



The ASEE Environmental Engineering Division Newsletter

Spring 2024

A Message from the Division Chair

Dear Colleagues,

It's hard to believe the 2024 Annual Conference is almost upon us! I am looking forward to another week of energizing and inspiring talks, demonstrations, events, and of course good food and great conversation. I've been reading "Wild" by Cheryl Strayed as I get ready for my trip to the Pacific Northwest. I'm enjoying "traveling" with her (in my mind) as she hikes the Pacific Crest Trail, overcomes challenges, is inspired by people she meets along the way, and builds her mental resilience. While I'm looking forward to more comforts than she endured on her trip, I also look forward to the adventure and inspiration that each annual conference brings.

I've never been to Oregon and am excited to see the beautiful landscape, experience the unique culture, and share ideas with you – my colleagues excited about environmental engineering education as much as I am. It seems particularly fitting for our division this year with the conference being in a city known for sustainable practices and development. With the theme of this year's conference being "The Future of Engineering Education" we are focusing on how we can prepare the next generation of engineers for the unique challenges that their careers will hold.

Speaking of challenges, our Program Chair, Colonel Andrew Pfluger, has met his responsibilities with flying colors by managing all the abstract and paper submissions and reviews while organizing a fantastic program for us complete with four Technical Sessions, a Poster Session, a Panel Discussion and our Business Meeting on Monday, June 24, from 3:15 PM to 4:45 PM. Also, our Treasurer, Dr. Stephanie Laughton, has organized a Social for the division at Dan and Louis Oyster Bar on Monday, June 24, from 7:00 PM to 9:00 PM. You can find a full list of our technical program on the next page and mark your calendars.

Thank you to all our division members, authors, reviewers, and moderators. As my fourth year in a leadership role for the Environmental Engineering Division begins to come to a close, I feel that I have a new appreciation for the adage "many hands make light work." The success of our division and this conference truly would not come together as it does without each one of you. I have enjoyed not just meeting new colleagues, but truly making new friends over the past four years working with the leadership team of this great division.

In addition to Colonel Pfluger and Dr. Laughton, thank you Dr. Alexa Rihana-Abdallah, our Division Secretary, who put together this newsletter, Dr. Hayder Zhgair our Sponsorship Delegate, Dr. Ramanitharan Kandiah, our P12 Delegate, and Dr. Ginger Scarbrough, our Diversity Committee Delegate, as well as the current and past Environmental Engineering Division Board of Directors.

I recommend that you consider joining this team. If you are interested in serving, please send your nominations (self-nominations are welcome!) to me at Shannon.parks@pitt.edu and attend our business meeting at the conference. Elections for the Treasurer and Delegate positions will begin at the Business Meeting on Monday, June 24, at 3:15 PM.

I am looking forward to seeing you all in Portland where I fully embrace their unofficial motto of "Keep Portland Weird!"

Sincerely,

Dr. Shannon L. Isovitsch Parks, P.E.

EED Business Meeting **Monday, June 24, 2024, 3:15 – 4:45 pm** **Willamette 2, Hyatt Regency HQ Hotel**

Members are **strongly** encouraged to attend the Division Business Meeting for many reasons:

- 1- **Hear Updates** from Division Officers and PIC IV Chair
- 2- **Vote** on the new updated bylaws that Dr. Parks sent us
- 3- **Meet** the candidates for the Treasurer and Delegates Positions
- 4- **Run** for one of the open positions: Treasurer or Delegates
- 5- We like to hear **your ideas and feedback** for Division improvement
- 6- We like to hear what **you would like to add or change** for the 2025 Conference in Montreal, Canada

Your attendance will enrich our Division!

As Dr. Parks mentioned, candidates for the 2024-2025 Treasurer position and Delegate positions will be introduced at the Business meeting. Nominees are encouraged to also mingle with the members at the Division Social. Elections for the Treasurer and Delegate positions will begin at the Business Meeting on Monday, June 24 and close on Wednesday, June 26, 2024. The results will be announced after the conference.

EED Annual Social & Awards Gathering **Monday, June 24, 2024, 7:00 – 9:00 pm** **Dan and Louis Oyster Bar** **208 SW Ankeny St, Portland, OR 97204**

This social event is currently open to all conference attendees and all division members, prospective members, families and friends. The event provides a relaxed atmosphere to socialize and honor the outgoing Division Chair and the Division Award recipients. The venue can accommodate 40 people so reserve your spot using Nemo to help us get an accurate headcount, and be prepared to pay for your own dinner at the restaurant.

Schedule of Sessions, Panels and Meetings

M225 EED Poster Session

Monday, June 24, 2024, 9:15 – 10:45pm
Exhibit Hall B, C, & D Oregon Convention Center

1. Board 113: Green Roof Rehabilitation: Creating Community in the School of Engineering [\[view paper\]](#)

M325 EED Technical Session 1 Sustainability & Environmental Justice

Monday, June 24, 2024, 11:00 am – 12:30 pm
Room B117

1. Impact of an Experimental Centric Learning on Peer Learning and Collaboration among Environmental Engineering Undergraduate in a Historical Black College and University. [\[view paper\]](#)
2. Introducing Socioeconomic Determinants in Environmental Engineering and Chemistry Courses *Paper Award* [\[view paper\]](#)
3. Integrating Environmental Justice into Civil and Environmental Engineering Curricula [\[view paper\]](#)
4. Preparing the Next Generation of Engineers for Decision Making under Deep Uncertainty: Exploring the Pedagogical Role of the Decisions for the Decade Game *Paper Award* [\[view paper\]](#)
5. Integrating Sustainability in Higher Education: Curricular Review and Opportunities for Future Development [\[view paper\]](#)
6. EmPOWERing a Sustainable Energy Future through Interconnected Curricular and Co-Curricular Pedagogies *Paper Award* [\[view paper\]](#)

M525 EED Business Meeting

Monday, June 24, 2024, 3:15 – 4:45 pm
Willamette 2, Hyatt Regency Portland (HQ Hotel)

EED Annual Social & Awards Gathering

Monday, June 24, 2024, 7:00 – 9:00 pm
Dan & Louis Oyster Bar
208 SW Ankeny St, Portland, OR 97204

T425 EED Technical Session 2 Engineering for One Planet (EOP)

Tuesday, June 25, 2024, 1:30 am – 3:00 pm
Room C125

1. Infusing Sustainability into Diverse Courses and Programs Using Open Source Engineering for One Planet (EOP) Teaching Resources [\[view paper\]](#)
2. Disrupting the Curriculum: Leveraging the Engineering for One Planet Framework to (re)Center Sustainability in Engineering Education *Paper Award* [\[view paper\]](#)
3. Empowering Change: The Role of Student Changemakers in Advancing Sustainability withing Engineering Education [\[view paper\]](#)
4. The Sustainability as Stewardship Framework: A Revision of the Engineering for One Planet Framework for an Existing Civil Engineering Program at a Christian Institution [\[view paper\]](#)
5. Cultivating a Sustainable Mindset in Undergraduate Engineering through the Engineering for One Planet Framework [\[view paper\]](#)

T525 EED Panel Discussion Solving Planetary Health Problems

Tuesday, June 25, 2024, 3:15 – 4:45 pm
Room C126

W325 EED Technical Session 4 EOP & Sustainability Innovation

Wednesday, June 26, 2024, 11:30 – 1:00 pm
Room D133

1. A Unique, Action-Oriented, Collaborative Approach to Co-creating a New Open-Source Sustainability Teaching Guide under a Creative Commons License [\[view paper\]](#)
2. Sustainability in Engineering Graphics and Bicycle-Powered Blenders [\[view paper\]](#)
3. Evaluating the Development of Higher Order Thinking within an Environmental Engineering Build Project [\[view paper\]](#)

4. Evaluating the Efficacy of Project-Based Approach for Teaching Humanities Courses to Engineering Students [\[view paper\]](#)
5. Essentials of the Nurse+Engineer: Qualitative Methodology Applied to Foods Systems in Environmental Engineering [\[view paper\]](#)

W525 EED Technical Session 3 Innovative Pedagogy

**Wednesday, June 26, 2024, 3:45 – 5:15 pm
Room D133**

1. Using Micromoments and Concept Maps to Enhance Entrepreneurially Minded Learning of Indoor Air Pollution Control [\[view paper\]](#)
2. Oral Examinations in Environmental Engineering Design Courses [\[view paper\]](#)
3. Students' Metacognitive Regulation Strategies in Written Reflections within Third-Year Introductory Environmental Engineering Course [\[view paper\]](#)
4. Continuing Evaluation of Undergraduate Engineering Students' Perspectives on Renewable Energy: A Two-Year Study [\[view paper\]](#)
5. Identifying Shared Meaning to Enhance a Collaborative Teaching Culture [\[view paper\]](#)

M403 BAE Panel Discussion Ecological Eng. Education: Framework and Perspectives

**Monday, June 24, 2024, 1:30 pm – 3:00 pm
Room D133**

The Biological and Agricultural Engineering Division (BAE) asked to share this panel information for interested EED members. The panelists will discuss their vision for ecological engineering and provide insight into challenges and opportunities when integrating ecological engineering content with agricultural, biological, environmental, and similar engineering content areas.

2023-2024

Environmental Engineering Division Officers

Division Chair

Dr. Shannon L. Isovitsch Parks,
Ph.d., P.E.

Associate Professor
Department of Civil Engineering

University of Pittsburgh Johnstown
Johnstown, PA



Program Chair

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

Associate Professor
Department of Geography &
Environmental Engineering

United States Military Academy
West Point, NY



Secretary

Dr. Alexa Rihana-Abdallah, Ph.D.

Professor
Civil, Architectural & Environmental
Engineering

University of Detroit Mercy
Detroit, MI



Treasurer

Dr. Stephanie Laughton, Ph.D.

Assistant Professor
Civil, Environmental and
Construction Engineering
Department

The Citadel, Charleston, SC



Division Awards

EED 2024 Best Faculty Paper Award

EmPOWERing a Sustainable Energy Future through Interconnected Curricular and Co-Curricular Pedagogies

Authors: Jeffrey M. Bielicki, Yun-Han Weng, Emily T. Creamer, Matthew Judkins Mayhew

All Authors are from the Ohio State University



Jeffrey M. Bielicki is an Associate Professor with a joint appointment in the Department of Civil, Environmental, and Geodetic Engineering and in the John Glenn College of Public Affairs. He also runs the Energy Sustainability Research Laboratory researching issues in which energy and environmental systems and policy interact, specifically on topics related to carbon management and renewable energy.



Yun-Han Weng is a second year Ph.D. student in the Higher Education and Student Affairs program. She earned her B.Ed. in Civic Education and Leadership at the National Taiwan Normal University and completed her M.S. in Educational Leadership and Policy Analysis at the University of Wisconsin -Madison.



Emily Creamer is a postdoctoral scholar at The Ohio State University where she manages a mix-methods study on community college students. He has worked in higher education for over 17 years. Her passions involve helping students with their mental health and balancing their academic, career, emotional, and social lives.



Matthew J. Mayhew is the William Ray and Marie Adamson Flesher Professor of Educational Administration with a focus on Higher Education and Student Affairs at The Ohio State University. He has focused his research on examining the relationship between college and its influence on student learning and democratic outcomes.

EED 2024 Early Career Award

Disrupting the Curriculum: Leveraging the Engineering for One Planet Framework to (re)Center Sustainability in Engineering Education

Authors: Cherish C. Vance*, Patrick J. Sours

All Authors are from the Ohio State University



A&M University.

Cherish Vance is an instructor in the Department of Food, Agricultural and Environmental Sciences at The Ohio State University. Her research passions include engineering for sustainable development. A first-generation student, she is currently a PhD candidate in Biological and Agricultural Engineering at Texas



Patrick Sours is a program manager of Sustainable and Resilient Communities and senior lecturer in the Department of Civil, Environmental and Geodetic Engineering. He serves as the Faculty Lead of the Humanitarian Engineering Program at The Ohio State University. He leads high-impact experiential learning programs, conducts engineering education research, and instructs courses related to Engineering for Sustainable Development.

*Early Career Award winner

EED 2024 Best Diversity Paper Award

Introducing Socioeconomic Determinants in Environmental Engineering and Chemistry Courses

Authors: Alexa Rihana-Abdallah, Katherine C. Lanigan

All Authors are from the University of Detroit Mercy



Alexa Rihana-Abdallah is a Professor of Civil, Architectural & Environmental Engineering, and teaches courses on water and waste water treatment, engineering ethics, environmental chemistry, and other environmental related topics. Her research focuses on energy conservation, bioremediation of chlorinated compounds, and modeling contaminant plume in surface and groundwater.



Katherine C. Lanigan is a Professor of Chemistry and Biochemistry, and teaches analytical chemistry courses, including quantitative analysis and instrumental analysis, as well as general chemistry for science and engineering students. Her research uses analytical chemistry for the analysis of trace metal accumulation in plants, soil

and invertebrate.

EED 2024 Best Student Paper Award

Preparing the Next Generation of Engineers for Decision Making under Deep Uncertainty: Exploring the Pedagogical Role of the Decisions for the Decade Game

Authors: Marissa Webber*, Fethiye Ozis

All Authors are from Carnegie Mellon University



green infrastructure and/or nature-based solutions.

Marissa Webber is a Ph.D. student in the department of Civil and Environmental Engineering and her research focuses on climate change adaptation for transportation and urban infrastructure, particularly for urban flooding, including using climate information and applying



Fethiye Ozis serves as an Assistant Teaching Professor in the Department of Civil & Environmental Engineering. She enjoys every dimension of being an engineering educator. She teaches across the curriculum and conducts research related to engineering classrooms, innovative pedagogical strategies and climate adaptation.

*Student Award winner

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 a 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 a 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, 2025. 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 2024-2025 program chair, Dr. Alexa Rihana-Abdallah rihanaa@udmercy.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 a recognition at the Division dinner and a certificate or plaque.

OFFICERS: July 2024 - June 2025

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

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

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

Secretary: Dr. Stephanie Laughton,
The Citadel slaughto@citadel.edu

Treasurer: *To be elected via online ballot and announced after the conference. You may submit nominations (including self-nominations) to Dr. Shannon L. Isovitsch Parks at shannon.parks@pitt.edu or at the Division Business Meeting.*

Have Your Institution or Company Become 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.

BENEFITS	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	✓	✓	✓	✓