

2020 ASEE Annual Conference & Exposition

Civil Engineering Division Call for Papers

Montreal, Quebec, Canada | June 20-24, 2020

The **CIVIL ENGINEERING (CE) DIVISION** seeks papers for presentation at the 2020 ASEE Annual Conference and Exposition to be held in Montreal, Québec, Canada, June 21-24, 2020. Paper submission is a two-step process: (1) Abstract submission, review, and acceptance; followed by (2) Paper submission, review, and acceptance. The submission and review process is double blind; please do not include names of authors or institutions within the title or body of the Abstract. Abstracts are limited to 500 words and should provide a clear statement of the objectives of the work, its relevance to the civil engineering community, assessment methods used, and major findings. Authors of accepted Abstracts will be invited to prepare full papers for peer review. The CE Division invites papers on topics listed below, organized into sessions proposed by the Division's Standing Committees.

ASCE Liaison Committee

Tom Lenox, tlenox@asce.org, 703-887-3320

Leslie Nolen, lnolen@asce.org, 703-295-6106

Educational & Professional Issues of Strategic Importance to the Civil Engineering Profession and ASCE. ASCE has been working proactively to address several educational and professional issues of strategic importance to the future of the civil engineering profession. To this end, this session will explore several of the issues that are being addressed (or should be addressed) by ASCE. Authors are not required to be representatives of an ASCE organizational unit. Topics might include, but are not limited to, the following:

- The “Engineer Tomorrow” (formerly “Raise the Bar”) Initiative: Where Is ASCE Going?
- ASCE’s Future World Vision Initiative – How Do We Anticipate, Reimagine, and Prepare for the Future?
- The Civil Engineering Body of Knowledge 3rd Edition (CEBOK3): Thoughts and Lessons Learned.
- Gap Analysis – CEBOK3 Versus the Accreditation Criteria for Civil Engineering Programs.
- The New Civil Engineering Program Criteria for 2024: A Peek into the Sausage Factory.
- ABET Accreditation – Neither Necessary nor Sufficient for ASCE’s Strategic Interests?
- The New Changes to Criteria 3 and 5 – Lessons Learned from the FTBE (“First to be Evaluated”).
- How Are We Teaching Leadership in Civil Engineering Undergraduate Programs?
- What Are the Threats to Professional Engineer (PE) Licensure? How Do We Counter?
- Professional Societies and Universities as Partners in Career Development of Students and Practitioners.
- The First Ever Civil Engineering Technology Body of Knowledge – Implications for the Civil Engineering Profession.
- How Do We Establish a Distinct & Distinguished Role for the Civil Engineering Technologist?

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Committee on Effective Teaching

Chair: Tonya Nilsson, tnilsson@scu.edu

Co-Chairs: Dave Saftner, dsaftner@d.umn.edu, Joel Lanning, joel.lanning@uci.edu, Brad Wambeke, brad.wambeke@westpoint.edu, Laura Doyle

Beyond the Capstone: Integrating Authentic Experiences That Promote Learning and Excitement. This session, jointly sponsored with the Environmental Engineering Division, seeks papers highlighting student design challenges that incorporate authentic experiences in topics including problem definition, stakeholders, sustainability, and realistic design constraints.

Best in 5 Minutes: Demonstrating Interactive Teaching Activities. This interactive and open-format session, jointly sponsored with the Environmental Engineering Division, invites short papers describing your most impactful classroom moments including demonstrations, student activities, or experiences. In this unique session, papers do not require a research question, data or conclusion. Presentations should be short (<5 minutes) and should include an interactive component as session attendees will have the opportunity to circulate the room and experience your impactful teaching activity. The demonstrations, accompanied with pedagogy-rich papers, could include physical models, interactive videos, or embedded technology. All civil-engineering sub-disciplines and related fields are welcome!

Promotion of Educational Activities that Advance the Teaching of the National Academy of Engineering Grand Challenges. This session, jointly sponsored with the Environmental Engineering Division, seeks papers from multiple disciplines that present approaches to effectively deliver challenge-based education in a course or across a curriculum.

Committee on Professional Practice

Claire Dancz, cdancz@clemsun.edu

Yvette Pearson, y.e.pearson@rice.edu

Initiatives Integrating the United Nations Sustainable Development Goals into Engineering Classrooms. This session will focus on the call from numerous national and international organizations to increase the inclusion of sustainability concepts and topics within engineering education. While a variety of sustainability frameworks have been adopted by educators, the United Nations has endorsed a holistic set of Sustainable Development Goals (SDGs) that is intended to provide cross-cutting principles adaptable across disciplines. Papers are requested that document how educators are integrating the SDGs into engineering education. Papers that focus on the SDGs as they relate to diversity, equity, and inclusion, convergence (i.e., multidisciplinary approaches), and power skills (e.g., teamwork, communication) are especially encouraged as are those that emphasize strategies of Canadian and other international organizations.

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Inclusive Engineers: Strategies for Teaching and Assessing Principles of Equity and Inclusion in Engineering Curricula. This session will focus on strategies for teaching students to be inclusive in engineering practice. Papers are requested that share strategies for (1) teaching and assessing ethical principles related to diversity, equity, and inclusion from engineering societies' codes of ethics (e.g., American Society of Civil Engineers, IEEE, and the American Institute of Chemical Engineers) and/or (2) addressing ABET EAC (Engineering Accreditation Commission) Criterion 3: Student Outcomes emphasizing inclusion such as (but not limited to) solving complex engineering problems that require diverse perspectives, creating and assessing inclusive teams, communicating with a wide range of audiences, and designing using realistic constraints that require considerations of and input from diverse populations (e.g., accessibility, usability, etc.). Papers that merge codes of ethics with the ABET EAC requirements and related power skills (e.g., teamwork, communication) are especially encouraged.

Diversity, Equity, and Inclusion in Practice: Workforce Perspectives on What Engineering Students Need to Know. This session will include invited speakers from industry, government, and academia (administration) to provide perspectives on inclusion, focusing on what students need to know and how faculty should prepare students to practice engineering in inclusive workplaces and in a way that takes into account the perspectives of stakeholders representing diverse demographics (e.g., underrepresented minorities, people with disabilities, women, people from low-income backgrounds). Insights will be shared via PechaKucha presentations followed by a moderated panel with audience questions.

Committee on Instructional Technology

Matt Lovell, lovellmd@rose-hulman.edu

Co-Chairs: Erfan Goharian, goharian@cecc.sc.edu, Tim Kennedy, timothy.kennedy@acu.edu

Gamification: Using Games, VR, and Other Technology Practices in the Civil Engineering Classroom. This session seeks papers emphasizing assessment of enhanced learning from gamification in the classroom (games, software, virtual reality, etc.).

Optimizing the Use of a Learning Management System for Civil Engineering Education. This session seeks papers illustrating unique and creative applications of an LMS (Moodle, Blackboard, Canvas, etc.) to enhance civil engineering education. Types of applications might include automated grading, integration of interactive textbooks, interactive assessments, and hybrid delivery. Works in Progress papers are encouraged.

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Committee on Educational Policy

Chair: Kevin Hall, kdhall@uark.edu

Co-Chairs: Scott Hamilton, shamilton@ycp.edu, Norm Dennis, ndennis@uark.edu, Haritha Malladi

Turning Vision into Action. This session seeks papers as a follow-up to the 2019 ASCE Civil Engineering Education Summit to case the vision of the summit, present major findings, and outline a roadmap of activities to realize the Summit aspirations.

Helping Students Embrace Academic Integrity. This session invites papers describing activities both in and out of the classroom that assist students in embracing academic integrity.

A New Day for Student Competitions. This session, jointly sponsored with the Environmental Engineering Division, invites papers exploring the effectiveness of student projects, contests, and competitions (e.g., ASCE concrete canoe, EWB, P3, etc.) as co-curricular activities; in particular, papers should examine goals and objectives, metrics of student learning, and assessment tools.

Important Dates:

- Abstract Submission: Open – September 3, 2019
- Abstract Submission: Due – October 14, 2019
- Draft Paper Due – February 3, 2020
- Revised Paper Due – March 16, 2020

Please note that the Civil Engineering Division requires that oral and poster presenters publish their papers in the ASEE conference proceedings. Additionally, the papers and presentations are expected to contain assessment methods and results, unless otherwise noted in the session description. If the paper is a “Work-in-Progress” for a designated session, please include that in the title.

For additional information, please contact:

CE Division 2019-2020 Division Chair

CJ Riley

Civil Engineering

Oregon Institute of Technology

charles.riley@oit.edu

CE Division 2019-2020 Program Chair

Steve Burian

Civil and Environmental Engineering

University of Utah

steve.burian@utah.edu