AEESP membership has been largely North American, but this too is expanding. Indeed, the opportunities and challenges seem limitless.

The intellectual diversity and limitless nature of our field will be well represented this summer at AEESP's 50th Anniversary Conference to be held in Golden, Colorado. Oral presentations will include topics ranging from the intersection of water and energy and sustainable cities, to resource recovery, watershed management, and air quality. There will be opportunities to provide input to the direction of the AEESP journal, *Environmental Engineering Science*, and numerous workshops that will stimulate thinking on the direction of environmental education, curricula, and careers. See you in Golden!

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AEESP Membership Application online:

www.aeesp.org/membership/AEESP_member_app.pdf

This newsletter is printed using soybean-based ink and 100% post-consumer recycled paper.

AEESP Fellows Program Approved

Submitted by ALLEN DAVIS (UNIVERSITY OF MARYLAND COLLEGE PARK)

Nominations are being accepted for the inaugural class of AEESP Fellows. AEESP Fellows will have outstanding records in environmental engineering and science research, education and service, including specific meritorious service to AEESP. A *Fellow* must have 10 years of faculty-level membership in AEESP and have achieved full promotion or emeritus status at his or her respective institution. The designation of *Fellow* will be held for the duration of membership within AEESP. It is expected that the inaugural group of Fellows will be announced at the 2013 AEESP 50th Anniversary Conference in July in Golden, Colorado. AEESP Fellow nomination information is available on the AEESP website.

2013–14 AEESP Distinguished Lecturer: Mark C.M. van Loosdrecht

Submitted by JEANINE PLUMMER (WORCESTER POLYTECHNIC INSTITUTE), CHAIR OF THE AEESP LECTURES COMMITTEE

Mark van Loosdrecht is Professor in Environmental Biotechnology at Delft University of Technology, The Netherlands. He graduated from and did his PhD research at Wageningen University. His PhD topic was a combination of microbiology and colloid chemistry. He was appointed at Delft in 1988 and became Full Professor in 1998. His research is characterized by the combination of scientific understanding of complex systems and development of new processes. Dr. van Loosdrecht's scientific interests are mainly related to biofilm processes, nutrient conversion processes, and the role of storage polymers in microbial ecology. In particular, he is interested in new processes related to wastewater treatment and resource recovery. His research has resulted in several processes currently applied on full scale such as the Sharon process, Anammox process, and Nereda process. He is an active member of the International Water Association (IWA) and past chairman of the Biofilm and the Nutrient removal specialist groups. He is Editor-in-Chief of *Water Research*. He obtained several prizes for his work, including the Lee Kuan Yew Singapore Water Prize and the IWA Grand Award. He is a member of both the Royal Dutch Academy of Arts and Sciences and the Dutch Academy of Engineering. He was awarded a knighthood in the order of the Dutch Lion. He has published over 500 scientific papers, has 15 patents, and has supervised over 50 PhD students.

Dr. van Loosdrecht will offer the following lectures during his tour:

- Lecture 1: Aerobic Granular Sludge—The Next Generation Wastewater Treatment?
- Lecture 2: Waste Based Biorefineries

Alternative lectures on innovating in wastewater treatment and on the Anammox process will also be available.

Lecture tour dates will be scheduled from September 2013 through May 2014. Further descriptions of these talks and host application forms are available on the AEESP website and from Jeanine Plummer (jplummer@wpi.edu). Applications are due by May 24, 2013.

New AEESP Board Members

Submitted by Jennifer Becker (Michigan Technological University and AEESP President-Elect and Board Member)

The AEESP Board of Directors is pleased to announce the results of the election for three new members. Serving three-year terms beginning July 2013 are: Shankar Chellam, University of Houston; Ching-Hua Huang, Georgia Institute of Technology; and Peter Vikesland, Virginia Polytechnic Institute & State University. The Board congratulates its newest members and looks forward to their contributions!

The Board regrets that it was only after the ballots had been distributed that the current ineligibility of Maya Trotz (University of South Florida) to serve on the Board was recognized. AEESP's rules specifiy that no more than one Director may be affiliated with a given institution, and AEESP Secretary and current Board member Sarina Ergas, like Maya Trotz, is on the University of South Florida faculty. We apologize for any confusion that this may have caused and sincerely appreciate the willingness of all of the candidates for the Board of Directors to serve AEESP.

Shankar Chellam

Ching-Hua Huang

Peter Vikesland

MARK YOUR CALENDARS!

2013 AEESP 50th Anniversary Conference

Environmental Engineers and Scientists of 2050: Education, Research, and Practice

July 14–16, 2013
aeesp2013.csmspace.com/

The world population is projected to grow from 7 billion today to over 9 billion by 2050. Environmental engineers and scientists will play an important role in society in addressing issues of sustainable development, complex and interdisciplinary problems, and globalization. The environmental engineer and scientist of 2050 needs to have the knowledge and experience required to facilitate engineering solutions to the environmental interplay between food, energy, and water within a sustainable community context for domestic and international venues. The 2013 AEESP Conference provides a forum for our community to discuss these issues and better prepare ourselves and our students with the skills needed to improve the global situation.

The Conference will be a joint effort of Colorado School of Mines, the University of Colorado, Boulder, and the University of Colorado, Denver, and will be hosted at Colorado School of Mines. Details about registration, transportation, and accommodations are available on the conference website: **aeesp2013.csmspace.com**.

Conference Program

Sunday • July 14, 2013

9:00–12:00	Workshops and Activities
12:00–1:00	Lunch*
1:00–4:00	Workshops: 5 in parallel
4:30–6:30	Welcome Reception
	Dinner on your own

** Working lunch in CAREER Workshop 1a*

Monday • July 15, 2013

7:30–8:30	Continental Breakfast
8:30–9:45	Plenary Speaker
9:45–10:00	Break
10:00–11:45	Oral Presentation Sessions
	1a New Perspectives and Approaches to Environmental Engineering and Science Pedagogy
	3 Micropollutants and the long-term impacts of today's practices: Assessing sustainability in 2050 by understanding the current fate, removal, and biological impacts of micropollutants
	Fa Watershed Management
	5 Unconventional Gas Development: Environmental Implications and Public Engagement and Education

9 Air Quality Challenges for the Environmental Engineer of 2050
2 Global Biogeochemical Cycles in the Anthropocene

11:45–1:00 Lunch

1:15–3:20 Oral Presentation Sessions
- 1b New Perspectives and Approaches to Environmental Engineering and Science Pedagogy
- 3 Micropollutants and the long-term impacts of today's practices: Assessing sustainability in 2050 by understanding the current fate, removal, and biological impacts of micropollutants
- Fb Watershed Management
- 7 Water-Energy Nexus: Advanced materials for sustainable water and energy
- 13 Multi-disciplinary research centers

3:30–5:30 Poster Presentations
- B. Advances in Environmental Engineering Education and Outreach
- C. Micropollutants
- F. Watershed scale management
- I. Air Quality and Risk Assessment
- K. Drinking Water Quality and Treatment
- L. Microbial Processes
- M. Remediation Technologies
- O. Wastewater Quality and Treatment

11:45–1:00 Lunch

1:15–3:20 Oral Presentation Sessions
- 1b New Perspectives and Approaches to Environmental Engineering and Science Pedagogy
- 3 Micropollutants and the long-term impacts of today's practices: Assessing sustainability in 2050 by understanding the current fate, removal, and biological impacts of micropollutants
- Fb Watershed Management
- 7 Water-Energy Nexus: Advanced materials for sustainable water and energy
- 13 Multi-disciplinary research centers

6:30 Colorado History Museum and Buffet

Tuesday • July 16, 2013

7:30–8:30 Continental Breakfast

8:30–9:45 Plenary Speaker

9:45–10:00 Break

10:00–11:45 Oral Presentation Sessions
- 10 Integrating Engineering in Developing Communities/WASH into the Curriculum
- B Sustainable development and education
- 4 New Adventures in reactive flow through porous media
- D Intersection of Water and Energy
- 11a Redox transformations of waterborne pollutants for water resources sustainability
- A Environmental life-cycle assessment of infrastructures

11:45–1:00 Lunch

1:15–3:20 Oral Presentation Sessions
- C Sustainable Cities
- 8 Environmental Nanotechnology - Designing "safer" nanoparticles: The need for interdisciplinary education and research
- 6 Microbial Electrochemical Remediation and Resource Recovery
- G,H Waste to Energy; Zero waste realization
- 11b Redox transformations of waterborne pollutants for water resources sustainability

3:30–5:30 Poster Presentations
- A. Sustainability and Sustainability Assessments
- D. Intersection of Water and Energy
- E. Climate change
- G. Waste to Energy
- H. Environmental Nanotechnology
- N. Surface and Subsurface Hydrologic Processes

6:00 Banquet

NSF CAREER Workshop at 2013 AEESP Conference

We invite tenure-track faculty, postdoctoral researchers, and senior graduate students to participate in the NSF Faculty Early Career Development (CAREER) proposal workshop at the upcoming 2013 AEESP conference in Golden, Colorado on the morning of Sunday July 14, 2013.

The workshop will include keynotes addressed by established researchers and the NSF CBET Environmental Engineering program manager as well as a series of panels consisting of recent awardees and those involved in the evaluation process. More information about the workshop is available at **aeesp2013.csmspace.com/docs/NSF_CAREER_Workshop_2013.pdf**

For more information contact:
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IN MEMORIAM

Wayne Echelberger, Jr.

Submitted by JEFF CUNNINGHAM (UNIVERSITY OF SOUTH FLORIDA)

AEESP "legacy" member **Dr. Wayne Franklin Echelberger, Jr**., 78, of Tampa, Florida, died suddenly and unexpectedly in Indianapolis, Indiana, on Saturday, January 19, 2013.

Wayne had a long and productive academic career as a Professor of Civil and Environmental Engineering. He held academic positions at the University of Michigan (1964–65), University of Notre Dame (1965–73), Indiana University (1973–83), University of Texas-El Paso (1983–89), and the University of South Florida (1989–99), the last two serving as Department Chairperson. Wayne served on the AEESP (then AEEP) Board of Directors from 1971–73 and was Secretary/Treasurer in 1972–73.

Wayne was universally respected and cherished by his colleagues and friends. He is remembered for his warmth, generosity, energy, mentorship, good humor, and friendship.

He was born in Pierre, South Dakota on October 23, 1934 to Wayne F. and Winifred (Turner) Echelberger. He graduated with a BS in Civil Engineering from the South Dakota School of Mines and Technology, and earned an MS degree in Public Health and an MS and PhD in Civil and Environmental Engineering from the University of Michigan.

Over his career, Wayne was involved in many different engineering activities, giving freely of his time, energy, and expertise to a number of worthy causes both at the national and international level. He worked with both governments and industry finding new strategies for improving air and water quality and for managing solid and hazardous waste. He was a past member of the Technology Accreditation Commission, Accreditation Board for Engineering and Technology (ABET). He also served on the boards of many prestigious engineering organizations. He was a member of the Body of Knowledge Working Group for the American Academy of Environmental Engineers (AAEE).

Wayne received many honors and awards, including: named Engineer of the Year several times by various organizations; named a Paul Harris Fellow by the Rotary International Foundation; honored by Triangle Fraternity as a Man of the Century; received the Water Environment Federation's Harrison Prescott Eddy Medal for noteworthy research; named a Diplomat of the American Academy of Environmental Engineers (AAEE); received the AAEE's Stanley E Kappe Award in 2006; received the Distinguished Alumni Award in 2003 from South Dakota School of Mines and Technology (SDSMT); awarded the Guy E. March Medal, the highest award given by SDSMT to one of its graduates, in 2010. An honor particularly dear to Wayne's heart was having scholarships named in his honor at the South Dakota School of Mines and Technology and at the University of South Florida. These scholarships include a testament to his life as follows:

"As a teacher and mentor, he helped launch the careers of promising engineers while emphasizing the importance of balance between professional responsibilities and family life. Lessons on life about ethics and balance that Dr. Echelberger imparted to his sons carried over into lessons in the classroom. He taught his engineering students the value of giving back through community service and active involvement in professional organizations."

Wayne was a member of Temple Terrace Presbyterian Church, Tampa Rotary Club, American Society of Civil Engineers, National Society of Professional Engineers, American Public Works Association, American Water Works Association, American Association for the Advancement of Science, Association of Environmental Engineering and Science Professors, Water Environment Federation, American Society of Engineering Education, Florida Engineering Society, Florida Water Environment Association, Sigma Xi, Chi Epsilon, and Triangle Fraternity. After his retirement from the University of South Florida in 1999, he continued to be engaged in academic activities as a Professor Emeritus.

Wayne was preceded in death by his wife of 41 years, Iris Violetta "Vi" (Davila) Echelberger, and by his parents. He is survived by his sons Dr. Jeffrey Echelberger (Bonnie) of Louisville, KY, and Michael Echelberger (Penny) of Georgetown, TX; by his grandchildren Drew and Mitch Echelberger of Louisville, KY, and Austin, Ashley, and Brady Echelberger of Georgetown, TX.; and by a sister Rita Potas (Les) of Benson, MN.

Shaily Mahendra Receives NSF CAREER Award

Submitted by SHAILY MAHENDRA (UNIVERSITY OF CALIFORNIA LOS ANGELES)

Shaily Mahendra

Shaily Mahendra, Assistant Professor in UCLA Civil and Environmental Engineering, received an NSF CAREER award in December 2012. This award will support her research on microbial communities oxidizing organic compounds, such as 1,4-dioxane, which are currently unregulated but are emerging as contaminants in water supplies. Data collected in this project will demonstrate the effects of metals and geochemical conditions on 1,4-dioxane biodegradation by bacteria growing in liquid cultures as well as biofilms growing on sand or carbon-based surfaces. Novel colorimetric and molecular biological tools will be designed to rapidly estimate the activities of relevant enzymes for biodegradation and metal resistance under different types of growth and environmental conditions. The results from this study will be applied, in collaboration with environmental engineering professionals, to design bioremediation and monitoring systems for industrial and military waste streams.

Shaily Mahendra earned her B. Tech from IIT Delhi, M.S. from Syracuse University, Ph.D. from University of California, Berkeley (advised by Professor Lisa Alvarez-Cohen), and post-doctoral fellowship from Rice University (supervised by Professor Pedro Alvarez). Her research areas are microbial processes in natural and engineered systems, applications of molecular and isotopic tools in environmental microbiology, environmental impacts of nanomaterials, and biodegradation of water contaminants. Since starting at UCLA in Fall 2009, Mahendra has received grants from NSF, Air Force Civil Engineer Center, and Strategic Environmental Research and Development Program, all on investigating biodegradation of water contaminants. She was selected as a 2011 PopTech Science Fellow and a 2011–2012 Hellman Fellow.

Paul L. Bishop Serves as Fulbright Distinguished Chair at Parthenope University of Naples, Italy

Submitted by PAUL BISHOP (UNIVERSITY OF RHODE ISLAND)

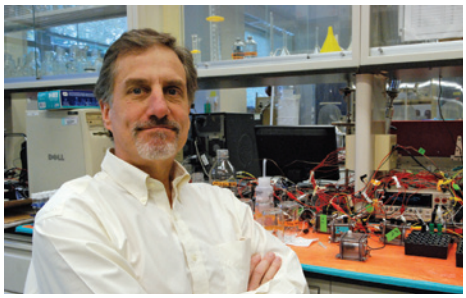
Paul L. Bishop

Paul L. Bishop is serving as Fulbright Distinguished Chair of Environmental Engineering at the Parthenope University of Naples in Naples, Italy, from January through June 2013. He is currently the Associate Dean for Research at the University of Rhode Island and is Professor Emeritus at the University of Cincinnati. At Parthenope, he is teaching a PhD level course on Water Reuse and a M.S. level course on Pollution Prevention. He is also working with Parthenope researchers, the Italian Attorney General's office, and the carbinieri (state police) on techniques to track illegal waste dumping by the Camorra (Naples equivalent of the Sicilian Mafia, but much worse). Using a drone developed by Parthenope researchers and equipped with infrared thermography detectors, they are detecting hazardous wastes dumped into caves and quarries, and tracking these back to their source. This builds on Paul's expertise in environmental sensors, but goes to the other extreme from his typical microsensors.

The Fulbright Distinguished Chairs Program comprises approximately forty distinguished lecturing, distinguished research, and distinguished lecturing/research awards ranging from three to 12 months. Some awards are specifically for environmental engineers and scientists. Awards in the Fulbright Distinguished Chairs Program are viewed as among the most prestigious appointments in the Fulbright Scholar Program. Candidates should be eminent scholars and have a significant publication and teaching record. To learn more about the Fulbright Distinguished Chair program, go to **www.cies.org/Chairs/**. Paul will be pleased to answer any questions you may have about the program or the application process.

Bruce Logan Elected to National Academy of Engineering

SUBMITTED BY BRUCE LOGAN (PENN STATE)



Bruce Logan

Penn State environmental engineer Bruce Logan has been elected to the National Academy of Engineering (NAE). Logan is one of 69 new members and 11 foreign associates elected for 2013, bringing the total membership to 2,250 and foreign associates to 211.

Election to the NAE is among the highest professional distinctions accorded to an engineer. Academy membership honors those who have made outstanding contributions to engineering research, practice or education, as well as pioneering new and developing fields of technology, making major advancements in traditional fields of engineering or developing/implementing innovative approaches to engineering education.

Logan, who is an Evan Pugh Professor and the Stan and Flora Kappe Professor of Environmental Engineering at Penn State, was elected by the NAE for his work in microbial electrochemical technologies for wastewater treatment and sustainable energy generation. A member of the University faculty since 1997, Logan serves as director of the Penn State Hydrogen Energy Center and the Engineering Energy and Environmental Institute. His work focuses on the sustainability of the water infrastructure and the production of electricity and energy carriers, such as hydrogen, from waste biomass to help provide energy for the needs of water infrastructure. He specializes in microbial fuel cells, biological hydrogen production, and new methods of renewable energy.

Logan is a fellow of the Water Environment Federation and the International Water Association, a former Fulbright Scholar, a Leverhulme Fellow, and a member of the Association of Environmental Engineering and Science Professors (AEESP). In 2009 he received the Athalie Richardson Irvine Clarke Prize, one of the most prestigious water prizes in the United States, for his research in water science and technologies. Logan was one of eight inaugural recipients of the Popular Mechanics Breakthrough Award in 2005. His other awards include the inaugural AEESP's Malcolm Pirnie Frontiers in Research Award and the 2004 Paul L. Busch Award from the Water Environment Research Foundation Endowment for Innovation in Applied Water Quality Research.

Logan is a visiting professor at Tsinghua University and Harbin Institute of Technology in China and Newcastle University in the United Kingdom. He is the International Francqui Chair at Ghent University in Belgium. He is also a Global Research Partner with the King Abdullah University of Science and Technology (KAUST) in Saudi Arabia and one of 12 founding KAUST Investigators.

He holds a B.S. in chemical engineering and M.S. in environmental engineering from Rensselaer Polytechnic Institute. He earned his Ph.D. in environmental engineering from the University of California, Berkeley.

Zainab Ismail listed in Women in Science Hall of Fame Program 2013

Submitted by ZAINAB ISMAIL (BAGHDAD UNIVERSITY)

In 2009, the State Department's Middle East and North Africa Environment, Science, Technology, and Health Office—based in the U.S. Embassy in Amman, Jordan—initiated the "Women in Science Hall of Fame." Through the Hall of Fame program, the Embassy each year recognizes 12 women for their outstanding work in such diverse scientific disciplines as physics, cancer research, biotechnology, marine biology, and technology-related entrepreneurship. These outstanding women—winners so far have come from the Middle East and North Africa countries—are making a difference in their countries and around the world, not only directly through their work but also by inspiring intelligent girls to study science and become the next generation of innovators.

For the last three years, U.S. Embassies and Consulates in the Middle East and North Africa (MENA) have identified and honored outstanding Arab women scientists working and having a potential contribution in any scientific, medical, technological, engineering, or mathematical discipline.

For the 2013 Women in Science Hall of Fame program, the selected honoree will have her biography and photo posted along with other MENA region scientists on the U.S. Embassies Amman and Cairo webpage. She will also be featured in a 2013 calendar and have opportunities to promote the program in the media, mentor other females, and participate in a trip to the United States to network with other MENA scientists and learn about American women's contributions to scientific innovation, education, leadership, and public policy formation.

Berat Z. Haznedaroglu joins University at Buffalo

Submitted by ALAN RABIDEAU (UNIVERSITY AT BUFFALO)

Berat Z. Haznedaroglu

Berat Z. Haznedaroglu joined the Department of Civil, Structural, and Environmental Engineering at the University at Buffalo (UB) as an assistant professor in September 2012. Prior to joining UB, Berat worked with Jordan Peccia, and had a joint postdoctoral fellowship from the Yale Climate and Energy Institute and Yale Institute for Biospheric Studies. His research at Yale focused on the next-generation sequencing and functional analysis of microalgae transcriptomes for enhanced production of biodiesel.

Berat's overall research interests address the problems pertaining to water quality and sustainable bioenergy. He specializes on the fate and transport behavior of important human and animal pathogens in aquatic environments and functional genomics of photosynthetic organisms for biofuel applications. He received his Ph.D. from the Chemical and Environmental Engineering Department of University of California, Riverside where he was advised by Sharon L. Walker. His M.Sc. is from the Civil and Environmental Engineering Department of Villanova University, PA. His research advised by Metin M. Duran was on microbial source tracking by fatty acid methyl ester (FAME) profiling of indicator organisms. This work was acknowledged by the Montgomery-Watson-Harza Consulting Engineers/AEESP Best Master's Thesis in Environmental Engineering Award in 2006.

Berat holds a B.Sc. in Biology from the Middle East Technical University, Ankara, Turkey. He is affiliated with American Society for Microbiology, Water Environment Federation, American Society of Civil Engineers, American Institute of Chemical Engineers, and American Chemical Society. More information on his group and research activities can be found at: **buffalo.edu/~berathaz**

Sarah Delavan Joins University at Buffalo

Submitted by ALAN RABIDEAU (UNIVERSITY AT BUFFALO)

Sarah K. Delavan

Dr. Sarah K. Delavan joined the Department of Civil, Structural, and Environmental Engineering at the University at Buffalo, the State University of New York as an Assistant Professor in August 2012. Sarah received a Bachelor's of Science in Engineering from the University of Michigan in Civil and Environmental Engineering in 2000. Following undergrad, Sarah completed a Master's of Science in Engineering at the University of Texas at Austin in 2003 in Environmental and Water Resources Engineering focusing on the Numerical modeling of lakes and reservoirs. Before her PhD program, she taught engineering technology courses in Morrison, Illinois at the Morrison Institute of Technology in Statics, Mechanics, and Soil Mechanics between 2004 and 2005. She entered a PhD program at Georgia Institute of Technology (Georgia Tech) in Environmental Fluid Mechanics in 2005 to study the relationship between the physics of fluid motion and the predator-prey interactions between clams and crabs. After completing her PhD in 2010, she began a Postdoctoral Fellowship at the University of Canterbury in Christchurch, New Zealand in laboratory modeling of aquaculture structures. Sarah's research interests reside in experimental fluid mechanics, with a focus on the influence of hydrodynamics on biological and ecological systems. Her work will help facilitate the management of our natural waterways through an understanding of the complex relationships between man-made structures, fluid mechanics, and the plants and animals that inhabit those natural waterways.

Frontiers in Environmental Engineering Education

Submitted by JOEL BURKEN (MISSOURI UNIVERSITY OF SCIENCE AND TECHNOLOGY)

In October 2012, forty-three professors in environmental engineering and science met in St. Louis for two days at the Frontiers in Environmental Engineering Education workshop to discuss the current state, needs, challenges, and exemplars in environmental engineering education. The workshop was funded by NSF and NIEHS, in efforts to advance our collective educational programs and the education of the next generation of engineers and scientists to be stewards of public health and our environment.

Jim Mihelcic opened the workshop with a keynote address, "Undaunted Courage: Environmental Engineering and the Opening of the Next Frontier." He set an inspiring tone in considering engineering and science projects in the context of stakeholders, social setting, and with the goal of improving health.

The topic of human behavior as part of our field was emphasized, and this topic was a common thread through many sessions in the workshop, including talks on ethics and how to deliver ethics in education in a relevant and interesting methodology for students. Marc Edwards is leading efforts at developing course modules and resources, which submerge students in the human behavior aspects that are the core of ethics; students given real roles find themselves making the same bad choices that those real engineers made. Greg Characklis led a talk on the "allocation of scarce resources" and offered up $20 if anyone had the accurate definition. With $$ on the table, discussion was lively and revolved around policy and decision making, including topics related to the broad range of economic valuation method, the difficulty in valuing ecosystem services, and the role of incentives in affecting human behavior toward the environment. Greg left with wallet intact. Many other topics were presented, too many to cover in this brief article.

Some of the topics at the workshop looked at how to better deliver our material in the classroom and beyond, and other topics of discussion looked at how to better cover the expansion of topics, while still giving the time needed to the core of our field. Discussion on incorporating new topics into an already full curriculum included incorporating climate, policy, uncertainty and life cycle assessment, as well as engineering attitudes achieved by learning through service and active citizenship.

Increasing our teaching capacity and the will to change traditional practice in many of these thematic areas were major focal points that gained traction at the Frontiers workshop. The AEESP education committee had already been pursuing a major effort to use our new AEESP website and internet resources for members to attract, screen, and publish course modules and other resources on these themes that were presented and discussed in the workshop. Many AEESP members have embraced a wide variety of effective teaching tools, and developed course modules or project examples that now may take the place of some environmental laboratory exercises. The education committee will be posting these resources for members to use in the future, and hopefully pushing back the frontiers of environmental engineering education.

A full article should be coming in *Environmental Engineering Science* in coming months and a number of the topics have translated into workshops and sessions for this summer's conference in Colorado (**aeesp2013.csmspace.com/**).

AAEES Invitation to Excellence

Submitted by JOSEPH CAVARRETA (AAEES)

Nancy Sutley, Chair of the White House Council on Environmental Quality gave the keynote address at the AAEES Excellence in Environmental Engineering and Science Awards Luncheon and Conference at the National Press Club in Washington, DC, on April 25, 2013, recognizing Individual Award Winners, Environmental Engineering and Science Project Awards, Student Awards, and Environmental Communications Awards. Projects showcased some of the most innovative and powerful environmental projects and programs from 2012 as well as university research. Technical presentations were before and after the luncheon.

Join the Academy's Mentoring Initiative

The Academy is developing a Mentoring Program for Graduating Students and Young Professionals. An interesting discussion on the Water Environment Federation's LinkedIn site initiated by Barry G. Walkenshaw, P.E., BCEE, Water/Wastewater/Stormwater Project Manager, has raised a lot of questions in my mind in regards to the program. The discussion is titled "**Engineering arrogance. Is it a result of an attitude that only engineers really understand all aspects of the problems they are hired to solve?**" I highly recommend you read it.

Barry's discussion indicates to me that a mentoring program has the potential to instill the good, the bad, and the ugly. When the "new kids on the block" graduating students and young professionals go forth, they will be hungry for jobs and thus seeking sage advice and looking to bond with professionals. A "wink wink" from a longstanding professional may color their future decision making or their perception of a profession that they altruistically chose to pursue. Should the Academy's mentoring program incorporate ethics into its design? If so, how will we do that? Email me your suggestions and interest in the mentoring program at **jcavarretta@aaees.org**.

The Elephant in the Room

In an ideal world, professionals adopt and practice according to the ethical values and standards instilled through education and professional organizations. In reality, ideals are continuously challenged by political and economic obstacles.

Qualifications Based Selection—the Brooks Act, is the perfect example: Everyone talks about QBS, but how many conscientiously apply its principles to procurement? Some agencies live by it. On the other hand, I always hear several individuals at trade shows refer wistfully to QBS. They would love to embrace it, but economic and political realities all too often have a CSO effect on procurement. Is anyone listening?

The American Society of Civil Engineers recently issued its annual Report Card on the state of infrastructure in our Great Nation. We all know the score: D+. We are relying on infrastructure that was built decades ago. That attests to the QUALITY of what was built—maybe even overbuilt at that time, but still standing today—if not tottering. Ladies and gentlemen, what an optimal investment in America our forbears made and what a return on investment. Even without a comparative analysis of past and present costs, it must have taken a lot of backbone to approve those projects. What drove those decisions? Our manufacturing base? War? Politics? The Great Depression? Have the key engines that once demanded a superb infrastructure disappeared from our economy? Who should pay? Shouldn't infrastructure be considered an asset instead of an expense? Would a federal capital outlay flood down to beleaguered families? I don't propose to know the answers, but solid infrastructure that meets demand is precisely what drove our nation to become a world leader. Our Great Nation's infrastructure--environmentally sustainable--needs to be the shining example. The cost of devolving to substandard conditions is infinitely greater than the investment in modern improvement. The future of America, its public health, and its economy is at stake. Leadership is responsible to make this happen, but the real "push" must come from the engines of market-driven demand.

For those in the environmental engineering profession who design, build, and manage infrastructure and operations--agencies and firms alike--QBS guides the nation toward public health and excellence in environmental engineering. It is both an ideal and a law. It can serve as one giant step toward improving the overall infrastructure of the nation. It should be embraced, advocated, and demanded at all levels. It should not be the elephant in the room. If you are interested in joining the Academy's QBS initiative, email me at **jcavarretta@aaees.org**.

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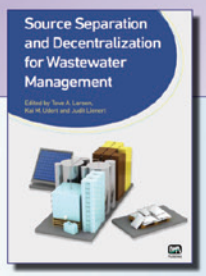

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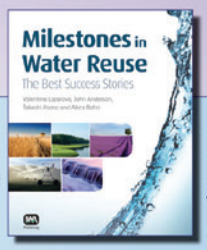

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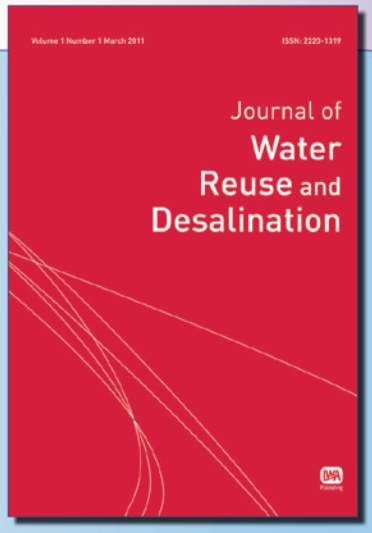

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Pete Kolsky Joins UNC Chapel Hill

Submitted by MICHAEL AITKEN (UNC CHAPEL HILL)

Pete Kolsky

Dr. Pete Kolsky has joined the faculty of the Department of Environmental Sciences and Engineering at the University of North Carolina–Chapel Hill as a Professor of the Practice of Environmental Engineering. Before joining UNC, Dr. Kolsky was Senior Water and Sanitation Specialist at the World Bank. He holds a Master of Science in Environmental Engineering (MSEE) from UNC and PhD from the London School of Hygiene and Tropical Medicine. In addition to his service at the World Bank and previous international engineering experience, Pete has long been an advocate for the role of sanitation and hygiene in improving public health. He will direct the department's MSEE program, which has been re-structured as a non-research, public health-oriented option for engineering students interested in pursuing careers in environmental engineering practice. He is also serving as the Associate Director for Teaching and Learning of the Water Institute at UNC, which is housed in the department and directed by Professor Jamie Bartram.

2013 Water and Health Conference: Where Science Meets Policy

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The ***2013 Water and Health Conference*** offers the opportunity to network with leaders from academia, government, nonprofits, and the private sector and discuss best practices and emerging challenges at the intersection of water, sanitation, hygiene, health, and development. The Conference features verbal and poster presentations, as well as side events, which are interactive sessions such as meetings, workshops, networking activities, training courses, and open forums. These events are convened by outside organizations and encourage active participation from Conference attendees. In 2012, the Conference brought together more than 500 people from around the world to attend more than 220 presentations and 40 networking and workshop events, as well as keynote addresses by some of the world's leading water and sanitation experts.

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- M&E: local, global and human right perspectives
- Institutions, finance and sustainability
- Sanitation and health
- Water supply and quality: from catchment to consumer and back

The 2013 program is currently in development. For Conference updates and registration information visit our website at **whconference.unc.edu**. We hope to see you in October!

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