2024 ASEE 131st Annual Conference and Exposition
Portland, Oregon
June 23-26, 2024

CALL FOR PAPERS

Environmental Engineering Division

(Environmental Engineering and Sustainability Division[1])

ASEE Environmental Engineering Division (EED) invites papers for the 2024 Annual Conference to be held in Portland, Oregon. All oral and poster presenters are required to publish their papers in the ASEE conference proceedings. Paper publication is a two-step process:

      Step 1: Abstract submission, review, and acceptance.

            10/1/23: Abstract Submission Window Opens in NEMO
            11/1/23: Abstract Upload Deadline for Authors
            12/1/23: Abstract Decision Deadline

      Step 2: Paper submission, review, and acceptance.

            2/1/24: Draft Paper Upload Deadline
            3/8/24: Draft Revision Upload Deadline
            4/15/24: Draft Revision Decision Deadline
            5/1/24: Final Paper Deadline

The submission and the review process are double blind. Please ***do not include names of authors or institutions within the title or body of the abstract or paper***. Papers and presentations must contain assessment methods and results. Abstracts are limited to 500 words and should provide a clear statement of the objectives of the work, its relevance to the environmental engineering and/or the sustainability community, assessment methods used, and major findings.

**Works in progress or papers without assessment may be considered for poster presentations.

Paper Submissions.[2] The EED invites papers on the following five general topics:

(1) **Teaching and Engagement**[3]

      • Use of generative AI (e.g., ChatGPT) in environmental engineering and/or sustainability courses. Desired topic areas include unique approaches for leveraging generative AI,

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challenges associated with integrating generative AI into courses, or policies for use of generative AI at a course- or program-level (especially relevant are papers in this area that can help other programs or accreditation bodies effectively address generative AI).

      • Longitudinal analysis of interventions created in response to the pandemic and maintained post pandemic. Educational topic areas include approaches, challenges, successes with the impacts and changes to environmental engineering or sustainability topics.

      • Use of effective pedagogical methods (e.g., active learning, hybrid courses, flipped classrooms, service-learning, etc.) in teaching environmental engineering or sustainability courses.

      • Innovative uses of current and emerging technologies (e.g., online case studies, light board, social media) in teaching environmental engineering or sustainability courses.

      • Development of new, or cross-disciplinary, hybrid, hyflex, lab, study away, or study abroad courses in environmental engineering or sustainability, e.g., environmental biology, environmental security, environmental public health, environmental engineering in Island Nations.

      • The experiences and learning resulting from extracurricular student projects/contests in environmental engineering or sustainability, e.g., people, prosperity and planet (P3), Engineering Without Borders, etc.

      • Undergraduate environmental engineering research or capstone projects with community and/or industry engagement. EED is particularly interested in papers that incorporate social and/or environmental equity and justice. EED is also interested in highlighting outstanding studies from student competitions, e.g., WERC Environmental Design Contest.

      • Demonstrations[4] of interactive and effective teaching activities in five minutes or less. Note: if there is enough interest in this topic, EED will explore a joint session with other divisions. Please contact the Program Chair directly if you are interested.

(2) Enhancing Sustainability Pedagogy

EED recognizes the increasing need to emphasize sustainability into engineering education. As such, EED invites papers that highlight sustainability pedagogy and/or collaborations with organizations that integrate sustainability into engineering education, such as Engineering for One Planet (https://engineeringforoneplanet.org/).

      For the submissions regarding the Engineering for One Planet initiative, there is a particular interest in:

- Outcomes from the EOP Pilot Grant Program, ASEE EOP Mini-Grant Program, and EOP institutionalization grants
- Utilizing the EOP framework, EOP Core learning outcomes, or EOP activity guides in or outside of the classroom
- Institution-wide sustainability integration using the framework

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[4] Session may be organized to highlight multiple in-class demonstrations by limiting presentation time.

- Top-down, leadership-driven EOP initiatives
- Implementation of EOP in core engineering classes
- Methods for expansion of the EOP initiative through networks, academic leadership, industry collaborations, etc.
- Submission on preliminary work of EOP integrations

EED also invites papers that study interdisciplinary approaches to addressing Grand Challenges such as climate change, sustainable practices, and the food-water-energy nexus:

- UN Sustainable Development Goals (https://sdgs.un.org/goals)
- National Academy Grand Challenges (http://www.engineeringchallenges.org/)
- 21st Century Env. Engineering (https://www.nap.edu/read/25121/chapter/1#xi)

(3) Assessment and ABET Accreditation

• Ability to engage students in environmental lifelong learning.

• Recruitment and retention of diverse students in environmental engineering and sustainability programs.

• Use of the American Academy of Environmental Engineers and Scientists Body of Knowledge at the course and/or curriculum level (http://www.aaees.org/publications/eebodyofknowledge.php).

• Experiences with accreditation and assessment, e.g., ABET, graduate program accreditation, etc.

(4) Faculty Development and Career

• Lessons learned from various career paths of environmental engineering or sustainability faculty and effective resources that support professional development, e.g., training, mentorship, industry-academia transition.

• Innovative development for tenured/tenure-track faculty and professional faculty (adjunct and/or non-tenure track such as teaching and research faculty).

(5) Panels, Workshop, or Joint Session Proposals

The EED invites **panel and/or workshop proposals** on any of the topics described in the call for papers above, or other topics aligned with the paper call.

EED is particularly interested in establishing joint sessions concerning sustainability topic areas. Please submit any joint session ideas to the Program Chair, Dr. Andrew Pfluger at andrew.pfluger@westpoint.edu.

Environmental Engineering Division Awards

The Environmental Engineering Division awards a ***Best Faculty Paper***, ***Early Career, Best Student Paper, and Best Diversity Paper Award*** every year. All full paper submissions are eligible ("Work in Progress" is not).

The following criteria will be used by reviewers to evaluate papers, and to determine the EED paper awards on a 5-point scale: (1 = Poor; 3 = Good; 5 = Excellent)

 • Significance and or importance to environmental engineering and/or sustainability education

 • Potential impact, applicability, and reproducibility of the proposed educational tools and or methods

 • Research quality, organization, and structure of content, and scholarly presentation

 • Quality of assessments of student learning, data processing and statistical methods

(1) **Best Faculty Paper**

 • This award recognizes the best paper submitted to the division. The author must be a current member of ASEE and of the 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 lead author, recognition at the Division dinner, and one plaque.

(2) **EED Early Career Award**

 • Eligibility Criteria: The applicant will be within the first four years of academic experience as a non-tenure and/or tenure-track position, and un-tenured as of August 31, 2024. All 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 or sustainability 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, the last line of the abstract must read: "I am an untenured faculty member within the first four years of total academic experience, lead author of the paper, and eligible for the Environmental Engineering Division Early Career Award". In addition, potential candidates should contact the Program Chair, Dr. Andrew Pfluger at andrew.pfluger@westpoint.edu, to confirm their tenure-track position status at their institution.

 • The prize for winning the Early Career Award is dinner for the awardee, recognition at the Division dinner, and one plaque.

(3) **Best Student Paper**

      • 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 prize for winning the Best Student Paper award is dinner for the winning lead student author, recognition at the Division dinner, and one plaque.

(4) **Best Diversity and Inclusion Paper**

      • This award recognizes the best paper submitted to the Division highlighting diversity and inclusion. 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. To apply, the last line of the abstract must read: "This paper highlights diversity and inclusion in environmental engineering and is eligible for the Environmental Engineering best diversity and inclusion paper award".

      • The prize for winning Best Diversity Paper Award is dinner for the lead author, recognition at the Division dinner, and one plaque.

Questions may be addressed to the Environmental Engineering Division 2023-2024 Division Chair, Dr. Shannon Parks at shannon.parks@pitt.edu, or the 2023-2024 Program Chair, Dr. Andrew Pfluger at andrew.pfluger@westpoint.edu.