



AEESP Newsletter

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*Need to renew your 2012 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 the new editor, Upal Ghosh, at ughosh@umbc.edu. The next newsletter will appear in May, 2012.

President's Letter

Our Foundation of the Past and a Voice for the Future...We Need Both

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

As the old year closes and a new year begins, it's tempting to look back at the accomplishments of the past year (AEESP has a long list) and things not quite done (AEESP has another long list), as well as to look forward with enthusiasm to the challenges and achievements to come (AEESP has a REALLY long list). Over the past year, AEESP has attained the largest membership ever, and we continue to grow. Clearly, our field is expanding in size and certainly is expanding in scope.

In 2012, we await the outcome of the bylaws vote on developing an AEESP Fellow Membership category, which will better signify the excellence and commitment of many AEESP members. The Fellow category, if approved, will add to the Legacy and Pioneer designations and will help us celebrate the contributions of many dedicated and talented AEESP members. Also in the area of recognition, the AEESP Foundation proudly announces that the Charles R. O'Melia and Paul V. Roberts awards are fully endowed; these awards will celebrate the lasting impacts of our late colleagues and, at the same time, will recognize the impressive achievements of current AEESP members (see page 3). I am grateful for the contributions of all of our AEESP members, who appreciate that our foundation deserves and requires continued development, responsible stewardship, and long-term advancement.

In the coming year, AEESP will also increase efforts to promote and improve



AEESP President Joel Burken

our educational programs. The first annual Environmental Engineering Chairs and Directors meeting is being planned for July 29–30, 2012, in Columbus, Ohio. Department chairs or program coordinators in environmental engineering B.S. programs are being engaged to gather contact information, collect additional topic ideas, and establish plans for the meetings (if you should be on the list and are not, please contact me). The goal of this annual meeting is to establish a lasting communications platform that will help us to improve our programs by collaborating on administrative issues and pedagogical approaches, and developing an even stronger sense of community than AEESP is known for already. The meetings will be held at the AEESP summer conference in odd-numbered years and at rotating campuses in even-numbered years. The meeting is being planned with assistance from the American Academy of Environmental Engineers (AAEE), which will soon be known as the American Academy of Environmental Engineers and Scientists (AAEES). On a related note, the AAEE recently approved a Board Certification for Environmental Scientists (BCES; see page 11). Improving the availability of educational materials

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Newsletter submissions, comments, and letters to the editor may be sent to:

Upal Ghosh, AEESP Newsletter Editor
Civil & Environmental Engineering
University of Maryland Baltimore County
Technology Research Center
5200 Westland Boulevard
Baltimore, MD 21227
PHONE: (410)455-8665; FAX: (410)455-6500
EMAIL: ughosh@umbc.edu

Letters to the president may be sent to:

Joel G. Burken
Civil, Architectural, and Environmental
Engineering, Room 224
Missouri University of Science & Technology
Rolla, MO 65409
PHONE: (573) 341-6547; FAX: (573) 341-4729
EMAIL: burken@mst.edu

Please send address changes to:

Joanne Fetzner
AEESP Business Office
2303 Naples Court
Champaign, IL 61822
joanne@aeesp.org
(or jfetzner@illinois.edu)

AEESP Membership Application online:

www.aeesp.org/membership/AEESP_member_app.pdf



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2012 AEESP Award Nominations

Submitted by LINDA WEAVERS (THE OHIO STATE UNIVERSITY), AEESP AWARDS COMMITTEE CHAIR

AEESP and the AEESP Foundation confer awards that our community presents for outstanding contributions to environmental engineering and science education and research. Through the hard work and generosity of many, AEESP and the AEESP Foundation have been raising funds to endow new and existing awards. Efforts are continuing, and we hope to announce additional endowed awards in the future.

Please consider nominating a worthy student or colleague for one of these prestigious awards. Nominations for the 2012 awards are being accepted until March 15, 2012. Brief award descriptions are presented below. Full instructions and a list of prior award winners can be found on the AEESP Foundation Webpage at www.aeespfoundation.org/awards.html. Unless indicated otherwise, all awards will be presented at WEFTEC 2012, October 1, 2012, in New Orleans, Louisiana.

Student Awards

CH2M Hill/AEESP Outstanding Doctoral Dissertation Award

This award, now endowed by CH2M Hill, annually recognizes an outstanding doctoral dissertation that contributes to the advancement of environmental science and engineering. The award consists of a plaque and cash prize of \$1,500 for the student, and a plaque and cash prize of \$500 for the faculty advisor. A \$750 travel allotment is also provided to recipients who attend the awards ceremony.

Paul V. Roberts/AEESP Outstanding Doctoral Dissertation Award

This endowed award, new in 2012, will be given annually to recognize a rigorous and innovative doctoral thesis that advances the science and practice of water quality engineering for either engineered or natural

systems. Special consideration will be given to physical-chemical process research and/or research that especially supports underserved communities, environmental awareness, or sustainable solutions. The award consists of a plaque and cash prize of \$1,500 for the student, and a plaque and cash prize of \$500 for the faculty advisor. A \$750 travel allotment is also provided for recipients who attend the awards ceremony.

MWH/AEESP Master's Thesis Awards

This award annually recognizes the first and second most outstanding M.S. theses that contribute to the advancement of environmental science and engineering. The prize for the first place award includes a plaque and cash prize of \$1,500 for the student and a plaque for the faculty advisor. The second place award consists of a plaque and cash prize of \$500 for the student and a plaque for the faculty advisor. MWH also provides \$750 as a travel allotment to all recipients who attend the awards ceremony.

William Brewster Snow Award

This award, administered in conjunction with the American Academy of Environmental Engineers (AAEE), is given annually to recognize an environmental engineering graduate student who has made significant accomplishments in an employment or academic engineering project. Nominees for this award must be enrolled part or full time in an environmental engineering graduate program pursuing a Master of Science degree in Environmental Engineering or a closely related degree program, or have completed a Master of Science in Environmental Engineering, or a closely related program, one year or less from January 1 of the year in which the William Brewster Snow Award is presented. The award consists of a plaque and a \$250 cash prize awarded at the AAEE E3 Awards Banquet and Conference (April 27, 2012, Washington DC).

Education, Research, and Practice Awards

Charles R. O'Melia/AEESP Distinguished Educator Award

This endowed award, new in 2012, will be given annually to recognize the significant contributions of Professor O'Melia to environmental engineering education and will be awarded to an environmental engineering or science professor who has a record of excellence in classroom teaching and graduate student advising; significant research achievements that have contributed to environmental engineering knowledge; and an outstanding record of influence through mentoring of former students and colleagues. The recipient of this award will receive a plaque, a cash prize of \$1500, and a \$750 travel allotment to attend the awards ceremony.

Wiley/AEESP Award for Outstanding Contribution to Environmental Engineering & Science Education

This award is given annually to recognize an environmental engineering or science professor who exhibits excellence in teaching scholarship and/or professional society educational initiatives. The recipient of this award will receive a plaque and a cash prize of \$500.

McGraw-Hill/AEESP Award for Outstanding Teaching in Environmental Engineering & Science

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

Excellence in Environmental Engineering Education (E4) Award

This award, new in 2012 and administered in conjunction with AAEE, will be given annually to recognize a university professor

who has excelled in the development of educational material or text that enhances the ability of students to succeed as professional environmental engineers serving as practitioners in roles such as infrastructure design and project leadership. The recipient will receive a monetary award of \$1,000 with an additional \$500 travel allotment to attend the E3 Awards Banquet and Conference (April 27, 2012, Washington, DC).

AEESP 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 recipients of this award will receive plaques in honor of their achievements.

Malcolm Pirnie/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. The selected recipient will receive a plaque and a cash prize of \$4,000. Malcolm Pirnie, Inc. also provides a \$750 travel allotment that may be used by the recipient to attend the awards ceremony.

AEESP Founders' Award

This award is given annually to recognize an environmental engineering or science professor who has made "sustained and outstanding contributions to environmental engineering education and practice." The recipient will receive a plaque in honor of his/her achievements.

The Frederick George Pohland Medal

This award honors an individual who has made sustained and outstanding efforts to bridge environmental engineering research,

Announcement of Three Newly Endowed Awards

Submitted by LINDA WEAVERS
(THE OHIO STATE UNIVERSITY),
AEESP AWARDS COMMITTEE CHAIR

AEESP and the AEESP Foundation are excited to announce the endowment of three awards:

- the CH2M-Hill/AEESP Outstanding Doctoral Dissertation Award
- the Paul V. Roberts/AEESP Outstanding Doctoral Dissertation Award
- the Charles R. O'Melia/AEESP Distinguished Educator Award

Through the generous support of CH2M-Hill, the CH2M-Hill/AEESP Outstanding Doctoral Dissertation Award has been in existence since 1988 and is now an endowed award. The Paul V. Roberts/AEESP Outstanding Dissertation Award and the Charles R. O'Melia/AEESP Distinguished Educator Award are new and will be awarded for the first time in 2012. These new awards have been created and endowed through the generosity and efforts of many in the AEESP community. The endowments allow these awards to be conferred annually in perpetuity. Please see the call for nominations (page 2) for nomination information.

practice, and education. This award is jointly administered between AEESP and AAEE; only members of AEESP and/or AAEE are eligible to receive this award. The award will consist of a medal, a \$1,000 cash award, and reimbursement of travel costs of up to \$1,000 for travel to the awards ceremony.

President's Letter, continued from page 1

(course modules, case studies, new laboratory exercises) and improving our global reach are also on the list of action items for the coming year with plans in place.

The coming year will certainly not be without challenges, especially regarding potential funding cuts from Washington. As an engineering and science field, we have endeavored to advance knowledge and develop new technologies to help meet our urgent environmental needs. This knowledge has translated into tremendous engineering expertise and countless graduates who can apply these technologies successfully to improve human health and mitigate environmental impacts. The pending cuts in research funding will hinder our ability to create new knowledge and the decreasing infrastructure expenditures from the federal and state governments will inevitably slow the implementation of important new programs. At the same time, we also face the demand for reducing energy and materials use in our operations. In a recent article in *Science*, "Fewer Dollars, Forced Choices," the proposed cuts to federal research and development (R&D) programs are outlined in painful detail (www.sciencemag.org/content/334/6057/750.full). For example, EPA is facing yet another R&D cut at a time when "the environment" tops many lists of most important topics. Additionally, U.S. Department of Agriculture (USDA) programs are seeing disproportionately deep cuts in funding, and as a result, the USDA's support of environmental programming will likely see a notable decline. Furthermore, the U.S. Geological Survey and the National Institutes of Health are looking at flat funding at best, which certainly decreases their ability to support new programs. In short, members of our field are being asked to do more to protect human health and the environment,

but with fewer resources to develop new technological approaches and to deploy infrastructure projects.

But certainly we should not lose hope. We just have to accept "new" challenges for the new year. In the *Science* article noted above, I have less of an issue with the "fewer dollars" than I do with the "forced choices." In the process of reconciling the federal spending deficit, I believe that many of us could provide insight about how to target the greatest needs through efficient allocation of resources and effective new programming, even if we as individuals had to sacrifice certain goals or projects for our collective long term benefit. But I am left with the question "Who is informing the policy makers about which choices should be 'forced choices' impacting our health and environmental quality?" At a time when our society increasingly depends upon science and engineering, very few important conversations are taking place where scientists and engineers are at the table, much less making decisions. Although efforts (e.g., STEM programs) have advanced integrating science and technology into early education and the public awareness, the integration has not appeared to advance (at least in my view) to the bigger discussions. I have often heard that engineers and scientists can't speak to the general public, but some conversations must include conversations on engineering and science terms, too. The current economic lull and apparent shortage of informed scientifically-based discussion among policy makers deeply threatens our scientific and educational community. At a time when science, engineering, and technological breakthroughs are strengths of our country, we need to continue to build upon our expertise through efficient use of research and development funds.

Therefore, as a profession, we must present a strong voice to advocate for critical research support and infrastructure investments. Our views and those of our professional organizations (WEF, IWA, ACS, and many others...) are crucial to the decision-making that goes on every day. As federal budgets for research continue to shrink, we must speak out regarding what areas are vital for fundamental research and for technological advancement and application. AEESP will seek out opportunities to influence and inform policy makers, and will also work to present opportunities for individual AEESP members to do the same. By amplifying our collective voice, we can promote efficient use of research and development funds, as well as confer our knowledge and insights to our students, the future practitioners and scholars of our field. Our continued scientific advantage is clearly our best opportunity for competing in a 'flattening' world.

As we start the new year, I am very grateful to be in a wonderful, collegial academic community engaged on so many important topics. On behalf of the Board of Directors, thank you all for making AEESP a special organization.

On a final note, I would personally and professionally like to thank Joe Ryan of the University of Colorado Boulder for his great work with the expanding newsletter. As the AEESP has grown in membership and academic programs, so has the newsletter, which has grown 50% longer in just the three years since Joe took over. He steps down as Newsletter Editor after this issue, having done a great job. He'll never again have to read one of my 'Sorry I'm late, one more article on the way' emails. Upal Ghosh of the University of Maryland Baltimore County will now have the pleasure of receiving those messages.

Request for Proposals for the 2013 AEESP 50th Anniversary Conference

Proposals are solicited from universities to host the 50th Anniversary AEESP biannual conference to be held in 2013. Because most of the recent conferences have been held in the eastern half of the United States, only proposals from west of the Mississippi River will be considered for the 2013 conference.

The AEESP Conference is the flagship event for members to exchange information on novel research and educational activities. It serves as a venue for the exchange of information between the academic and practitioner communities, particularly relating to the advancement of innovative research and the preparation of students for professional practice in environmental engineering and science. AEESP conferences are intended to be balanced with respect to content on research and education.

Responders to the RFP should do so with the intent to host the conference in 2013. Responses should include a projected budget and narrative responses to enable the selection committee to evaluate the attributes detailed on the AEESP website. The responses should be transmitted to the Conference Site Selection Committee chair, Rick Diz (Gannon University), as a single pdf file sent to diz@gannon.edu.

The proposals must be submitted no later than January 31, 2012. The complete request for proposals is available for download from the AEESP website (www.aeesp.org/node/993).

Upal Ghosh Named New Editor of Newsletter

The AEESP Board has selected Upal Ghosh, associate professor in the Chemical, Biochemical, and Environmental Engineering Department at the University of Maryland Baltimore County, as the new editor of the AEESP newsletter. Upal will begin his three-year term as editor with the May 2012 newsletter.

Upal received his B.Tech. degree from the Indian Institute of Technology and M.S. and Ph.D. degrees from the State University of New York at Buffalo. He was a postdoctoral research associate at Carnegie Mellon University and a research associate and lecturer at Stanford University before starting at UMBC in 2002. His research focuses on pollutant fate and bioavailability, environmental sensors, remediation of contaminated sediments, and storm water pollution. He teaches courses in risk assessment, remediation, biological treatment, and analytical methods. Upal is a member of the American Chemical Society, the American Society of Civil Engineers, Society of Environmental Toxicology and Chemistry, and the Water Environment Federation in addition to AEESP.

The Board thanks Upal and the other candidates for the editor position for their willingness to serve the AEESP membership.



AEESP Newsletter Online Only Unless Paper Copy Is Requested by Members

As announced by then-President Nancy Love in her letter to members in January 2011: “2011 is the last year that we will automatically assume that you prefer a paper newsletter. **Starting next year, and in order to function in a more paperless manner as an organization, newsletters will be distributed electronically** unless a member specifically asks to receive the paper copy.” Members who wish to receive a paper copy of this Newsletter must send an email message to Joanne Fetzner at the AEESP Office (joanne@aeesp.org) by February 15, 2012.”

As further explained by current President Joel Burken in his letter to members in January 2012:

“There is again a checkbox related to the format in which you receive the AEESP Newsletter. Last year, we asked you to check this box to indicate that you wish to opt out of a paper copy of the *AEESP Newsletter* and instead view it online only, but this year we are providing the newsletter to members in online form only, *unless you indicate specifically that you wish to receive a paper copy*. To receive a paper copy of the January Newsletter, we need to receive your notice of this preference by February 15, either on your dues form or by email to our Business Office (joanne@aeesp.org).”

OBITUARY

Linvil Gene Rich, Ph.D., P.E., B.C.E.E.**March 10, 1921–September 29, 2011**

Submitted by THOMAS OVERCAMP AND TANJU KARANFIL,
CLEMSON UNIVERSITY

With sadness, we report the passing of our colleague Linvil Gene Rich. He was one of the visionaries and pioneers of environmental engineering education.

Born in Pana, Illinois, Gene served as an infantry squad leader under General Patton in World War II. He earned a B.S. in civil engineering, a M.S. in sanitary engineering, and a Ph.D. in biochemistry from Virginia Tech. After performing research at the University of California, Berkeley, he taught at Virginia Tech for five years. With the U.S. Public Health Service, he and his family lived in Bolivia for a year to help start water and wastewater treatment systems. When they returned, he taught at the Illinois Institute of Technology for six years. He was appointed the head of the Department of Civil Engineering at Clemson University in 1960 and Dean of Engineering in 1961. As dean, he started the Environmental Systems Engineering Department. In 1972, he returned to teaching and research in aerated lagoon wastewater treatment processes. After retiring from Clemson in 1987, he retained his professional interest in wastewater treatment.



In the early 1960s, he wrote the seminal textbooks *Unit Operations of Sanitary Engineering* and *Unit Processes in Sanitary Engineering*. These books moved environmental engineering toward a rational basis for design. Along with his Clemson colleagues, he conducted summer short courses for environmental engineering faculty members across the country, helping to build environmental engineering as a distinct field of engineering education.

Gene was a founder and charter member of the American Association of Professors in Sanitary Engineering, which was succeeded by AEESP. He was an early member of the American Association of Environmental Engineers. He was honored by the AEESP Founder's Award in 1997 and many other professional awards. In 1991, Clemson University dedicated the L.G. Rich Environmental Laboratory in his honor. Prior to his death, he was awarded the South Carolina Order of the Palmetto for his many contributions to the state.

Last March, Gene and his family celebrated his 90th birthday at our Department of Environmental Engineering and Earth Sciences. His son, Graham, gave a seminar on Arkansas Central Water's efforts in complying with the Safe Drinking Water Act.

Gene was predeceased by his first wife Peggy Burton Rich, and a son Lin. He is survived by his wife Molly George Rich of Anderson, South Carolina, and his son Graham Rich of Little Rock, Arkansas.

Anthony Halog Receives JSPS Bridge Fellowship

Dr. Anthony Halog, an assistant professor at the University of Maine in industrial ecology, life cycle analysis, and systems sustainability, and a former awardee of competitive Japan Society for the Promotion of Science (JSPS) Postdoctoral Fellowships at the National Institute of Advanced Industrial Science and Technology (AIST), has been recently awarded a JSPS Bridge Fellowship to re-visit Japan. The main purpose of his research visit is to create and strengthen interdisciplinary, international scientific networks for collaborative research activities in developing novel, innovative, and effective global environmental and sustainable development strategies to reduce global warming and pursue a low carbon economy.

During his upcoming visit to Japan, he would like to strengthen his working relationships with leading Japanese scientists and scholars in AIST and create new ones with National Institute of Environmental Studies (NIES), the University of Tokyo, the United Nations University (UNU) and the Institute for Global Environmental Strategies (IGES) to pursue global environmental research. He will also promote to potential Japanese students the graduate studies in industrial ecology and environmental sustainability at the University of Maine. He will be in Japan for one month during spring 2012.

Dr. Halog has been an active member and contributor to the United States JSPS Alumni Association. Additional information about the JSPS Fellowship Programs is available on the JSPS Program website (www.jsps.go.jp/english/).

Natalie Mladenov Joins Kansas State University

Dr. Natalie Mladenov has joined Kansas State University as an assistant professor of Civil Engineering with specialization in environmental and water resources engineering. She was previously a research scientist at the Institute for Arctic and Alpine Research at the University of Colorado Boulder, where she also served as the associate director of the Hydrological Sciences Graduate Program.



Natalie Mladenov

Natalie's research focuses on advancing the understanding of the chemical character of natural organic matter as it influences water quality in pristine and polluted environments. A primary focus of her ongoing projects is the evaluation of the role of dissolved organic matter in the mobilization of arsenic in groundwater in Southeast Asia and sub-Saharan Africa. She is also interested in the influence of organic and inorganic constituents of atmospheric deposition on remote alpine ecosystems and, ultimately, water quality in headwater catchments.

Dr. Mladenov received her B.S. in Civil Engineering from the University of South Florida and completed her graduate work in the Department of Civil, Environmental, and Architectural Engineering at the University of Colorado Boulder. She served as a postdoctoral research associate at the University of Virginia and at the University of Granada in Spain. More information about Dr. Mladenov is available at www.ce.ksu.edu/people/faculty/natalie.

Paul Bishop Serving as Associate Dean of Engineering at University of Rhode Island

Paul Bishop, Ph.D., P.E., B.C.E.E., is currently serving as Associate Dean of Engineering for Research at the University of Rhode Island, where he is organizing the college's research into research centers. For the past three and a half years, Paul was the Environmental Engineering Program Director for the Division of Chemical, Bio-engineering, Environmental and Transport Systems (CBET) at the National Science Foundation (NSF).



Paul Bishop

Paul received his B.S. in Civil Engineering from Northeastern University and his M.S. and Ph.D. from Purdue University in Environmental Engineering. He joined the University of Cincinnati in 1988 after 16 years as Professor and Head of the Department of Civil and

David Cwiertny Joins University of Iowa

We are delighted to announce that David M. Cwiertny has joined our faculty in the Department of Civil and Environmental Engineering at the University of Iowa as an assistant professor in July of 2011. He comes to the University of Iowa after serving in the same capacity at the University of California Riverside in the Department of Chemical and Environmental Engineering.



David Cwiertny

His research group broadly focuses on pollutant fate in natural and engineered systems with a particular emphasis on the development of materials-based treatment technologies that promote water sustainability. At the University of Iowa, he is a core faculty member in the campus-wide Water Sustainability Initiative (watersustainability.uiowa.edu), an interdisciplinary faculty alliance advancing research, outreach, and education programs in sustainable water resource management at the University and across the state of Iowa.

David has a B.S. in Environmental Engineering Science and minor in Chemistry from the University of California Berkeley and a Ph.D. in environmental engineering from the Department of Geography and Environmental Engineering at Johns Hopkins University. He also previously conducted postdoctoral research at the University of Iowa in a joint appointment between the Departments of Civil and Environmental Engineering and Chemistry.

Environmental Engineering at the University of New Hampshire. He served as department head, Associate Dean for Graduate Studies and Research, and Associate Vice President for Research at the University of Cincinnati. He has directed over \$19 million of research on drinking water security, biological treatment of water and wastewater, soil bioremediation, environmental microsensors, and stabilization of hazardous wastes and is the author or co-author of five textbooks and over 500 technical publications.

Paul is a Past President of the Association of Environmental Engineering and Science Professors (AEESP) and a Fellow of the American Society of Civil Engineers, the Water Environment Federation, and the International Water Association. He is currently a Director of the Engineering Accreditation Board of ABET. In 2005, he was awarded the Frontier in Research Award by AEESP.

Bill Cooper Elected to Rank of AAAS Fellow

Submitted by JOEL BURKEN, MISSOURI UNIVERSITY OF SCIENCE AND TECHNOLOGY

We are proud to announce that Bill Cooper of the University of California Irvine (UCI) was elected by peers as a 2011 Fellow of the American Association for the Advancement of Science (AAAS). Bill is head of UCI's Urban Water Research Center. He was honored for distinguished interdisciplinary contributions in environmental photochemistry and free-radical chemistry in nature systems and in water treatment.

Bill is one of the most passionate people I have known professionally. His impact goes well beyond leading experimental work and publishing papers. He can jump from topics ranging from submolecular-scale chemical reaction aspects to ocean scale cycles and processes to the butterflies of Iguazu Falls, Argentina (on which he has published a book) and cover each with a combination of unbridled child-like enthusiasm and true expertise. One of his more recent passions is celebrating the 40th anniversary of the Clean Water Act (see article on page 10).

Recognition as an AAAS Fellow is special for Bill because he published two personally important papers in *Science*: (1) his first published paper—on isoprenoid acids in recent sediments as an undergraduate at Allegheny College in 1967—and (2) the first paper from his Ph.D. work at the University of Miami—on the photochemical formation of hydrogen peroxide in 1983.

Bill is certainly a credit to AEESP—he has served as a Board member for the past three years. AAAS will gain from having Bill as a Fellow and tapping his diverse skills, knowledge, and enthusiasm.



Bill Cooper

Landis Joins Fulton Schools of Engineering at Arizona State University

Amy Landis joined the School of Sustainable Engineering and the Built Environment in January 2012 as an associate professor. Most recently a member of the faculty at the University of Pittsburgh, Landis brings a strong research portfolio in the area of sustainable engineering.

Brad Allenby, Lincoln Professor of Engineering and Ethics, and professor of Civil, Environmental and Sustainable Engineering, noted, "Amy has a great reputation in industrial ecology and sustainable engineering circles, and is a strong addition to an ASU program that is already one of the best in the country. Her ability to work collaboratively and effectively with the public, private firms, and other academic institutions is outstanding."

Landis' research interests include life cycle impact assessment, biofuels, biopolymers and biolubricants. Her teaching interests include supporting underrepresented students and promoting diverse learning styles as well as encouraging active and collaborative learning. She has created service learning opportunities and outreach programs for high school students to encourage interest in the study of sustainable and green engineering.

"We are anxious to begin integrating Amy's ideas and expertise into our EPICS and outreach programs," says Jim Collofello, associate dean of Academic and Student Affairs.

Landis completed her Ph.D. at the University of Illinois at Chicago's Department of Civil and Materials Engineering in association with the Institute for Environmental Science and Policy.



Amy Landis

Water Chemistry by P.L. Brezonik and W.A. Arnold: A new textbook for environmental aquatic chemistry

Submitted by HELEN HSU-KIM (DUKE UNIVERSITY) and ROSE CORY (UNIVERSITY OF NORTH CAROLINA—CHAPEL HILL)

Aquatic chemistry is fundamental to environmental science and engineering; however, the large scope of the subject can make it challenging to teach, particularly in a class of students with diverse backgrounds. Moreover, some students may have seen little college-level chemistry beyond the first semester freshman General Chemistry. In Pat Brezonik and Bill Arnold's textbook, *Water Chemistry—An Introduction to the Chemistry of Natural and Engineered Aquatic Systems* (published by Oxford University Press in 2011), the authors provide a comprehensive synthesis of this expansive subject and convey clear descriptions of common 'rules' for quantitative applications of equilibrium chemistry in aquatic environments. Water chemistry, or components of this subject, can be taught at many levels in the college setting. Here, we provide a perspective based on our own pedagogical styles and courses, which are generally populated by first-year graduate students and upper-level undergraduate students in civil and environmental engineering, environmental science, ecotoxicology, chemistry, biology, and geology.

In our observations for this book review, we could not help but make comparisons to two popular, preceding textbooks on this subject: Mark Benjamin's *Water Chemistry* and Werner Stumm and Jim Morgan's *Aquatic Chemistry*. Brezonik and Arnold's version considers both natural and engineered systems, making the book more comprehensive than Benjamin's, but not quite as extensive as Stumm and Morgan.

Like the previous books, the Brezonik and Arnold textbook is firmly focused on fundamental chemical principles and the quantitative assessment of speciation in environmental systems. It is divided into four sections: (1) a short introduction to the composition of natural waters; (2) fundamentals of thermodynamics, equilibria, kinetics, and organic chemistry; (3) applications of equilibria and kinetics to acid/base, metal complexation, mineral solubility, and redox reactions; and (4) special focus topics on water quality related to engineered systems (i.e., water treatment) and natural systems (i.e., biogeochemistry of major elements). Because each chapter of the fourth part of the book is designed to stand alone, we have been able to select just a few for our students to see how core concepts are applied to water treatment and water quality issues. Furthermore, these special topics (e.g., mineral geochemistry, natural organic matter, photochemistry) have been updated with recent discoveries in research.

The major difference of this book is the inclusion of the basics from environmental organic chemistry. We do not use this part of the book in our own classes, but it could be useful to those who wish to include some organic chemistry. This material could help students bridge the pedagogical divide between inorganic and organic realms of environmental chemistry (e.g., unifying concepts of chemical activity for ionic and neutrally-charged compounds) or facilitate additional interest for a follow-up class on environmental organic chemistry.

We appreciated that the chapter on thermodynamics is accessible for our students. This topic is often difficult to introduce because the principles of thermodynamics can seem esoteric and abstract (although they are indeed a necessary foundation for water chemistry). For those who come to the course with only General Chemistry, starting off with familiar concepts (e.g., definition of parameters, the laws of thermodynamics) should help students make the transition to the key concepts as applied to water chemistry (e.g., Gibbs free energy, chemical activity, definition of the equilibrium constant).

Each chapter is accompanied by problem sets that are at the right level given the material presented. The problems are straightforward, yet they provide a challenge to the students. Another positive aspect of the problem sets is that they relate to real-world applications that students working in the water chemistry field are likely to experience. A fairly detailed solution key showing how most problems are done is available for instructors to download at the textbook website. We appreciated that the solution key even shows some output for problems done with chemical equilibrium software. Although the textbook uses MINEQL, we had no difficulty using other equilibrium software to work through the examples or problems. Additional web resources include data tables; no other images or lecture materials are available to support the textbook (www.oup.com/us/companion.websites/9780199730728/?view=usa).

In the past, we found ourselves writing lectures based on the Stumm and Morgan book, but then assigning the Benjamin book to students so that they have something that covers a smaller and more manageable scope. In Brezonik and Arnold's book, we see advantages from both that are incorporated into an updated synthesis of this subject. This book is a welcome addition to the selection of textbooks for aquatic chemistry.

A Nationwide Celebration for the Clean Water Act with “My Clean Water Act”

Submitted by WILLIAM COOPER *and* ALYSSA WADDELL

The Clean Water Act turns 40 on October 18, 2012, and the mission of “*My Clean Water Act*” (MCWA) is to underscore a powerful, life-sustaining initiative around water—drinkable, fishable, and swimmable water—and to build strong, long-lasting strategic partnerships with colleges and universities, environmental and social organizations, business and community leaders, legislators, and other stakeholders in order to continuously improve the availability of clean and abundant water.

To date, *My Clean Water Act* has interviewed approximately 75 scientists, researchers, and policy-makers from around the globe about the pending water crisis. This crisis is one of the best-kept secrets in the United States and with your help, we will change that.

Through strategic academic, media, and corporate partnerships, *My Clean Water Act* is projected to reach more than 34 million people at colleges and universities, aquariums and zoos, and numerous social and mobile media platforms. While *My Clean Water Act*'s audience is anyone who needs water, it will primarily focus its outreach to college and university students, K–12 students, families visiting aquariums and zoos, and other environmental organizations.

The celebration kicks off April 5, 2012, at the University of California, Irvine (UCI) with a Green Festival and Expo, a two-day jamboree

featuring a screening of the powerful documentary *Tapped*, tons of giveaways, and a concert (MusicFest). UCI is the first stop on the *My Clean Water Act* American Road Tour—a bus tour that will visit 50–100 colleges and universities and over 20 aquariums and zoos. The road tour will take the message of water conservation and cleanup directly to the masses. The *My Clean Water Act* American Road Tour will conclude in Washington, DC, on October 18, 2012, with an impressive commemoration and a MusicFest finale.

Currently, we are asking universities, aquariums and zoos, scores of environmental and educational organizations, and numerous eco-friendly corporations to come onboard to help *My Clean Water Act* educate, advocate, and entertain millions about the next great human crisis—plentiful, clean water. The purpose of this short article is to enlist the help of all of the AEESP universities and colleges. We are going to try to include as many campuses as possible on the Road Tour. If our fund-raising efforts are successful, we will have at least two buses starting in Irvine and ending up in Washington, DC.

To find out how you and organizations on campus can get involved, please contact Bill Cooper of UCI at 949-824-5620 or wcooper@uci.edu. Learn more about *My Clean Water Act* at www.mycleanwateract.com, [facebook.com/MyCleanWaterAct](https://www.facebook.com/MyCleanWaterAct), and on Twitter: [@MyCleanWaterAct](https://twitter.com/MyCleanWaterAct).

Call for Nominations—NWRI Clarke Prize for Excellence in Water Research

The National Water Research Institute (NWRI) of Fountain Valley, California, is pleased to begin the nomination process for the Nineteenth Annual Athalie Richardson Irvine Clarke Prize for excellence in water research.

NWRI established the Clarke Prize in 1993 to award outstanding individuals who are significantly and actively contributing toward any of the following areas: the discovery, development, improvement, and/or understanding of the issues associated with water quality, quantity, technology, or public policy.

The Prize, which includes a medallion and \$50,000 award, is one of only a dozen prizes that awards scholarly and practical

achievements in water research. The 2011 recipient was engineer and AEESP member Mark Wiesner of Duke University, who was selected because of his groundbreaking efforts and leadership in improving water quality through advancements in membrane and nanotechnology research (download his Clarke Lecture at www.nwri-usa.org/laureates.htm).

Nominations for the 2012 Clarke Prize are due by March 1, 2012. Additional information about the Clarke Prize, including nomination procedures, may be found at www.nwri-usa.org/nominations.htm.

AAEE Reaching Out To Environmental Scientists— Certification and a Name Change

Submitted by BRIAN P. FLYNN, P.E., BCEE, PAST PRESIDENT, AAEE (BFLYNN4290@AOL.COM)

Over the past year and a half, a dedicated team of environmental engineers and scientists has developed a new class of specialty certifications for the Academy, the Board Certified Environmental Scientist (BCES), and the Academy is changing its name to the American Academy of Environmental Engineers and Scientists (AAEES). The actions present new opportunities and broaden the mission of the Academy.

The idea of expanding the Academy's certification mission to environmental scientists arose from committee discussions in 2010. The basic premise was that because most of the organizations that employ Academy members utilize Environmental Engineers and Scientists on multidisciplinary teams to solve environmental problems, why not certify and serve both? In this way, the Academy will be able to offer the users of environmental services and environmental employers a full range of professional certification services. Including scientists in the certification process clearly bears an obvious parallel in the change of AEEP to AEESP over a decade ago. The lines of science and engineering clearly cross in solving many of the environmental problems we face.

Environmental scientist certification is not a new idea. It had previously been discussed by the AAEE Board in the 1990s, but no action resulted. In this case, the committee quickly and enthusiastically formed a subcommittee to study the idea and develop a detailed actionable concept. The subcommittee gathered opinions through polls and gathered comments from members and the Board of Trustees, revising and improving the certification proposal along the way.

The BCES is a new class of certifications for science practitioners from the geology, hydrogeology, biology, chemistry, and toxicology branches of environmental practice. The BCES will have the same fundamental requirements (time in service, responsible charge,

etc.) for certification as currently exists for AAEE's Board Certified Environmental Engineer (BCEE). The BCES, like the BCEE, will confer a specialty certification. We are initially considering certifications in groundwater, soils, water/wastewater, sustainability, air, and environmental chemistry. For reference, we currently offer eight areas of specialization for BCEEs.

Discussions about the BCES have unearthed a number of misconceptions. We wish to lay them to rest here. The BCES is an entirely separate certification system from the BCEE. It is not an engineering certification. The engineering certification which our members hold today will have the same value tomorrow because it is based on the stringency of the Academy's experience and exam requirements. The Science Certification will have the same, but separate, experience and exam requirements. Our oral exam will have a mandatory ethics question which focuses on the distinction between a scientist and an engineer.

The subcommittee and the AAEE Science Advisory panel also considered whether the Academy should change its name when it offers the BCES. For many of the same reasons AEESP added an 'S,' AAEE will add "and Scientists" to the current name, making it the American Academy of Environmental Engineers and Scientists (AAEES). We have already secured the web domain name. We do not know precisely when the name change will become official. It has to fit in with a detailed project plan for implementing the BCES. The plan should be ready by the time this article is published.

We look forward to a long and mutually beneficial relationship with AEESP, and the recent certification and name change further exemplify the complementary nature of our organizations.

If you want to provide the names and contact information of potential BCES applicants, please send the information to Joseph Cavarretta, our Executive Director, at jcava@aaee.net.

Funding Available For Environmental Research And Development

The Department of Defense's (DoD) Strategic Environmental Research and Development Program (SERDP) is seeking to fund environmental research and development proposals. SERDP is DoD's environmental science and technology program, planned and executed in partnership with the Department of Energy and the Environmental Protection Agency, with participation by numerous other Federal and non-Federal organizations. The Program invests across the broad spectrum of basic and applied research and advanced development. The development and application of innovative environmental technologies will reduce the costs, environmental risks, and time required to resolve environmental problems and enhance and sustain military readiness.

Proposals responding to focused Statements of Need (SON) in the following areas are requested:

- Environmental Restoration: Research and technologies for the characterization, risk assessment, remediation, and management of contaminants in soil, sediments, and water.
- Munitions Response: Technologies for the detection, classification, and remediation of military munitions on U.S. lands and waters.
- Resource Conservation and Climate Change: Research that advances DoD's management of its natural and cultural resources and improves understanding of climate change impacts.
- Weapons Systems and Platforms: Research and technologies to reduce, control, and understand the sources of waste and emissions in the manufacturing, maintenance, and use of weapons systems and platforms.

Proposals responding to the Fiscal Year (FY) 2013 SONs will be selected through a competitive process. Separate solicitations are available to Federal and non-Federal proposers. The SONs and detailed instructions are available on the SERDP web site at www.serdp-estcp.org/Funding-Opportunities/SERDP-Solicitations.

The Core SERDP Solicitation provides funding in varying amounts for multi-year projects. New this year, Federal organizations will submit pre-proposals online directly to SERDP. Core Solicitation **pre-proposals from the Federal and non-Federal sectors are due Thursday, January 5, 2012.**

SERDP also will be funding environmental research and development through the SERDP Exploratory Development (SEED) Solicitation. The SEED Solicitation is designed to provide a limited amount of funding (not to exceed \$150,000) for projects up to approximately one year in duration to investigate innovative approaches that entail high technical risk or require supporting data to provide proof of concept. This year, SERDP is requesting SEED proposals for the Munitions Response program area. SEED proposals are due Thursday, March 8, 2012.

AAEE Announces New Academic Award

Submitted by MICHAEL W. SELNA, P.E.,
BCEE, PRESIDENT, AAEE

The American Academy of Environmental Engineers (AAEE) bestows both project and individual awards at its annual Excellence in Environmental Engineering (E3) Awards Banquet and Conference in three individual and eight project award categories. Beginning in 2012, an additional individual award will be granted to a professor for significant contributions to the profession in the area of educating practitioners.

The Excellence in Environmental Engineering Education (E4) Award will recognize a university professor who has excelled

in the development of educational material or text that enhances the ability of students to succeed as professional environmental engineers serving as practitioners in roles such as infrastructure design and project leadership. Additional criteria include

- Development of outstanding curriculum content that challenges and inspires students in the area of environmental engineering practice.
- Demonstration of successful student educational outcomes.
- Establishment of positive student mentoring relationships or programs.
- Contributions to the profession.

The E4 Award is open to all university faculty teaching environmental engineering (not only AAEE or AEESP members). A monetary award of \$1,000 with an additional \$500 for travel by the award recipient to the E3 Awards Banquet and Conference (April 27, 2012, Washington, DC) will be provided to the winning professor. Administration of the award will be a joint effort of AAEE and AEESP. See www.aaee.net or www.aeespfoundation.org for entry information beginning in January 2012. Nominations will be due by March 15, 2012.

Center for Sustainable Engineering Workshops

May and June 2012


Held since 2006, Center for Sustainable Engineering (CSE) workshops for faculty members teaching engineering courses will again be offered by the Center for Sustainable Engineering, a partnership of Syracuse University, Carnegie Mellon University, Arizona State University, and Georgia Institute of Technology. Two similar workshops will be held June 4–5 and June 7–8 in Syracuse, NY. The goal of these workshops is to assist engineering faculty members who would like to include material on sustainability in their courses.

All participants are expected to pay their own travel costs to Syracuse. National Science Foundation funds will cover the expenses of the workshop, including ground transportation, food, lodging, and workshop materials.

Applications will be open January 15 to February 14 at www.csengin.org. For further information, please contact Carol Stokes-Cawley at cestokes@syr.edu. For information about the technical content of the workshops, contact Carol or any of the following:



- Cliff Davidson, Syracuse University, davidson@syr.edu
- Chris Hendrickson, Carnegie Mellon University, cth@cmu.edu
- Scott Matthews, Carnegie Mellon University, hsm@cmu.edu
- Brad Allenby, Arizona State University, braden.allenby@asu.edu
- Tom Seager, Arizona State University, thomas.seager@asu.edu
- John Crittenden, Georgia Institute of Technology, john.crittenden@ce.gatech.edu
- Eric Williams, Rochester Institute of Technology, exwgis@rit.edu

Note that a slightly shorter version of the CSE workshop will be presented on May 15–16, 2012 just prior to the IEEE International Symposium on Sustainable Systems and Technology (ISSST) in Boston. The website for the ISSST Symposium is www.ieee-issst.org.




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Oregon State University Assistant Professor Position

Oregon State University's School of Chemical, Biological and Environmental Engineering (CBEE) will fill one full-time (1.00 FTE), tenure-track, 9-month assistant professor position in chemical, biological or environmental engineering to begin September 16, 2012.

The School, which uniquely aligns the three programs, is a hub for innovation in both education and research, and has strong relationships with the Oregon Nanoscience and Microtechnology Institute, Oregon Built Environment and Sustainable Technologies Center, the OSU Subsurface Biosphere Initiative, and OSU Center for Research on Lifelong STEM Learning.

The position requires a Ph.D. in Chemical, Biological, or Environmental Engineering, or a closely related field, and a commitment to promoting and enhancing diversity. This hire is in response to the rapid growth of our program. The successful candidate must have the academic preparation to teach courses in the CBEE undergraduate core curriculum, including material and energy balances, transport phenomena, thermodynamics, reactors, separation processes, and process control, and is also expected to develop a nationally-recognized research program that builds upon the existing strengths in the School.

To review the posting and apply, go to oregonstate.edu/jobs, posting #8335. To be assured full consideration, applications should be received by January 31, 2012; however, the position will remain open until filled. OSU is an AA/EO employer. As an institution of higher education, we are committed to the elimination of discrimination, and to the provision of equal opportunity in education and employment. An important part of this effort is to encourage qualified women, persons of color, persons with disabilities, and veterans to apply.

Gordon Research Conference and Gordon Research Seminar: Environmental Sciences: Water

June 24–29, 2012

The Gordon Research Conference (GRC) on “Environmental Sciences: Water” to be held at the Holderness School in Holderness, New Hampshire, aims to represent the best new research on priority and emerging issues from all aspects of aquatic environmental science. Many of these topics are particularly relevant to AEESP members, and several AEESP members are scheduled to give talks at this year's conference.

The overarching theme of the 2012 GRC will be the scientific “grand challenges” that form the foundations and frontiers of our field. The program will highlight the cross-cutting significance of these grand challenges. Oral presentations will consist of invited, one-hour talks by established and emerging researchers. Conference attendees are encouraged to give posters and participate in extended discussion sections that follow the talks.

Program details, application and registration information, and some conference history can be found at the GRC website: www.grc.org/programs.aspx?year=2012&program=enviwater.

The first Gordon Research Seminar (GRS) on “Environmental Sciences: Water” will take place on the weekend before the GRC. A GRS is organized by and for young scientists (graduate students, postdocs, and junior faculty) to provide an advance opportunity to form a community of peers and become familiar with their research.

The main theme of the GRS will be the environmental fate of contaminants. In addition to an invited plenary speaker, there will be presentations by students selected from those who also plan to attend the GRC. Details regarding the program, application, and registration can be found at the GRS website: www.grc.org/programs.aspx?year=2012&program=grs_enviwa.

Prospective GRC and GRS attendees are encouraged to apply early. Questions regarding the GRC can be directed to the Vice (Program) Chair, Paul Tratnyek (tratnyek@ebs.ogi.edu), or the Conference Chair, David Sedlak (sedlak@berkeley.edu). Questions regarding the GRS should be sent to the Chair, Marcy Card (marcy.card@gmail.com). Or, join the conference Facebook group at <https://www.facebook.com/groups/21613451038/>.

Journals from IWA Publishing



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Water Science & Technology: Water Supply

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£1,488 / US\$2,633 / €2,404

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Editor-in-Chief: J. Delli Priscoli
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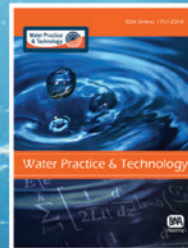
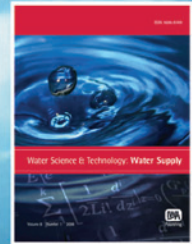
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Joel G. Burken, Ph.D.
Civil, Architectural,
and Environmental
Engineering, Room 224
Missouri University of
Science & Technology
Rolla, MO 65409
Phone: (573) 341-6547
Fax: (573) 341-4729
burken@mst.edu

President-Elect

Mark R. Wiesner, Ph.D.
Civil and Environmental
Engineering
Duke University
120 Hudson Hall
Durham, NC 27708
Phone: (919) 660-5292
Fax: (919) 660-5219
wiesner@duke.edu

Vice-President

Jennifer G. Becker
Civil & Environmental
Engineering
Michigan Technological
University
1400 Townsend Drive
Houghton, MI 49931
Phone: (906) 487-2942
Fax: (906) 487-2943
jgbecker@mtu.edu

Secretary

Steven K. Dentel, Ph.D.
Department of Civil
and Environmental
Engineering
University of Delaware
301 DuPont Hall
Newark, DE 19716
Phone: (302) 831-8120
Fax: (302) 831-3640
dentel@udel.edu

Treasurer

Robert G. Arnold
Department of Chemical
and Environmental
Engineering
University of Arizona
Tucson, AZ 85721
Phone: (520)621-2410
Fax: (520)621-6048
rga@email.arizona.edu

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