



The ASEE Environmental Engineering Division Newsletter

Spring 2023

A Message from the Division Chair

Dear Colleagues,

Happy Summer and thank you for the many ways that you go above and beyond to serve your students and shape our engineering profession.

THE ASEE COMMUNITY IS GROWING: We are excited for the many opportunities to greet you at the ASEE National Conference in Baltimore; the Division Mixer, our Technical Sessions, the Environmental Engineering Social, the Business Meeting, and panels. Come say hello! The conference has expanded again with more papers, posters and is on track for more attendees this year. More importantly, it continues to be a wonderful place to get feedback, find new ideas, and converse with colleagues and mentors dealing with similar challenges.

OUR PROGRAM CHAIR AND OUR EED PROGRAM ARE AWESOME: For this year's annual conference in Baltimore ("The Harbor for Engineering"), we are indebted to our Program Chair, Dr. Shannon Isovitsch Parks, who has done a wonderful job putting together the program with three engaging technical sessions and finalizing our Best papers with a new paper management system. Come join our technical sessions or two panels from our division that are designed to learn and connect with each other:

- 1) *Exploring Paths in Academia - Learn Network and Thrive (with representation from ASEE, AEESP, and the AAES)*
- 2) *Ideas for Enjoyable and Productive Sabbatical*

ADDING SUSTAINABILITY TO OUR DIVISION. NAME:

We have been a primary division for incorporating Sustainability into Engineering Education (see our Call for Papers over the last eight years). Last year we also connected with [Engineering for One Planet](#) which is a community initiative to accelerate environmentally sustainable engineering solutions. EED members have participated in their workshops, boards and grants program.

According to a Division survey sent this Spring, 83% of you would like to incorporate Sustainability to our division name. I also heard a concern that some would like to do this while maintaining and honoring our Environmental Engineering tradition. Thus, we will have a discussion and vote on an official name change at the Business meeting.

NOMINATE A TREASURER FOR OUR DIVISION:

Being an officer in our division has been a blast! If you are interested in joining the leadership team, we are planning to elect our 2023-2024 treasurer at this year's Annual Conference! All nominations (self-nominations are welcome!) can be sent to me at david.sanchez@pitt.edu or be nominated at the Business meeting.

THANK YOU TO OUR MEMBERS AND OUR BOARD:

Being the Division Chair has been a fun and fulfilling job because of who I get to work for and with. First thank you to the faculty and

students who serve as authors, reviewers and moderators. It is your work that powers our division.

Secondly, thank you to our Directors that helped guide me (Dr. Veera Gananeswar Gude, Dr. Michelle Marincel-Payne, and Dr. Fethiye Ozis) and to our fantastic executive team including Program Chair Dr. Shannon Isovitsch Parks, Secretary Col. Andrew Pfluger, Treasurer Dr. Alexa Rihana-Abdallah, and our representative to ASEE commission/committees Dr. Ginger Scarborough. It's been wonderful to work with you all.

I am looking forward to seeing all of you in Baltimore!

Sincerely,
Dr. David Sanchez

EED Business Meeting

Monday, June 26, 2023

3:15-4:45pm

Key 5, Hilton Baltimore Inner Harbor

Members are strongly encouraged to attend and provide the Division with enriching feedback for improvements and input for the 2024 conference!

Two key notes:

(1) As Dr. Sanchez mentioned, candidates for the 2023-2024 treasurer position will be introduced at the Business meeting. The ballot will be distributed to the EED Business Meeting and Social attendees, and close on Wednesday, June 28, 2023. The new treasurer for our division will be announced after the conference. Nominees will be encouraged to introduce themselves at the Business Meeting and encouraged to mingle at the Division Social.

(2) If any division member in good standing has an idea on how to best incorporate the term "Sustainability" into our division name, please email it to Andrew Pfluger, the Environmental Eng Division Secretary, at andrew.pfluger@westpoint.edu prior to the business meeting.

EED Annual Social & Awards Gathering

Tuesday, June 28, 2023

6:30-8:30pm

Luna del Sea

This social event is currently open to all conference attendees and all division members, prospective members, families and friends. Ticket purchase to the social closed on 5/31; however, email Alexa our Treasurer if you'd like to join as payment will be done on an individual basis at the restaurant. A cash bar will be available. 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 certificate and a free invitation for the 2023 dinner.

Sessions, Panels, and Meetings

M225. EED Poster Session

Monday, June 26, 2023, 9:15 – 10:45pm EDT, Exhibit Hall ABCD

1. Board 108. Enhancing Environmental Engineering Curriculum for the Transportation Industry

M325. EED Technical Session 1

Monday, June 26, 2023, 11:00am-1230pm EDT, Room 345

1. How Active Rainwater Harvesting May Help Reduce Nuisance Flooding: Flood Analysis and Social Barriers to Adoption
2. Innovative Outreach for Careers in the Water and Wastewater Utilities
3. A Toolkit for Expanding Sustainability Engineering Utilizing Foundations of the Engineering for One Planet Initiative
4. Experiential Virtual Learning on the impacts of COVID-19 on Air Quality through Integration of Research in STEM Education
5. Educational tools for teaching policy and science communication to engineering students

M525. EED Business Meeting

Monday, June 26, 2023, 3:15 – 4:45pm EDT, Key 5, Hilton Baltimore Inner Harbor

T225. EED Panel Discussion: Exploring Career Paths in Academia – Learn, Network, and Thrive

Tuesday, June 27, 2023, 9:15-10:45am EDT, Room 312

T425. EED Technical Session 2

Tuesday, June 27, 2023, 1:30-3:00pm EDT, Room 332

1. Integrating Sustainability into Engineering Education: Building a Pathway to Scale
2. Engineering Education for Sustainable Development: A Case Study from East China University of Science and Technology
3. Sustainability designation, introductory course, and a new textbook in an engineering curriculum
4. Utilizing Online & Open-Source Machine Learning Toolkits to Leverage the Future of Sustainable Engineering

5. Work in Progress: Student Reflections from a Semester-Long Place-Based Photovoltaic Solar Energy Project.

T525. EED/NEE Joint Panel Discussion: Ideas for an Enjoyable and Productive Sabbatical

Tuesday, June 27, 2023, 3:15-4:15pm EDT, Room 312

W525. EED Technical Session 3

Wednesday, June 28, 2023, 3:15-4:15pm EDT, Room 312

1. Designing Local Food Systems: Results from a Three-Year Pilot
2. Implementing Integrated Project-Based Learning Outcomes in a 21st-Century Environmental Engineering Curriculum
3. Workshop Result: Environmental Engineering Faculty Learning Boyer's Model of Scholarship
4. Influence of Group Learning in Environmental Engineering: A Curriculum and Course-level Assessment
5. Accredited Undergraduate Environmental Engineering Education at PUIs

Social Events

Baltimore Aquarium, Sunday, 6/25 at 1pm. Point of Contact: shannon.parks@pitt.edu

Baltimore Orioles – Games Available each day from Saturday, 6/24 to Wednesday, 6/28
<https://fevo.me/asee2023>

2022-2023
Environmental Engineering Division Officers

Division Chair

Dr. David V.P. Sanchez

Associate Professor
Department of Civil and
Environmental Engineering
Assistant Director, Mascaro Center
for Sustainable Innovation

University of Pittsburgh
Pittsburgh, PA



Program Chair

Dr. Shannon L. Isovitsch Parks, P.E

Associate Professor
Department of Civil Engineering

University of Pittsburgh Johnstown
Johnstown, PA



Secretary

LTC Andrew Pfluger, Ph.D., P.E.,
BCEE

Associate Professor
Department of Geography &
Environmental Engineering

United States Military Academy
West Point, NY



Treasurer

Dr. Alexa Rihana-Abdallah

Professor
Civil, Architectural & Environmental
Engineering

University of Detroit Mercy
Detroit, MI



Division Awards

2023 Best Faculty Paper Award

**Designing Local Food Systems: Results from a
Three-Year Pilot**

Authors: Daniel B. Oerther¹, Sarah Hultine
Massengale², Sarah Oerther³

¹Missouri University of Science and Technology

²University of Missouri – St. Louis

³Saint Louis University



[Daniel B. Oerther](#), PhD, PE, BCEE is a Professor of Environmental Health Engineering at the Missouri University of Science and Technology and the Executive Director of the American Academy of Environmental Engineers and Scientists.



[Sarah Hultine Massengale](#), Ph.D., is as an Assistant Extension Professor in Political Science at the University of Missouri-St. Louis and State Specialist in Community Development with University of Missouri Extension.



[Sarah Oerther](#), Ph.D., RN, ANEF is an Assistant Professor, tenure track, at the Trudy Busch Valentine School of Nursing, Saint Louis University. Her practice spans from advanced hospital critical care to home health care and disaster medicine in the community.

2023 Early Career Award

Influence of Group Learning in Environmental Engineering: A Curriculum and Course-level Assessment

Authors: **Matthew Baideme**, Kathryn B. Newhart, Cristian Robbins, Michael A. Butkus, Andrew R. Pfluger

All Authors are from the U.S. Military Academy, West Point



Lieutenant Colonel Matthew Baideme, PhD, PE, (Awardee) is an Assistant Professor in the Department of Geography and Environmental Engineering at the U.S. Military Academy, West Point, NY. His research focuses on the role and enrichment of mixed microbial communities in novel engineered biological nitrogen removal processes.



topics such as digital literacy.

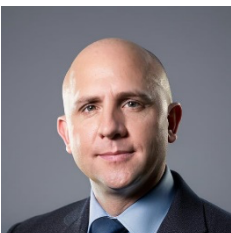
Kate Newhart, PhD is an Assistant Professor of Environmental Engineering at the United States Military Academy. She earned her B.S. (2016), M.S. (2018), and Ph.D. (2020) in Civil and Environmental Engineering from Colorado School of Mines. Dr. Newhart's research focuses on big data applications for engineered environmental systems, as well as modern engineering education

Lieutenant Colonel Cristian Robbins, PhD, PE is an Assistant Professor in the Department of Geography and Environmental Engineering at the U.S. Military Academy, West Point, NY. His research focuses on the treatment of unconventional oil and gas wastewater via membrane distillation.



Michael A. Butkus, PhD, PE, BCEE is a Professor of Environmental Engineering at the U.S. Military Academy (USMA). He earned a B.S. in Marine Engineering Systems from U.S. Merchant Marine Academy (1989), a M.S. (1995) and Ph.D. (1997) in Environmental Engineering from the University of Connecticut. His research

has been focused on engineering education and advancements in the field of environmental engineering.



Lieutenant Colonel Andrew Pfluger, PhD, PE, BCEE is an Associate Professor in the Department of Geography and Environmental Engineering at the U.S. Military Academy, West Point, NY. His research currently centers on resource recovery and resilience and sustainable systems.

2022 Best Diversity Paper Award

How Active Rainwater Harvesting may help Reduce Nuisance Flooding: Flood Analysis and Social Barriers to Adoption

Authors: Ivonne Santiago and Isabel Lopez

All Authors are from the University of Texas at El Paso



Ivonne Santiago, PhD is an Associate Professor, Civil Engineering and Laboratory Director at the University of Texas at El Paso. Her research focuses on the development of innovative technologies to treat surface, ground, and reclaimed water.



Isabel Lopez is a Graduate Research Assistant at the University of Texas at El Paso pursuing a master's degree in Environmental Engineering. She obtained her undergraduate degree in Civil Engineering from the University of Texas in 2020. She completes training and research development in environmental sciences, remote sensing technology, and electric vehicle adoption. Her research explores alternatives to reduce socioeconomic disparities in nuisance flooding in urban neighborhoods.

2023 Best Student Paper Award

Not awarded this year! Please encourage students at your institution to submit papers next year.

BEST FACULTY PAPER AWARD

This award recognizes the best paper submitted to the Division. The author must be a current member of the ASEE Environmental Engineering Division. **The author (not a graduate student or colleague) must present the paper.** For multiple authors, at least one author must be a division member, and the presentation at the conference must be made by a division member. The prize for winning Best Faculty Paper Award is dinner for the winner(s) up to three authors, recognition at the Division dinner, and a certificate or plaque.

BEST STUDENT PAPER AWARD

This award recognizes the best paper written by a student. The first author of the paper must be an undergraduate or graduate student, must be an EED member, and must present the paper at the Annual Conference. Faculty may be co-authors. The paper must focus on pedagogical issues. The Division will award up to three awards each year with the awardees receiving a monetary stipend (as ASEE funds allow), and a certificate or plaque.

BEST DIVERSITY PAPER AWARD

This award recognizes the best paper submitted to the Division highlighting diversity. The author must be a current member of the ASEE Environmental Engineering Division and must present the paper at the Annual Conference. For multiple authors, at least one author must be a division member, and the presentation at the conference must be made by a division member.

The prize for winning Best Diversity Paper Award is dinner for the winner(s) up to three authors, recognition at the Division dinner, and a certificate or plaque.

MERITORIOUS SERVICE AWARD

Members of the 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 or email, with a deadline of March 1st of the year in which the award is to be presented.**

EARLY CAREER AWARD

This award recognizes the best paper written by an early career EED member. The award decision is made by the EED Awards Committee formed by division officers and/or division directors and/or invited external judges, and the paper is judged based on its ability to positively impact environmental engineering education.

Eligibility Criteria: The applicant(s) will be within the first four years of academic experience as a non-tenure track or tenure-track faculty member, and un-tenured as of August 31, 2024. All full-time years of academic experience count towards the time constraint. The applicant must teach at a four-year University that offers at least one environmental engineering course. Collaboration with senior or tenured faculty members is encouraged as long as the eligible faculty member(s) hold(s) the intellectual merit for the educational research or activity. In addition, the eligible faculty member(s) should be the lead author(s) and submit the manuscript to the division. Single authored papers are also accepted.

Application Process: To apply, authors must add the following sentence to the last line of the abstract: "I(We), am(are) an untenured faculty member(s) within the first four years of total academic experience, lead author(s) of this paper, and eligible for the Environmental Engineering Division Early Faculty Paper Award." In addition, potential candidates must contact the program chair, Colonel Andrew Pfluger, andrew.pfluger@westpoint.edu to confirm years of academic experience, EED membership, and for papers with multiple authors, the degree of intellectual merit in their paper.

The prize for winning the Early Career Award is dinner for the winner(s) up to three authors, recognition at the Division dinner, and a certificate or plaque.

OFFICERS: July 2023 - June 2024

Outgoing Division Chair: Dr. David V.P. Sanchez
University of Pittsburgh
davidsanchez@pitt.edu

Division Chair: Dr. Shannon L. Isovitsch Parks
University of Pittsburgh at Johnstown
shannon.parks@pitt.edu

Program Chair: Colonel Andrew Pfluger, Ph.D., P.E.
United States Military Academy, West Point
andrew.pfluger@westpoint.edu

Secretary: Dr. Alexa Rihana-Abdallah,
University of Detroit Mercy rihanna@udmercy.edu

Treasurer: *To be elected via online ballot and announced after the conference. You may submit nominations (including self-nominations) to Dr. David V.P. Sanchez at davidsanchez@pitt.edu or at the Business Meeting.*

ENVIRONMENTAL ENGINEERING DIVISION

BUSINESS MEETING

Monday, June 26, 2023

3:15pm – 4:45pm

Key 5, Hilton Baltimore Inner Harbor

ANNUAL SOCIAL AND AWARDS GATHERING

Tuesday, June 27, 2023

6:30 – 8:00pm

Luna Del Sea

EED SOCIAL EVENTS

Baltimore Aquarium, Sunday, 6/25 at 1pm

Baltimore Orioles Games: <https://fevo.me/asee2023>

Be an EED Sponsor!

Keep your brand in front of ASEE's influential audience through a variety of sponsorships and promotional opportunities! In 2022, we were fortunate to have *Platinum Sponsors Carnegie Mellon University* and *University of Pittsburgh*. By signing up according to the sponsorship levels indicated below, you can build your brand and engage with our leaders, professionals in the field, and directors of leading national environmental engineering programs.

<i>Benefits</i>	Platinum \$1,000	Gold \$750	Silver \$500	Bronze \$250
Division Newsletter	Logo	Logo	Logo	Name
Exhibit showcase during Interdivisional Mixer	Giveaways	-	-	-
Exhibit showcase during EED Business Meeting	Full page Logo + short video	Half Page Logo	1/3 Page Logo	Name
Free admission to the Environmental Engineering Division social	Up to 2	1	-	-
EED Business Meeting Recognition and Promotion	✓	✓	✓	✓
EED Technical and Panel Session Recognition and Promotion	✓	✓	✓	✓