

# The ASEE Environmental Engineering Division Newsletter

Spring 2010

## A Message from the Division Chair

Dear Colleagues:

It has been a pleasure to serve as the division chair for the past year. The rest of the executive board (Ken Brannan, Sharon Jones, and Kauser Jahan) has done most of the hard work, and it is a pleasure to work with these dedicated individuals who are excited about engineering education. Thanks again to Kauser for putting together the newsletter and setting up a great website.

Ken Brannan has put together a great program for the Environmental Division at the Annual Conference this year. There were 26 abstracts submitted, but many folks did not submit full papers so our program this year is somewhat small with 13 papers that will be presented. I encourage everyone to begin thinking now about topics to present at the 2011 meeting in Vancouver BC. We are excited to launch our student paper award this year, and happy to again award an Early Career Award. Please remind your students and younger colleagues to submit papers for the 2011 conference and nominate themselves for these awards.

Thanks to Ken's hard work, the Environmental Division has two new activities at the annual conference this year. First, the executive board decided to have a meeting on Sunday to get organized. That will allow us more in-depth discussions of some items, and we will be better prepared for our normal business meeting on Tuesday 12:30 – 2 pm. Please join us for our business meeting! The second new event this year is a reception on Monday evening, 6:30-8 pm. There are always many great activities to attend at the ASEE Annual Conference, but we hope that you will take the time to join us for networking. In addition, we will still have our social and awards dinner on Tuesday evening.

ASEE is a great place to network with your colleagues. In fact, ASEE is where Professors Kurt Paterson, Chris Swan, and I noticed a few years back that we had research interests in common. This has led to our collaboration to study service learning/community service impacts in engineering education. I am honored

that the Environmental Division selected our paper last year as the "best paper" from among the 2009 papers... which went on to be selected as the PIC II best paper. Thanks to our previous division chair, Kevin Bower, who changed our best paper voting schedule so that our division papers could be considered by for the PIC competition. If you are interested in service in engineering, a new special interest group is being formed which may lead to a new ASEE division. If you have comments/questions on this please contact Professor Chris Swan or me.

Please consider serving as a division officer. We will hold elections at the business meeting. Since I began serving on the board of the environmental division in 2006, I have really enjoyed getting to know everyone better. Environmental engineering has recently seen tremendous growth in ABET-accredited B.S. degree programs and student numbers. The Environmental Engineering Body of Knowledge (AAEE 2009) helps to articulate the knowledge and skills that our students should possess when they graduate, and this document will continue to evolve in the future. Engage with us as we work together to better educate the next generation of professionals. Thank you for giving me the opportunity to serve you these past years.

Sincerely,

Angela R. Bielefeldt  
Associate Professor,  
Department of Civil,  
Environmental, & Architectural  
Engineering  
Director Environmental  
Engineering Program  
University of Colorado at Boulder



**Be sure to check out the Division Web Site:**  
[users.rowan.edu/%7Ejahan/asee/Home.html](http://users.rowan.edu/%7Ejahan/asee/Home.html)

**Newsletter Editor:**  
**Dr. Kauser Jahan, P.E.**  
**Professor, Civil and Environmental**  
**Engineering,**  
**Rowan University**  
**201 Mullica Hill Road,**  
**Glassboro NJ 08028**  
**Phone: 856-256-5323 ;Fax: 856-256-5242**  
**email: [jahan@rowan.edu](mailto:jahan@rowan.edu)**



## DIVISION AWARDS BEST PAPER AWARD 2010

*“Assessing the Effectiveness of Using a Computer Game to Bridge a Research Agenda with a Teaching Agenda”*

<a href="#">1451 Sustainability in Engineering Curricula</a>	Monday June 21	12:30 p.m.- 2:00 p.m.
<a href="#">1751 Environmental Engineering Reception</a>	Monday June 21	6:30 p.m.- 8 p.m.
<a href="#">2251 Engaging Students</a>	Tuesday June 22	8:30 a.m.- 10:15 a.m.
<a href="#">2451 Business Meeting</a>	Tuesday June 22	12:30-2:00 p.m.
<a href="#">2551 Enhancing Environmental Engineering Education</a>	Tuesday June 22	2:15 p.m.- 4:00 p.m.
<a href="#">2751 Environmental Engineering Social/Dinner</a>	Tuesday June 22	6:30 p.m.- 8:00 p.m.

**Kristen L. Sanford Bernhardt**

is an Assistant Professor of Civil and Environmental Engineering at Lafayette College, where she teaches courses related to transportation, civil infrastructure, and engineering ethics and researches issues related to infrastructure systems modeling. Dr. Sanford Bernhardt received her Ph.D. and M.S. from Carnegie Mellon University and her B.S.E. from Duke University, all in Civil Engineering.



**Sharon A. Jones**

is a Professor at Lafayette College in both the Department of Civil and Environmental Engineering, and the Engineering Studies Program. Her research focuses on decision-making for environmental and infrastructure systems. Dr. Jones received a BS Civil Engineering from Columbia University, and a PhD Engineering and Public Policy from Carnegie Mellon University. She is a licensed professional engineer in several states.



**Christopher S. Ruebeck**

is an Associate Professor in the Economics Department at Lafayette College, teaching in the areas of industrial organization, marketing research, introductory Principles and Microeconomics courses, as well as simulation and evolutionary game theory. Dr. Ruebeck holds the Ph.D. and M.A. from Johns Hopkins University, M.S.E. from Stanford University, and B.S.E.E. from Purdue University.



**Jacqueline A. Isaacs**

is a Professor of Mechanical and Industrial Engineering at Northeastern University, where she is the principal investigator for the Shortfall game development (NSF CCLI-0717750). Her research focuses on environmentally benign manufacturing. Dr. Isaacs received her Ph.D. and M.S. from the Massachusetts Institute of Technology and her B.S. from Carnegie Mellon University all in Materials Science and Engineering.



### “NEW” Division Reception

As you recall, last year at the Business Meeting, it was suggested that we do something for the division members at the conference such as a reception, where members can network in a relaxed atmosphere following the technical sessions. A reception is planned on Monday at 6:30-8:00 p.m. Louisville Marriott Downtown, Salon VIII, Marriott Ballroom.

This year our annual Business Meeting will be held on Tuesday June 22 from 12:30 to 2:00 PM. Members are strongly encouraged to attend to provide the Division with enriching feedback for improvements and input for the 2011 conference. Elections will also be held for the Treasurer position.



### Division Social

**June 22 6:30-8:00 PM**

This social event is open to all division members, prospective members, families and friends. The event provides a relaxed atmosphere to socialize and honor the Division Award recipients and the Outgoing Division Chair. The division honors the awardees with a plaque, honorarium and a free invitation for the dinner.

This year the dinner will be held at **Saffron's Persian Cuisine** at 131 W Market Street (502-584-7800).



Please inform Dr. Ken Brannan at [brannank@citadel.edu](mailto:brannank@citadel.edu) if you plan on attending.

## EARLY CAREER AWARD 2010

**Nicole Berge** is an assistant professor at University of South Carolina.



Dr. Nicole Berge received her BS and MS degrees in Civil and Environmental Engineering from the University of South Carolina in 1999 and 2001, respectively. In 2006, she received her PhD in Environmental Engineering from the University of Central Florida. From 2006 – 2008, Dr. Berge worked as a Postdoctoral Associate at Tufts University. She will be presenting on Engaging Students in Critical Thinking: An Environmental Engineering EFFECT (Nicole Berge, Joseph Flora)”

## BEST STUDENT PAPER AWARD 2010

**Mary McCormick** is currently pursuing a Ph.D. at Tufts University in Civil Engineering. As part of a research team, she is involved in exploring the potential educational benefits of integrating service learning into the engineering curriculum. The research team’s goal is to determine whether service learning is an appropriate method of achieving sustainable engineering educational outcomes. More specifically, are students who participate in service-learning are more naturally inclined to engage in the holistic, human-centered problem solving approaches?



Mary is also researching the structural-mechanical properties and potential environmental impacts of synthetic lightweight aggregate with Dr. Chris Swan in the Civil and Environmental Engineering Department at Tufts.

**Bette Grauer** is a PhD student in the College of Education at Kansas State University where she also supervises secondary science student teachers and teaches Science Methods. She is involved in developing K-12 engineering education and serves as K-12 representative in the K-12 and Pre-College Division of ASEE. She has BS degrees in Civil Engineering and Physics Education from Kansas State and a MEd from Wichita State University. She has worked in environmental and water resources engineering and has taught secondary science, including Physics, Chemistry and AP Environmental Science. She will present “Automobile Emissions: A Problem-Based Learning Activity Using the Clean Air Act.”



## ASEE NATIONAL AWARDS

### 2010 ASEE Sharon Keillor Award for Women in Engineering Education



**Dr. Kauser Jahan** Professor of Civil and Environmental Engineering at Rowan University, is recognized by the Sharon A. Keillor Award for her distinguished contributions to engineering education. Kauser has a superb record in the integration of undergraduate research that promotes intellectual development of students and quality mentoring into her teaching activities. She has mentored students at all levels (undergraduate and graduate) in funded research activities that have led to numerous awards at professional competitions. She has promoted the participation of students in state and national conferences to help them develop as professionals and be exposed to the practice of engineering. She is currently serving as Treasurer of the ASEE environmental engineering division and has served as Program and Division Chair in the past. She received the 2007 Division Meritorious Service Award for her long term dedication to the well-being of the program.

### 2009 PIC II Best Paper Award

#### Measuring the Impacts of Project Based Service-Learning

Our 2009 Best Paper was forwarded to the PIC II division and has received the PIC II Best Paper Award. Join us in congratulating the authors.

**Angela Bielefeldt**  
University of Colorado at Boulder



**Chris Swan**  
Tufts University



**Kurt Paterson**  
Michigan Technology University



## OFFICERS July 2009-June 2010

**Division Chair:** Angela Bielefeldt  
University of Colorado, Boulder  
[Angela.Bielefeldt@colorado.edu](mailto:Angela.Bielefeldt@colorado.edu)

**Program Chair:** Ken Brannan  
[ken.brannan@citadel.edu](mailto:ken.brannan@citadel.edu)

**Secretary:** Sharon A. Jones  
Lafayette University  
[jonessa@lafayette.edu](mailto:jonessa@lafayette.edu)

**Treasurer:** Kauser Jahan  
Rowan University  
[jahan@rowan.edu](mailto:jahan@rowan.edu)

Please note that we will be electing a Treasurer for 2010-2011. If you are interested in the position please contact Ken Brannan at [ken.brannan@citadel.edu](mailto:ken.brannan@citadel.edu) or be present at the Division business meeting.

## BEST PAPER AWARD

The author must be a current member of ASEE and of the Environmental Engineering Division. The paper must be submitted to the proceedings. **The author (not a graduate student or colleague) must present the paper.** For multiple authors, at least one paper author must be a division member, and the presentation at the conference must be made by a division member. In cases of multiple qualified authors, the prize will be split.

**Prize is dinner for winner + 1 guest and recognition at the Division dinner, a plaque, and an honorarium of \$200.**

## EARLY CAREER AWARD

The Environmental Engineering Division of ASEE is pleased to announce the Early Career Grant. Recipients of this grant will receive an honorarium to cover a portion of the travel expenses, and will be guests at the Environmental Engineering Division Dinner.

### Eligibility Criteria

Applicant will be in a tenure-track position as of August 30, 2008. Applicant will be un-tenured as of August 30, 2008. Applicant teaches at any 2- or 4-year University that offers at least one environmental engineering course.

***The abstract must be submitted to the Environmental Engineering division.***

## Selection Criteria

A single recipient will be selected based on the paper submitted. A selection committee will judge the paper based on its ability to positively impact environmental engineering education.

## Application Process

To apply, simply ensure that the last line of the abstract contains the following sentence:

***"I am eligible for the Environmental Engineering Division Early Faculty Grant."***

If you have any questions, please feel free to contact the Environmental Engineering Division Program Chair for 2010 (Sharon Jones) at [jonessa@lafayette.edu](mailto:jonessa@lafayette.edu).

## MERITORIOUS SERVICE AWARD

Members of the ASEE Environmental Engineering Division who, in the opinion of the reviewing officers, have performed activities or provided services to the Division benefiting the Division and deserving of special recognition are eligible for this award. For example, a member who provides sustained active contributions of major tasks over many years might be eligible for this award. The current Division Chair and Program Chair are ineligible to receive this award. Nominations should document these contributions. A call for nominations will be published in electronic and/or other publications for the Division. Nominations may be submitted to the Division Chair by letter, fax, or email, with a deadline of March 1<sup>st</sup> of the year in which the award is to be presented. The division officers will receive nominations and select an award winner.

## BEST STUDENT PAPER AWARD

The Environmental Engineering Division of ASEE is pleased to announce the Best Student Paper Award. The first author of the paper must be an undergraduate or graduate student and they must present the paper at the Annual Conference. Faculty are allowed to be co-authors. Paper must focus on pedagogical issues.

The Division will award up to three awards each year with the awardees receiving \$1,000 each with a plaque. Awardees will be guests at the Environmental Engineering Division Dinner.

**ASEE Annual Conference 2011  
Vancouver, BC, Canada  
CALL FOR PAPERS**



The Environmental Engineering Division of ASEE invites papers for the Annual Meeting to be held in Vancouver, British Columbia, Canada, June 26-29, 2011. The division will offer sessions that include papers on the following topics:

- Innovative pedagogical methods in teaching environmental engineering courses;
- Innovative uses of current and emerging technologies in teaching environmental engineering courses;
- Service learning in developing communities, e.g. “Engineers without Borders.”
- Development of new or hybrid courses in environmental engineering, e.g. Environmental Biology, Environmental Security, Environmental and Public Health;
- Globalization, Global warming, Sustainability;
- Recruiting environmental engineering students;
- Problem based learning projects;
- Undergraduate research experiences;
- Interdisciplinary projects and contests; and,
- Accreditation and assessment, e.g. BOK, graduate program accreditation, innovations in assessment.

**The Environmental Engineering Division now requires that presenters publish their papers in the ASEE conference proceedings.**

Questions may be addressed to the Environmental Engineering Division 2010-2011 Program Chair, Dr. Sharon Jones at [jonessa@lafayette.edu](mailto:jonessa@lafayette.edu)

# INNOVATIVE EDUCATION



## Engineers on Wheels

The College of Engineering at Rowan University has launched an exciting initiative to promote engineering to K-12 students. The program is titled “Engineers on Wheels” and includes two vibrantly colored vans packed with activities to introduce various engineering disciplines to K-12 students in South Jersey and beyond, many of whom would otherwise not have a chance to learn about engineering — and the world of opportunities awaiting them in high-tech fields.

The van — “wrapped” with a dramatic engineering scene — is equipped inside with a handful of stations with computers and display panels where the students can view demonstrations on engineering fundamentals and work on projects that demonstrate various engineering disciplines. Students also setup tables outside the van to demonstrate hands on activities such as drinking water treatment, lip-gloss processing, bridge building, flight simulations etc.

The effort is being led by Dr. Kauser Jahan from Civil and Environmental Engineering along with Dr. Krishan Bhatia from Mechanical Engineering and Dr. Issam Hafez Abi-El-Mona, of the Teacher Education Department at Rowan University.

Schools have limited money for educational field trips these days. Engineers on Wheels will not only bring the ‘field trip’ to the students, the project also will help students learn about a possible career field.

The program is supported by the Lawrenceville-based Edison Venture Fund and John Martinson, its managing partner.



*Please send your contributions to highlight innovative environmental education in future newsletters to Dr. Kauser Jahan at [jahan@rowan.edu](mailto:jahan@rowan.edu).*