AEESP Newsletter

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Highlights

Need to renew your 2009 AEESP membership? Go to "Join > membership 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 editor, Joe Ryan, at joseph.ryan@colorado.edu. The next newsletter will appear in January, 2010.

President's Letter

Dear Colleagues:

Welcome back to a new academic year with a financially healthy Association, and ever increasing membership. As I take the gavel from Amy, I want to take the opportunity to thank her and the other departing board members and officers Angela Bielefeldt (Treasurer) and Keri Hornbuckle (Chief Information Officer) for their outstanding service and time committed to our organization.

My tenure started following a very successful AEESP conference on "Grand Challenges in Environmental Engineering and Science" organized by our colleagues in Iowa City. Anchored by the plenary talks, I noticed a change from conference programs of the past. In particular, I am referring to the sessions dedicated to carbon capture and sequestration, alternative energy, and engineering economics and value creation. Clearly, these themes illustrate a new emphasis on climate change and the energy challenge from a scientific inquiry and translational economic perspective and the adoption of innovations on the nexus between water and energy (a major theme of WEFTEC 09). Their alignment with the Recovery Act priorities and the broader international community is timely, as we enter the climate talks in Copenhagen in December. As environmental engineers and scientists, we have come to embrace the science and implementation of sustainable solutions, and serve the profession by improving the state of knowledge in the hope of impacting environmental policies, protecting human and ecosystem health, and creating economic value. We need to articulate the evolving brand of AEESP in light of these emerging challenges to attract the next generation of students and faculty on the one hand, and to argue for funding priorities and political relevance on the other.

Peter Adriaens

I don't know about your experience, but during my interviews with students, they increasingly indicate they want to have impact beyond academic achievement, to influence policy, to work in developing countries and, more recently, to start businesses. The latter mirrors a trend where universities across the country are creating entrepreneurship programs, with particular focus on CleanTech/Green Entrepreneurship, due to the emergence of a CleanTech investment space estimated at $ 8.4 billion (Q209). Our students increasingly take courses in business, finance, policy, social sciences, and public health to complement their engineering skill set. And if we weren't already exploring these dimensions ourselves, their projects become the impetus for us to move outside of our comfort zone as well. This is a very positive and necessary change toward developing sustainable solutions for our grand challenges. After all, sustainability argues for addressing environmental, economic, and social criteria. The latter two have received scant attention, not least because of the lack of funding. Yet, economic value creation and social acceptance are arguably the most significant drivers behind the adoption of new environmental processes and technologies. The challenge is then how to reconcile these seemingly opposing forces.

In my vision address during the banquet, I focused on value creation by way of the "Phillips Hydraulic Computer" (1949). Conceived by Bill Phillips, an engineer turned economist, this "computer" was a water-based system

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AEESP Membership Application online:

www.aeesp.org/membership/AEESP_member_app.pdf

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AEESP 2009 Conference Grand Environmental Challenges Conference Report

Submitted by MICHELLE SCHERER, CRAIG JUST, TIM MATTES, KERI HORNBUCKLE, GENE PARKIN, JERRY SCHNOOR, AND RICH VALENTINE, UNIVERSITY OF IOWA

We are happy to report that the AEESP 2009 conference on Grand Challenges in Environmental Engineering and Science was a great success. We were fortunate enough to have beautiful weather (which we always do in Iowa at the end of July!) and an amazing group of cheerful and engaged participants. We had record attendance with almost 400 participants—well above our goal of 250 participants. We are also proud to report that students made up almost one-quarter of the attendees.

The conference started off on Sunday with some fabulous workshops, including one organized by Dan Giammar and colleagues focused on the Academic Job Search that students were raving about all week (see separate article). Many thanks to all of the workshop organizers for giving up their Sundays to share their insights, tools, and expertise with us!

The conference kicked off on Monday with an inspiring plenary talk by Jerry Schnoor who gave us valuable perspective on the Grand Environmental Challenges and reminded us that our community was uniquely trained to tackle these challenges. Jerry challenged us all to think globally and follow our passions. Jerry's talk was followed by a day of exciting technical sessions focused on carbon capture and storage, renewable energy, waterborne pathogens, and nanotechnology. The day was ended with an Iowa-style farm party where participants got to shuck their own corn and enjoy some local Iowa music, food, and drink. *Ok*, and maybe wait for a bus for a few minutes . . .

Participants at the 2009 Grand Challenges in Environmental Engineering and Science Conference at the University of Iowa in Iowa City enjoy dessert at the closing banquet in the Hotel Vetro in Iowa City .

Joan Rose started us bright and early on Tuesday with a riveting talk that walked us through the history of waterborne pathogens from cholera to *Cryptosporidium* and beyond and educated many of us on what is in store for the molecular future of water quality. Joan's talk was followed by another round of exciting sessions focused on water sustainability, economics in environmental education and research, managing the nitrogen cycle, and international environmental education. The conference concluded on Tuesday night with Marc Edwards giving us a humbling and inspiring insider look at the issue of lead in the drinking water of Washington, DC, at the evening banquet. Marc—we are all *so proud* that you are part of our community! In addition to the oral technical sessions, we had two poster sessions that drew great crowds and some very lively discussions.

A group of future environmental engineering professors (?)conducts experiments involving organic matter-rich liquids at the Iowa Farm Party after the first day of the 2009 Grand Challenges in Environmental Engineering and Science Confererence.

Finally, we would like to take one last chance to thank all of our sponsors including Strand Associates, Inc., Hazen and Sawyer, the Environmental Research and Education Foundation, the Center for Global and Regional Environmental Research (CGRER), the Center for Health Effects of Environmental Contamination (CHEEC), the Carnegie Mellon Steinbrenner Institute, the Iowa Energy Center, Ecolotree, and the National Science Foundation (NSF), for all their support. We could not have pulled this off without your help!

2009 AEESP Award Recipients

The 2009 AEESP Awards were presented to the award recipients at the 2009 AEESP Conference in Iowa City, Iowa. Below are a list and photographs of the recipients receiving their awards at the banquet.

CH2M Hill/AEESP Outstanding Doctoral Dissertation Awards

Shaomei He[1] and Katherine (Trina) McMahon[2] (University of Wisconsin–Madison)

"Population Structure and Gene Expression of *Candidatus Accumulibacter* in Enhanced Biological Phosphorus Removal"

Michael Dodd[1] and Urs von Gunten[2] (EAWAG, Swiss Federal Institute of Aquatic Science and Technology)

"Characterization of Ozone-Based Treatment as a Means of Eliminating the Target-Specific Biological Activities of Municipal Wastewater-Borne Antibacterial Compounds"

These awards annually recognize two outstanding doctoral dissertations that contribute to the advancement of environmental science and engineering. The awards will each consist of a cash prize of $1,500 for the student and $500 for the faculty advisor and $750 travel allotments to recipients who attend the awards ceremony.

Montgomery-Watson-Harza Consulting Engineers / AEESP Master's Thesis Award

1st Place: **Douglas F. Call[1] and Bruce Logan[2]** (The Pennsylvania State University)

"Hydrogen production in a microbial electrolysis cell lacking a membrane"

2nd Place: **Caroline Rose Warne Zoueki[1], Nathalie Tufenkji[2], and Subhasis Ghoshal[2]** (McGill University)

"Bacterial Adhesion to Hydrocarbons: Role of Toluene, Asphaltenes and Resins"

Honorable Mention: **Leah M. Teuber[1] and Philip C. Singer[2]** (University of North Carolina at Chapel Hill)

"Mineral Deposition Behind Waterless Urinals"

This award annually recognizes the first and second most outstanding Master of Science theses that contribute to the advancement of environmental science and engineering. Each award consists of a cash prize for the student ($1,500 first place, $500 second place) and $750 as a travel allotment for all recipients who attend the awards ceremony.

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[1] Student
[2] Advisor

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Trina McMahon of the University of Wisconsin–Madison accepts the CH2M Hill/AEESP Outstanding Doctoral Dissertation Award on behalf of her student Shaomei He from the outgoing and incoming presidents, Amy Childress (left; University of Nevado at Reno) and Peter Adriaens (right; University of Michigan).

Douglas Call and Bruce Logan of Penn State University accept the first-place Montgomery-Watson-Harza/AEESP Master's Thesis Award from the outgoing and incoming presidents, Amy Childress (left; University of Nevado at Reno) and Peter Adriaens (right; University of Michigan).

Michael Dodd, now at the University of Washington, accepts the CH2M Hill/AEESP Outstanding Doctoral Dissertation Award on behalf of his adviser, Urs von Gunten (EAWAG), from the outgoing and incoming presidents, Amy Childress (left; University of Nevado at Reno) and Peter Adriaens (right; University of Michigan).

Jeanne VanBriesen of Carnegie Mellon University accepts the McGraw-Hill/AEESP Award for Outstanding Teaching from the outgoing and incoming presidents, Amy Childress (left; University of Nevado at Reno) and Peter Adriaens (right; University of Michigan).

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

Jeanne VanBriesen, Carnegie Mellon University

This award is given annually to honor a faculty member who has made substantive contributions directly through class-oriented teaching, as enhanced through the development of new pedagogical techniques.

AEESP Outstanding Publication Award

Brian A. Dempsey, Rui M. Ganho, and **Charles R. O'Melia**

The Coagulation of Humic Substances by Means of Aluminum Salts. *Journal of the American Water Works Association,* 76:141-150, 1984.

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.

AEESP Founder Award

James K. Edzwald, University of Massachusetts

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

Brian Dempsey of Penn State University accepts the AEESP Outstanding Publication Award on behalf of his co-authors, Rui Ganho and Charles O'Melia (Johns Hopkins University), from the outgoing and incoming presidents, Amy Childress (left; University of Nevado at Reno) and Peter Adriaens (right; University of Michigan).

Jim Mihelcic (University of South Florida), Charlie Werth (University of Illinois), and David Freedman (Clemson University) receive Distinguished Service Awards from the outgoing and incoming presidents, Amy Childress (left; University of Nevado at Reno) and Peter Adriaens (right; University of Michigan).

Greg Lowry of Carnegie Mellon University accepts the Malcolm Pirnie/ AEESP Frontier in Research Award from the outgoing and incoming presidents, Amy Childress (left; University of Nevado at Reno) and Peter Adriaens (right; University of Michigan).

Eric Marchand (University of Nevada at Reno) and Nancy Love (University of Michigan) receive Distinguished Service Awards from the outgoing and incoming presidents, Amy Childress (left; University of Nevado at Reno) and Peter Adriaens (right; University of Michigan).

Malcolm Pirnie / AEESP Frontier in Research Award

Gregory V. Lowry, Carnegie Mellon University

This award is given annually to recognize a member of AEESP who has advanced the environmental engineering and science field through recognized research leadership and pioneering efforts in a new and innovative research area. The recipient receives a cash prize of $4,000 and a $750 travel allotment to attend the awards ceremony.

Frederick George Pohland Medal

Louis J. Thibodeaux, Louisiana State University

This award honors a member of AEESP and/or the American Academy of Environmental Engineers (AAEE) who has made sustained and outstanding efforts to bridge environmental engineering research, education, and practice. The award includes a $1000 cash award and reimbursement of travel costs of up to $1,000 to attend the award ceremony.

Distinguished Service Award for Outstanding Service as President

James R. Mihelcic, University of South Florida

Distinguished Service Award for Outstanding Service as President and AEESP Board Member

Amy Childress, University of Nevada at Reno

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Louis Thibodeaux, the recipient of the Frederick George Pohland Medal for sustained and outstanding efforts to bridge environmental engineering research, education and practice, addresses the conference participants at the closing banquet.

2009 Virginia Tech Student Travel Award

The Virginia Tech Student Travel Award was created in memory of the students and faculty who lost their lives in the 2007 tragedy at Virginia Tech and was recently endowed by donations to the AEESP Foundation (see update on AEESP Foundation fund-raising efforts on p. 12). The travel award honors their accomplishments and promise in environmental engineering research, education, and the professional sphere. Virginia Tech selected Dr. Andrew J. Whelton as the first recipient of the award. Andrew attended the 2009 AEESP conference at the University of Iowa, participated in workshops, the poster session, and interacted with other conference attendees. Andrew received his Ph.D. degree from Virginia Tech's Department of Civil and Environmental Engineering under the direction of Dr. Andrea Dietrich. He is currently working as a post-doctoral research associate with Dr. Peter Vikesland at Virginia Tech. Dr. Whelton aspires to be a professor.

Distinguished Service Award for Outstanding Service as Secretary and AEESP Board Member

Charles J. Werth, University of Illinois

Distinguished Service Award for Outstanding Service as Treasurer and AEESP Board Member

Bill Ball, Johns Hopkins University

Distinguished Service Award for Outstanding Service as Treasurer and AEESP Board Member

Angela Bielefeldt, University of Colorado at Boulder

Distinguished Service Award for Outstanding Service as Chief Information Officer and AEESP Board Member

David L. Freedman, Clemson University

Distinguished Service Award for Outstanding Service as Chief Information Officer and AEESP Board Member

Keri Hornbuckle, University of Iowa

Distinguished Service Award for Outstanding Service as Chair of the Student Services Committee

James D. Englehardt, University of Miami

Distinguished Service Award for Outstanding Service as Chair of the Awards Committee

Nancy G. Love, University of Michigan

Distinguished Service Award for Outstanding Service as Chair of the Lectures Committee

Morton Barlaz, North Carolina State University

Distinguished Service Award for Outstanding Service as Chair of the Internet Resources Committee

Richard F. Carbonaro, Manhattan College

Distinguished Service Award for Outstanding Service as Chair of the Internet Resources Committee

Peter Vikesland, Virginia Tech

Distinguished Service Award for Outstanding Service as Chair of the Dissertation Subcommittee

Jürg Keller, University of Queensland

Distinguished Service Award for Outstanding Service as Newsletter Editor

Eric A. Marchand, University of Nevada at Reno

Eight Students Win the 2009 AEESP-NSF Grand Challenge Student Paper Award

Submitted by MICHELLE SCHERER

At the AEESP 2009 conference on Grand Challenges in Environmental Engineering and Science held in Iowa City this summer, eight graduate students were awarded the 2009 AEESP-NSF Grand Challenge Student Paper Award. We would like to extend our congratulations to:

Lanhua Hu (University of Illinois at Urbana-Champaign)
Maria Antoniou (University of Cincinnati)
Danmeng Shuai (University of Illinois at Urbana-Champaign)
Brian Ellis (Princeton University)
Andrea Achilli (University of Nevada, Reno)
David Berry (University of Michigan)
Shahzeen Attari (Carnegie Mellon University)
Rosa Dominguez-Faus (Rice University)

Award winners were selected from each Grand Challenge category by a committee of four AEESP members. Criteria included the quality of the paper, evidence of research productivity, and recommendations from the graduate faculty advisors. The students received a travel award of $500 to present at the AEESP conference and a one year membership in AEESP.

President's Letter, continued

consisting of tubes, tanks, valves, pumps, and sluices to visually demonstrate the interconnectedness of the economy to a global delegation of leading thinkers at the London School of Economics. With national economics in disarray after World War II, proposed solutions focused on reductionist approaches to the problem, without considering the complexity of the monetary and societal systems (sound familiar?). Water helped economists visualize how the pieces need to be reassembled in ways that faithfully reflect the inevitable interactions among them.

The inverse perspective of the Phillips computer, which uses water to "predict" the economy, is the use of economics as an overarching framework to quantify the value of water. Water is cheap because it is not traded as a (scarce) commodity, yet the economic impact of impaired or insufficient water is huge. Just consider the hydrologic services for energy, drinking water and steel production, manufacturing use, recreation, agriculture, forestry, and shipping. The value vs. cost argument is already starting to shape drinking water source allocations, watershed protection policies (e.g. nutrient trading), investment in water conservation by energy utilities, environmental product pricing by the insurance industry, and lending rates for brownfield redevelopment by the banking industry. Though illustrated for water here, similar arguments apply to the broader climate change and energy challenges as well.

The economics session, and other talks sprinkled throughout the conference highlighted the use of tools in research and education from a policy-making, corporate investment, and entrepreneurial business development perspective. To demonstrate its broader national (and global) impact, AEESP would benefit from making economic valuation arguments (and they are hard data, not fuzzy numbers) to Congress and within NSF. This would not only align our organization and the profession with the Nation's move toward a green economy, but will help us make the case to receive our due within the funding agencies. Broader societal impact, after all, has become a paramount proposal evaluation criterion. I am not advocating for a change in what we do in our research, educational, and outreach programs (this is tactics and operations), but rather how we strategically position our organization and programs outward. Ultimately, one may influence the other, as I have experienced in my own work, but this is an individual choice.

I commend the AEESP Board for voting to create a President's Strategic Initiative, which this year will focus on economics and value creation, and thank Greg Characklis (UNC) for his willingness to chair this committee. At the same time, the Board is embarking on a strategic planning exercise for the Association, which has not been done since 2002, and will engage the broader AEESP community and stakeholders. Stay tuned for future requests to participate in this exercise and its execution.

I wish you the best for a productive academic year, and look forward to working with you toward an ever-stronger Association.

Academic Job Search Workshop at Iowa Conference Was a Success

Submitted by DEFNE APUL

The Student Services Committee (SSC) of AEESP organized a workshop for graduate students and postdoctoral researchers on how to navigate the academic job search. The workshop was held on Sunday, July 26, at the University of Iowa. Twenty-six students and postdoctoral researchers from eighteen different universities participated in the workshop. Participants used wiki technology (http://aeespstudentworkshop.wikispaces.com/) to share information and post questions in advance of the workshop. Participants submitted their academic job application materials to the workshop co-organizers, Daniel Giammar and Qilin Li. The workshop began with a joint presentation by Keri Hornbuckle (University of Iowa) and David Cwiertny (University of California Riverside) on the faculty search process. The second hour of the workshop was devoted to small group workshop activities in reviewing and discussing application materials that participants had submitted in advance. Several members of the SSC facilitated the small group activities. The last hour of the workshop was a panel discussion with professors from a range of different institutions: Margaret Lang (Humboldt State University), Marty St. Clair (Coe College), Kris Wammer (University of St. Thomas), Jeanne VanBriesen (Carnegie Mellon University), and Peter Vikesland (Virginia Tech). The Student Services Committee thanks everyone who helped make this workshop a huge success. Please contact Defne Apul, the chair of the Student Services Committee (defne.apul@utoledo.edu) if you would like to join the SSC or have an idea for what other activities we can do to make a difference for students.

David Cwiertny (left) and Keri Hornbuckle (right) describe the faculty search process to the participants in the "Navigating the Academic Job Search" Workshop before the 2009 AEESP Conference.

Summer 2009 AEESP Board Meeting Highlights

Submitted by JOEL G. BURKEN

Following the great biannual conference in Iowa City, the AEESP board of directors met at the University of Iowa campus on July 29 and 30, 2009.

1. The board welcomed aboard newly elected members from the 2009 board elections. New members starting their terms are:
   - Steve Dentel—University of Delaware
   - Sharon A. Jones—Lafayette College
   - Mark Wiesner—Duke University
2. The board expressed great appreciation to the planning committee for the conference in Iowa City. Michelle Scherer, Craig Just, and Tim Mattes were noted for their efforts in particular. The conference drew almost 400 attendees, including a rush of almost 100 registrations in the last 72 hours. The conference sessions and workshops were all of excellent quality. A survey will be administered to follow up with attendees.
3. Despite the economic hard times many individuals and campuses are feeling, AEESP retains a very high renewal rate among its members and added 91 new members this year already and more leading up to the conference that are not included in that number. We still have over 150 members not renewed for 2009, so talk with your colleagues and new faculty about joining, renewing, and participating in AEESP. The Board also discussed the Emeritus, Lifetime, and Legacy membership categories and how to best serve and utilize the AEESP members at all levels. The membership committee will be charged with reviewing the criteria at different member levels.
4. The board discussed the use and purpose of the website, brochures, and newsletter mailings to increase awareness of and involvement in AEESP. Fall Newsletters will be mailed to a list of environmental engineering programs and existing department heads. The Publications Committee will also be asked to look at a new brochure design.
5. In reviewing bylaws, the board noted that committees are to have a vice chair and a succession plan in place to help improve the transition of leadership in each committee. Board members will ask committees to develop the plans.
6. The board discussed the efforts in past years to launch the Society for Environmental Engineering. Recent economic times were not viewed as a good time to launch a new society and membership drive. The topic will again be pursued as times are starting to slowly look better.

The AEESP Board of Directors in July, 2009 (left to right): Keri Hornbuckle (University of Iowa), Angela Bielefeldt (University of Colorado at Boulder), Nancy Love (University of Michigan), Joanne Fetzner, Steve Dentel (University of Delaware), Sharon Jones (Lafayette College), William Cooper (University of California at Irvine), Peter Adriaens (University of Michigan), Margaret Lang (Humboldt State University), Jeanne VanBriesen (Carnegie Mellon University), Joel Burken (Missouri S&T), Amy Childress (University of Nevada-Reno), Dan Oerther (University of Cincinnati), and Mark Wiesner (Duke University).

7. Board elections were conducted and new officers installed. Outgoing board members Amy Childress, Keri Hornbuckle, and Angela Bielefeldt were recognized for their exceptional service. The following new officers were installed: Vice-President, Joel Burken; Treasurer, Margaret Lang; and Chief Information Office, Dan Oerther.

The new members of the AEESP Board of Directors (left to right): Steve Dentel (University of Delaware), Sharon Jones (Lafayette College), and Mark Wiesner (Duke University).

8. The board discussed broadening the next meeting to two full days in hopes to take time in looking at the direction and scope of Environmental Science and Engineering in a strategic planning exercise. The spring meeting will be two full days and will take place in Durham, North Carolina, on March 29 and 30, 2010. To help with the continuity of the board activities, we plan to schedule a conference call this fall.

Engineering and Green Chemistry Among Predicted "Hot" Academic Careers

Submitted by AMY CHILDRESS

The *Chronicle of Higher Education* (http:/chronicle.com, July 10, 2009, v. 55(41), p. B22) recently reported a list of "some of the academic fields...experts believe will be "hot" over the coming decade." Among the predicted "hot" academic jobs are those in green chemistry, energy, gerontology, education, nanotechnology, health policy, information technology, and engineering. The Bureau of Labor Statistics expects a total of 662,000 faculty jobs to become available in these fields from 2006 to 2016, primarily in community colleges and other institutions that offer career and technical education. In engineering, the Bureau of Labor Statistics foresees "environmental engineering experiencing 25-percent growth between 2006 and 2016, and industrial and biomedical engineering each experiencing about 20-percent growth in that time." The *Chronicle* cautions, however, that "it is difficult to make predictions about the faculty job market."

The growth expected for academic jobs in environmental engineering mirrors the fast growth expected for the general field of environmental engineering. In 2005, *Fortune* ranked environmental engineering as the top field for job growth ("the greatest increase in demand by far will be for folks who know how to clean up spaceship earth"), and *Money* predicted that environmental engineering would see 30-percent growth from 2004–2014. The source cited in many of these lists of growing fields is the same Bureau of Labor and Statistics report, the *Occupational Outlook Handbook*. For environmental engineering, the 2006–2007 edition of the handbook predicted "a *shift in emphasis toward preventing problems rather than controlling those that already exist, as well as increasing public health concerns, also will spur demand for environmental engineers."*

Dates Set for 2009 AEESP Distinguished Lectures by Dr. Mark Benjamin

The AEESP Lectures Committee is pleased to announce the schedule for the 2009 AEESP Distinguished Lecture Series by Dr. Mark Benjamin. Dr. Benjamin will be visiting sixteen environmental engineering and science programs in North America during a whirlwind fall tour. Dr. Benjamin is a professor of Civil and Environmental Engineering at the University of Washington. Dr. Benjamin's research interests include: physical-chemical treatment processes, natural organic matter chemistry and behavior in water treatment systems, adsorption and ion exchange, membrane-based technologies for water and wastewater treatment, removal of metals from water, and formation of chlorinated disinfection by-products. He has written a widely used textbook, *Water Chemistry*, and is completing another on physical/chemical water treatment processes with Desmond Lawler of the University of Texas at Austin. Dr. Benjamin will be offering two lectures during his tour: "Micro-Granular Adsorptive Membrane Filtration: A Whole New World of Treatment Technologies?" and "Simplifying the Complex World of Adsorption: Unifying Isotherm and Competitive Adsorption Models." For more information please contact the host school contacts or Dr. Sarina Ergas (ergas@ecs.umass.edu).

Host school	City	Lecture date	Contact
University of Wyoming	Laramie, WY	September 9	Patricia Colberg
Arizona State University	Tempe, AZ	September 15	Paul Westerhoff
University of New Mexico	Albuquerque, NM	September 17	Bruce Thomson
Washington University	St. Louis, MO	September 30	Daniel Giammar
Texas A & M	College Station, TX	October 2	Bill Batchelor
University of Toronto	Toronto, Ontario	October 5	Ron Hoffman
University of Cincinnati	Cincinnati, OH	October 8	George Sorial
University of Pittsburgh	Pittsburgh, PA	October 9	Radisav Vidic
Howard University	Washington, DC	October 12	Kimberly Jones
Virginia Tech	Blacksburg, VA	October 14	John Little
Clemson University	Clemson, SC	October 16	David L. Freedman
University of California	Berkeley, CA	October 19	Robert Harley
University of Nevada	Reno, NV	October 21	Amy Childress
University of Florida	Gainesville, FL	October 23	Paul Chadik
North Carolina State University	Raleigh, NC	October 27	Detlaf Knappe
University of Massachusetts	Amherst, MA	October 29	John Tobiason

The LinkedIn.com and Facebook AEESP Groups are Growing

The AEESP LinkedIn.com and Facebook groups are growing. These free networking media enable current, prospective, and past AEESP members an opportunity to connect, and stay connected with other professionals and friends. As of August 6, 2009, there were more than 65 members on LinkedIn.com (Figure 1), primarily professors (42%) and graduate students (22%) located in the United States, Asia, and Europe. Several new LinkedIn.com connections between AEESP members have been made following the recent AEESP Conference! The Facebook group is also growing with 70 current members.

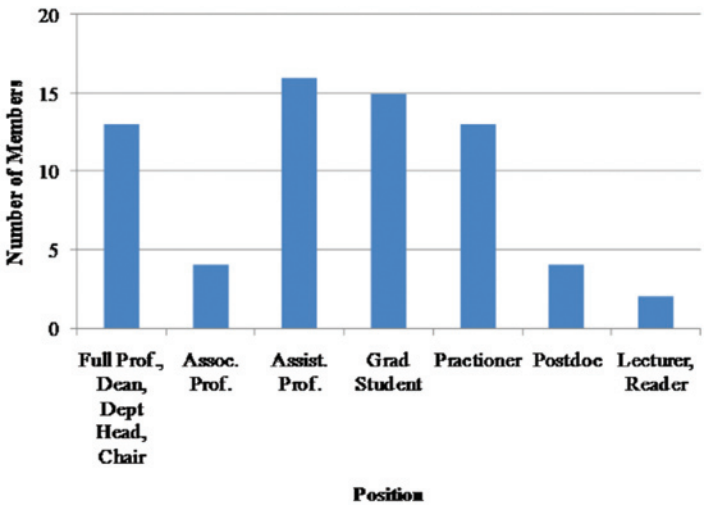

Figure 1. Summary of AEESP members registered on LinkedIn.com as of August 6, 2009.

To sign up:

- Go to http://www.linkedin.com, search for the group "Association of Environmental Engineering and Science Professors." To learn more, visit http://press.linkedin.com/about or watch a two-minute tutorial on YouTube (http://www.youtube.com/watch?v=IzT3JVUGUzM).
- Go to http://www.facebook.com, search for "AEESP," click on 'join this group.' The group is currently set up as open to anyone and is not being moderated.

Please contact Defne Apul (defne.apul@utoledo.edu) or Andrew Whelton (ajwhelton@gmail.com) with any questions. We look forward to seeing you in this online environment and receiving your feedback.

Member Contributions to the AEESP Foundation

Submitted by PHIL SINGER

The Board of the AEESP Foundation is very grateful for the generosity shown by many AEESP members through their gifts to the Foundation. Through these gifts, we have been able to fully endow the Virginia Tech Travel Award, and are well on our way to endowing the CH2M Hill–AEESP Doctoral Dissertation Award. We are also in the "silent" phase of other fund-raising campaigns to endow other awards that are given by AEESP so that our awards program can be fully sustained for the future. In order to recognize donors to the AEESP Foundation, the Board of the Foundation adopted a number of categories for various levels of giving. As you will see, given the nature of our work, we have decided to go green. For those of you who have made gifts to the Foundation, we thank you and hope that you will continue to do so in the future. For those of you who have not yet given, we hope that you will seriously think about a donation in the near future. If anyone has any ideas for endowing a new award or would like to discuss a major gift to the Foundation, please feel free to contact Phil Singer, Chair of the Foundation Board, or any of the Board members (Peter Adriaens, Angela Bielefeldt, Jeanne VanBriesen, Dick Luthy, Pat Brezonik, and Bill Cooper).

Contributors to the Virginia Tech Travel Award

Jade-Green ($1000–$4999)

Jim Mihelcic

Forest Green ($100–$999)

Donald Aulenbach
Bill Ball
Mort Barlaz
Patrick Brezonik
Amy Childress
John Cleasby
Dave Hendricks
William Knocke
Paige Novak
Dan Oerther
Susan Powers
Alan Rabideau
Dave Sabatini
Riley Stevens
Dave Vaccari
Albert Valocchi
Aarne Vesilind
C. Herb Ward
Amy Zander

Sea-Green (<$100)

Marjorie Aelion
Mike Aitken
James Bisogni
Allen Davis
Dave Dzombak
Mark Fitch
David Freedman
Alexander Friedman
Dennis George
Mark Goltz
Ronald Neufeld
Andrew Amis Randall
Melanie Sattler
Eric Seagren
Phil Singer
Peter Strom
Denise Taylor
John Tobiason
Kris Wammer

Contributors to the Foundation During 2009

Jade-Green ($1000–$4999)

Peter Adriaens
Glen Daigger

Forrest Green ($100–$999)

Pedro Alvarez
Robert Baumann
Wayne Echelberger
Charles Haas
Richard Luthy
Krishna Pagilla

Sea-Green (<$100)

Michael Aitken
Felicia Armstrong
Donald Aulenbach
Robin Autenrieth
Morton Barlaz
Angela Bielefeldt
Ian Buchanan
Robert Carnahan
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C.P. Leslie Grady Jr.
David Hand
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Qiang He
Dave Hendricks
Jane Hill
Kimberly Jones
Ramanitharan Kandiah
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Glenn Morrison
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James Symons
Denise Taylor
Michael Templeton
Maya Trotz
Richard Unz
David Vaccari
Aarne Vesilind
Peter Vikesland
Charles Werth

Bruce Logan Receives 2009 Clarke Prize

Professor Bruce Logan of Penn State University, recipient of the 2009 Athalie Richardson Irvine Clarke Prize awarded by the National Water Research Institute.

The National Water Research Institute (NWRI) has awarded Bruce E. Logan of Penn State University the sixteenth NWRI Athalie Richardson Irvine Clarke Prize (www.nwri-usa.org/ClarkePrize.htm) for excellence in water research. Logan was selected because of his innovative efforts to generate clean, renewable forms of energy during the treatment of wastewater. The prize, which includes a medallion and $50,000 award, is presented annually.

Logan was awarded the prize for his work on developing an energy-sustainable water infrastructure, which includes using microbial fuel cells that generate electricity and microbial electrolysis cells that make hydrogen. These new technologies make it possible to directly generate energy from organic matter in wastewater. They have the potential not only to transform wastewater treatment plants into self-sufficient power plants, but also to produce excess power for the broader community.

Logan is actively involved in collaborations around the world to promote the development of energy-sustainable water infrastructure. He is a Visiting Professor at both Harbin Institute of Technology in China and Newcastle University in the United Kingdom, where he is working on bioenergy production, and a collaborator with Tsinghua University in China, where he is working on the development of new desalination technology. He is also a Global Research Partner with King Abdullah University of Science and Technology in Saudi Arabia investigating novel technologies for energy production using wastewaters and agricultural waste.

Established in honor of the NWRI's co-founder, the late Athalie Richardson Irvine Clarke, the Clarke Prize is awarded to outstanding research scientists who are currently active in the water and wastewater fields.

Bruce Rittmann Receives Simon W. Freese Award and Becomes a Regents Professor

Professor Bruce Rittman of Arizona State University, recipient of the 2009 Simon W. Freese Environmental Engineering Award bestowed by the Environmental Water and Resource Institute.

Bruce Rittmann of Arizona State University has been honored with the prestigious 2009 Simon W. Freese Environmental Engineering Award, in recognition of his outstanding contributions to the field. The Freese Award is the highest honor bestowed by the Environmental Engineering Division of the Environmental Water and Resource Institute (EWRI), a specialized affiliate of the American Society of Civil Engineers (ASCE). Prof. Rittmann's selection for the award was based largely on his pioneering work in the development of biofilm fundamentals and for contributions to their widespread use in the cleanup of contaminated waters, soils, and ecosystems. In his acceptance lecture delivered on May 19, 2009, at the World Environmental & Water Resources Congress in Kansas City, Missouri, he spoke about "Environmental Biotechnology for Water and Wastewater Treatment."

Also in May, 2009, Professor Rittmann was named as an Arizona State University Regents Professor based on the national and international recognition he has received for contributions to his field. Bruce was recognized as a pioneer in research aimed at developing microbiological systems that capture renewable resources and minimize environmental pollution. His work, which combines engineering with microbiology and chemistry, can be used to reclaim polluted water and generate energy from waste substances. The rank of Regents Professor is the highest faculty honor bestowed by the university.

Tansel Receives Freidman Award

Professor Berrin Tansel of Florida International University, recipient of the 2009 Edmund Friedman Professional Recognition Award bestowed by the American Society of Civil Engineers.

Dr. Berrin Tansel was recently named to receive the 2009 Edmund Friedman Professional Recognition Award by the American Society of Civil Engineers (ASCE) for her outstanding contribution to educational outreach and engineering activities in environmental engineering practice. The Edmund Friedman Professional Recognition Award is presented to a member of ASCE who is judged to have contributed substantially to the status of the engineering profession by establishing a reputation for professional service. Dr. Tansel has distinguished herself as a member of the engineering profession who has advanced "the science and profession of engineering" while serving as a professor of Civil and Environmental Engineering at the Florida International University (FIU). Earlier this year, she received the U.S. Army Freedom Team Salute Commendation (2009) for initiating the internship program for engineering students with Army Corps of Engineers. Dr. Tansel has spearheaded the efforts to establish a new degree program in Environmental Engineering at FIU. Dr. Tansel serves on ASCE's Environmental Effects Committee; Disaster Mitigation Committee of the Council on Disaster Risk Management; the Infrastructure Security Partnership Educational Outreach Committee of the National Academic Consortium for Homeland Security; and the editorial boards of *Water Environment Research*, the *Journal of Energy Engineering*, the *Journal of Environmental Management*, and *Water, Air, and Soil Pollution*.

Clarkson Engineers Win 2009 Premier Curriculum Award for K–12 Engineering

2009 Premier Curriculum Award for K–12 Engineering winners Professor Susan Powers (left) and Jan DeWaters (right) of Clarkson University.

Susan Powers and Jan DeWaters of Clarkson University received the inaugural Premier Curriculum Award for K–12 Engineering for their original middle school curricular unit, "Energy Systems and Solutions." Sponsored by Engineering Pathway and the National Science Foundation-sponsored TeachEngineering digital library, the competition is a biennial award recognizing the creation and implementation of outstanding K–12 engineering curriculum, a growing approach to teaching K–12 science and math fundamentals.

The curriculum developed by Powers and DeWaters is a collection of eighth-grade lessons and activities that provide a comprehensive, practical, and engaging investigation into energy and how it is used, presented from a real-world, applied engineering point of view.

Dr. Powers said, "We are very honored to receive this inaugural award. We are especially committed to increasing the energy literacy of our youth, who will have to tackle significant energy issues as either consumers or STEM professionals." Powers is associate dean for research and graduate studies, and professor of civil and environmental engineering at the Coulter School of Engineering of Clarkson University in Potsdam, New York. She also is director of the Clarkson NSF GK-12 project. DeWaters is a PhD candidate in environmental science and engineering at Clarkson.

The winning curricular unit is based upon work supported by the National Science Foundation NSF GK-12 and Distinguished Teaching Scholars programs (DUE-0428127 and DGE-0338216). The winning and finalists' curricula will be made freely available to teachers and educators through Clarkson's (www.clarkson.edu/k12) and the TeachEngineering (http://www.TeachEngineering.org) digital library-online resource collections.

NSF Funds Water and Environmental Technology (WET) Center

Professor Morteza Abbaszadegan will direct the NSF-funded WET Center at Arizona State University.

The National Science Foundation (NSF) has awarded a five-year, $1.24 million grant for establishing the Water and Environmental Technology (WET) Center with research units at Arizona State University (ASU), University of Arizona, and Temple University. Morteza Abbaszadegan, a professor of Civil, Environmental and Sustainable Engineering will be the Director of the WET Center at ASU. During the last ten years, as director of the NSF Water Quality Center, he provided leadership in addressing the imminent water quality issues by establishing channels of communication between academia and industry. The WET Center will continue to provide premier leadership to confront emerging challenges in the areas of water and environmental technologies at local, national and international levels playing an instrumental role in enhancing the technical competence of students, practicing professionals, and decision-makers. Research areas of the Center will continue to be in environmental pollution treatment (microbial, chemical, and anthropogenic) and development of advanced technologies and sensors for the rapid detection and controls of contaminants. The Center will provide a platform to address issues as diverse as water quality by capitalizing on the strengths of partner organizations. The academic setting of the Center will help to produce a new generation of leaders in environmental science and technology.

Clarkson University's Andrea Ferro Receives NSF CAREER Award

Andrea Ferro, associate professor of civil and environmental engineering at Clarkson University, received a CAREER Award from the National Science Foundation.

Andrea R. Ferro, associate professor of civil and environmental engineering at Clarkson University, received a CAREER Award from the National Science Foundation for her research into the re-suspension of pollutants into the air.

Ferro's research could result in changes in the selection of materials used in buildings, guidance for emergency response to chemical and biological agents, and human behavior modification and policy changes to reduce exposure to re-suspended pollutants. "Re-suspension, the stirring up of settled particles into the air, is an important source of human exposure to indoor and outdoor pollutants," says Ferro. "Indoor dust, which has a large contribution from soil, can contain high concentrations of bacteria, lead and other heavy metals, pet allergens, dust mites, pesticides, and other organic toxins."

Ferro will conduct studies and evaluate the forces affecting particle re-suspension. Her project will benefit from newly-built facilities and equipment, including a temperature- and humidity-controlled test chamber, a laminar flow re-suspension wind tunnel, and advanced particle monitoring and visualization devices in the Clarkson University Center for Air Resources Engineering and Science (CARES).

Ferro has been a faculty member in the Department of Civil and Environmental Engineering since 2003. She has been a registered professional engineer since 1997 and has approximately 20 years of experience in environmental health and engineering. Her technical expertise is focused on indoor air quality and human exposure to particulate pollutants. She was promoted to associate professor with tenure in 2009.

Paul Westerhoff Named Interim Head of New School of Sustainable Engineering and the Built Environment

Starting in July, 2009, a new School of Sustainable Engineering and the Built Environment was established in the Ira A. Fulton School of Engineering at Arizona State University, and Professor Paul Westerhoff was selected as the interim head of the School. The new school brings together faculty, staff, and students from the Department of Civil, Environmental, and Sustainable Engineering and the Del E. Webb School of Construction. Westerhoff stated that "this is a unique time in history where the public and government are both aware of critical infrastructure needs for society and willing to invest significant public funds into renovating existing and creating new public infrastructure from roads and buildings to buried pipelines for clean water. The new school was created to tackle these critical societal grand challenges."

Professor Paul Westerhoff, the interim head of the new Ira A. Fulton School of Sustainable Engineering and the Built Environment at the Arizona State University, examining infrastructure in Egypt.

Qiong Zhang and Sarina Ergas Join University of South Florida

The University of South Florida is pleased to announce that Drs. Qiong (Jane) Zhang and Sarina Ergas will join the Department of Civil & Environmental Engineering in the fall of 2009.

Dr. Qiong (Jane) Zhang recently joined the University of South Florida.

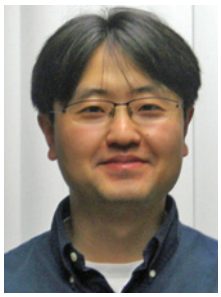
Dr. Zhang received a Bachelor of Science in environmental engineering from the North-West Institute of Architecture Engineering in China, a Master of Science in environmental engineering from TsingHua University in China, and a Ph.D. in environmental engineering from Michigan Technological University. She was an assistant professor at HangZhou University in China and the operations manager of the Sustainable Futures Institute at Michigan Technological University. Dr. Zhang's research is focused on green engineering, water treatment, and environmental assessment for sustainability. Her research projects include developing embodied energy models, water treatment cost models, and the software tools to optimize the design of water/air treatment systems. These projects incorporate green engineering principles in the design and engineering curriculum and assessment of the fate of chemicals in the environment and their life cycle impact.

Dr. Ergas received a Bachelor of Science in environmental engineering from Humboldt State University and M.S. and Ph.D. degrees in civil and environmental engineering from the University of California at Davis. She has fifteen years of teaching and research experience at the University of Massachusetts at Amherst. Sarina's research focuses on biological treatment processes, including biological air pollution control, membrane bioreactors, nutrient removal and bioremediation processes. She has taught Environmental Biological Processes, Water and Wastewater Systems, Air Quality, and Systems Analysis and Economics, among other courses. Dr. Ergas was an American Society of Civil Engineering Excellence in Civil Engineering Education Fellow in 2005 and a Fulbright Fellow at the Technion Israel Institute of Technology in 2007–2008.

Sarina Ergas (center), who recently joined the University of South Florida, with students collecting groundwater samples for a study of perchlorate bioremediation on Cape Cod.

Young Seo Joins University of Toledo

Young Seo, E.I.T., joined the faculty of the Department of Civil Engineering at the University of Toledo as an assistant professor in August, 2008. He is also jointly appointed to the Department of Chemical and Environmental Engineering. Before joining the University of Toledo, he worked for CDM, Inc., as an environmental consultant.



Dr. Young Seo joined the faculty of the Department of Civil Engineering at the University of Toledo as an assistant professor.

Dr. Seo received both his B.S. (1999) and M.S. (2001) in civil engineering from Sungkyunkwan University in South Korea. He received his Ph.D. (2008) in environmental engineering at the University of Cincinnati. His research interests include the molecular-scale analysis of bacteria adhesion and biofilm formation in water and wastewater systems. He has also worked with developing and applying micro-sensors for monitoring chemical transports and biological activities in micro-environments such as biofilm and soil pores. Dr. Seo teaches Water Supply and Physicochemical Treatment Processes.

CONFERENCES

Workshop on Life Cycle Aspects of Nanoproducts, Nanostructured Materials and Nanomanufacturing: Problem Definitions, Data Gaps, and Research Needs in Chicago, Illinois, November 5–6, 2009

Join us for a workshop sponsored by the National Science Foundation and the US Environmental Protection Agency. The workshop will establish a research agenda that fills a critically important knowledge gap in present nanotechnology research efforts regarding the systemic environmental consequences of nano-products, nano-structured materials, and nano-manufacturing. Attendance is limited. Further information is available at www.nanolcaworkshop.uic.edu.

Drinking Water Issues in Remote Villages of Ethiopia and Cambodia

By DAVID SABATINI, UNIVERSITY OF OKLAHOMA

This summer, I made trips to Ethiopia and Cambodia to better understand water and sanitation issues in remote villages and to lay the groundwork for collaborative research to address these issues. In late May, my Ph.D. student Laura Brunson and I attended the Water Engineering and Development Center conference in Addis Ababa, Ethiopia. After the conference, Henock Gezahegn of Population Services International (PSI, www.psi.org) took us to rural villages struggling with both a lack of water--Henock said that people in rural areas often travel several kilometers to fetch water many times a day--but also with fluoride levels well above the standard of 1.5 mg L^{-1}. We saw many instances of dental and skeletal fluorosis with fluoride concentrations as high as 10 mg L^{-1}. We also visited with Dr. Feleke Zewge of the University of Addis Ababa and discussed common research interests on simple and sustainable adsorbents for removing fluoride in villages where people are living on less than $1US per day. As part of this research, we are also interested in behavior change and microenterprise efforts (the focus of PSI) for dissemination of the products. We look forward to building on this very fruitful first trip to Ethiopia.

From left to right, David Sabatini (University of Oklahoma), Henock Gezahegn (PSI), Laura Brunson (Ph.D. student at University of Oklahoma), and Peggy Sabatini (daughter of David) visit a remote village in Ethiopia that uses ground water with elevated fluoride levels.

Children from a village in Ethiopia – we could see mottled teeth and evidence of skeletal fluorosis as a result of elevated fluoride levels.

In mid-June, I traveled to Cambodia to visit Marc Hall and Andrew Shantz of Resource Development International Cambodia (RIDC, www.rdic.org), a non-governmental organization located 30 kilometers outside of the capital city, Phnom Penh. In contrast to Ethiopia, Cambodia has an abundance of water, but the river water is often unsafe to drink and the ground water along the Mekong River valley suffers from elevated arsenic. My graduate student Chris Cope and I first visited RDIC last summer and Chris has been working on incorporating iron oxide coated media into the widely used ceramic water filters for arsenic removal. While in Cambodia, I taught in RDIC's bridge program to help top Cambodian students "bridge the gap" between their current level of academic training and English skill and what is needed for them to pursue advanced degrees abroad. I taught a 3½-day short course on physicochemical processes in water treatment (carbon adsorption, ion exchange) and subsurface contaminant transport. I also brought my colleague, Dr. Sutha Khaodhiar of Chulalongkorn University in Bangkok, Thailand, with me to Cambodia to explore collaborative undergraduate and graduate student projects and research and to inform the "bridge students" of the environmental graduate program at Chulalongkorn. My institution, the University of Oklahoma, has been part of an international graduate program in environmental engineering and science at Chulalongkorn since 2002. After my week in Cambodia, I spent two weeks in Bangkok teaching in the mornings and co-advising graduate research students in the afternoon.

Chris Cope (M.S. student at the University of Oklahoma) in front of the RDIC ceramic water filter plant in Cambodia.

My trips to Ethiopia and Cambodia reminded me how fortunate we are to live in the United States and how much we environmental engineers and scientists have to offer the "bottom billion" (those that live on less than $1US per day). The University of Oklahoma Water Technologies for Emerging Regions Center (WaTER, http://WaTER.ou.edu) engages both undergraduate and graduate students in addressing these challenges as we do our part to meet the United Nations' Millennium Development Goals.

Students I Have Known and What They Have Taught Me (Part I)

By P. Aarne Vesilind, Bucknell University

During my over thirty-five years on the faculty, first at Duke University and then at Bucknell University, I learned a lot, and most of that learning came from my interaction with students. We professors like to think that the learning flux goes the other way, from professor to student, but it might well be that it is the professor who benefits the most from interactions with students.

Of the mélange of thousands of students I have known, a few special ones stand out. They are the ones who have taught me about life, people, and teaching, and I would like to share some of these special students with you. The stories are all of real people, although I have changed the names for obvious reasons.

Brian

When I first started teaching at Duke in 1970, I was the one and only person on campus who knew anything about environmental science and pollution control. The field was just beginning to develop and Rachel Carson's *Silent Spring* had fueled the first Earth Day, which created great excitement among students. They were anxious to get involved in what they saw (correctly) as both an exciting career option and a worthwhile profession.

I was naïve about how new courses are developed and managed, but I did know that there was a lot of good material to be taught to both engineering and non-engineering students. I convinced my department chair to offer a course in environmental pollution for non-engineering students, expecting a dozen or so students to wander in willing to take a chance on a novice professor.

This is when I first met Brian. He had long red hair and acted just like you would have expected a 1970s hippie to behave. He came to my office and asked me about what I was going to teach in this new course, and I explained to him (on the fly) what I planned to cover. He became very excited about the possibilities, and went on a campaign to recruit students for the course. A few days later, a group of students came by and told me that they wanted to take the course, but that the scheduled time presented a conflict for them. Was there any way I could change the time? I could not, but having more energy than sense, I volunteered to teach a second section.

I waited anxiously for the registration figures. As it turned out, I had underestimated Brian's zeal, and ended up with over 150 students in one section, and 120 in the other. There were no teaching assistants assigned to this course and I did not have enough sense to insist on any, so I ended up with two huge sections of a brand new course during my first semester out of the blocks. Brian thought it was hilarious. I was scared to death.

Brian's recruiting started a sequence of teaching this course every semester for the next sixteen semesters. The sections continued to be huge, with one numbering over 220. I still meet former students who tell me that they were in my environmental pollution class, and that they remember this first introduction to environmental science.

I learned from Brian that students often are the best judges of what we ought to teach, and if we respond to their interests and needs we more than likely are doing something right. Brian knew, instinctively, that environmental concerns would be important for his generation, and he acted on this by drumming up business for my course. Today, we can still listen to the voices of the students and find what they consider important, such as working toward global peace and environmental sustainability. So many of them are concerned that our country is not fulfilling its historic role as the world's peacemaker and they want to be a part of what they see as a new career in promoting peace by joining organizations such as the Peace Corps, PIRG, and Engineers Without Borders. Others are convinced that Americans need to be more actively involved in promoting sustainability both at home and abroad. University faculty should respond to this demand by creating more scholarly opportunities that respond to these interests.

Tara

One of the courses I taught for many years was a wastewater treatment plant design course in which students wrote weekly engineering reports that became chapters in a final report. The objective was not only to design the facilities but also to write the report so that it would be understandable to the lay public. Engineering is not like law. Lawyers write for each other and the public struggles to understand their professional jargon. Engineers have to communicate with lay people and they have to be able to explain technical issues with clarity. Engineering writing is a learned skill and is not at all like creative writing, or historical writing, or other forms of written communication. Engineering writing has its special rules and codes, and these simply have to be learned.

In this course, after the students wrote the first chapter, I went over it with great care and hammered them on anything I found wrong. Often the chapters came back bleeding red ink. This was a shock to many who thought they had done a passable job. My intent was to dramatically demonstrate from the start that they had some things to learn.

One year I was on my usual roll and handed back the first chapter, being quite smug in my hack job of their writing. They were in the usual shock in class and did not ask many questions. After class, I was in my office and Tara, one of the students in the class, knocked on the door. She opened it and stood there leaning up against the door frame, holding her mutilated chapter, and asked,

"Didn't I do anything right?"

The question floored me. Did she not do anything right? Yes, of course, she did. But I never communicated that to her. All I could concentrate on was what she had done wrong. I had made her feel like she had no redeeming qualities; that she was worthless, which was wrong of course, and I quickly tried to repair the damage by telling her so. But the harm had been done, and I was at fault.

Since that experience with Tara I have been very careful to not only correct that which is wrong, but to compliment that which is laudable; a lesson I should have learned a lot earlier in my career. Driving people down so as to build them back up is an anachronistic concept valued only in the military and should not be a part of higher education. There is nothing good to be gained by continued criticism of students, and a great deal to be lost by not encouraging success.

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