

# 2021 ASEE Annual Conference & Exposition

Civil Engineering Division Call for Papers

Long Beach, California | June 27-30, 2021

The **CIVIL ENGINEERING (CE) DIVISION** seeks papers for presentation at the 2021 ASEE Annual Conference and Exposition to be held in Long Beach, California, June 27-30, 2021. 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](mailto:tlenox@asce.org), 703-887-3320

Leslie Nolen, [lnolen@asce.org](mailto:lnolen@asce.org), 703-295-6106

**Educational & Professional Issues of Strategic Importance to the Civil Engineering Profession and ASCE.** This session will explore several of the important 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:

- A Gap Analysis – the CEBOK3 Versus the Requirements for Licensure as a Professional Engineer
- Defining the Specialty Areas of the Civil Engineering Discipline.
- Should ASCE Promote Discipline Specific Licensure of Engineers? Why? How?
- Does ASCE (and ABET) Need Masters-Level Program Criteria?
- The New Changes to Criteria 3 and 5 – Lessons Learned from the “First to be Evaluated.”
- Is There a Distinct & Distinguished Role for the Civil Engineering Technologist?
- Is It Time to License CE Technologists as Professional Engineering Technologists?
- Civil Engineering Master's Programs: A Comprehensive Review of Types & Requirements.
- Today's Civil Engineering Baccalaureate Programs: A Survey of Requirements.
- What Motivates Programs to Accredit Their Master's-Level Engineering Programs.
- Issues of Diversity & Inclusion in the Civil Engineering Profession.
- Pipeline Issues Related to Students Pursuing Civil Engineering. Is There a Problem?
- Lessons Learned from ABET Virtual Visits in 2020.
- How Relevant is Professional Licensure to the Next Generation of Civil Engineers?

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## Committee on Effective Teaching

Chair: Anthony Battistini, [anthony.battistini@angelo.edu](mailto:anthony.battistini@angelo.edu)

Co-Chairs: Brad Wambeke, [brad.wambeke@westpoint.edu](mailto:brad.wambeke@westpoint.edu), Mary Katherine Watson, [mwatson9@citadel.edu](mailto:mwatson9@citadel.edu)

### ***Reassessing your Teaching through Turmoil***

What lessons have we learned from sudden change to online teaching and how it might impact the return to face-to-face? How have recent events made you reevaluate what is critical for your classes and assess effectiveness of your methods? How have you monitored academic integrity through varying course modalities? What approaches did you use to maintain classroom community and interpersonal rapport? For all papers, we are interested in results of approaches that were used to explicitly assess impacts of changes.

***Best in 5 Minutes: Demonstrating Interactive Teaching Activities.*** This interactive and open-format session 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!

### ***Effective Teaching of Affective Domain***

How are you effectively teaching in the affective domain and how are you measuring those impacts? Professional practice in civil engineering requires students to demonstrate learning outcomes in the affective domain. Some examples include teamwork, leadership, sustainability, communication, empathy, lifelong learning, professional attitudes, professional responsibilities, and ethical responsibilities.

## Committee on Professional Practice

Chair: Jakob Bruhl, [Jakob.bruhl@westpoint.edu](mailto:Jakob.bruhl@westpoint.edu)

Co-Chairs: Rodolfo Valdes, [rvaldes@colostate.edu](mailto:rvaldes@colostate.edu), Paul Leidig, [pleidig@purdue.edu](mailto:pleidig@purdue.edu), and Jenny Retherford, [jretherf@utk.edu](mailto:jretherf@utk.edu)

### ***Supporting Successful Progression from First Year Studies***

Many students entering civil engineering as well as construction engineering and management programs are supported in the curriculum in basics of science and engineering hosted by other departments or colleges (eg. first-year programs, colleges of science, etc.). As students move through pre-programs and acquire prerequisites prior to CE/ConE/CEM programs, they encounter many challenges including technically demanding coursework, lecture concepts, and abstract content. An opportunity exists for Civil and ConE programs to engage and support student success prior to full engagement in the upper division, discipline-specific coursework.

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This session seeks scholarly works on topics related to student support prior to and in entering Civil and ConE programs. Topics might include: cohort learning, support by student organizations, faculty engagement with first-year studies programs, innovations in freshman academic support specific to progression into CE/ConE disciplines of study.

## ***Effective Ways to Develop “Those Other Skills”***

Civil engineers are called beyond the standards of engineering fundamentals to serve as professionals and academic preparation requires that students obtain support and training in professional skills necessary to solicit, manage, and complete projects in a responsible manner. These tasks require more than the fundamentals of engineering and training should include preparation in a variety of topics of professional development. This session aims to introduce audiences to efforts made to educate engineers in this broad realm. Topics may include: lessons in creativity, topics of biases and ethics, project management, time management, technical communication (written, oral) for a variety of audiences, codes & standards, teamwork and multidisciplinary experiences, alignment with initiatives such as ABET, ASCE’s BOK, the Engineer of 2020, technology, and similar threads.

## ***Industry & Practice Topics***

Civil engineering programs continue to enhance their programs in supporting students in professional development both through the undergraduate curriculum and through early career. This session seeks scholarly works on the broad topics of “industry” and “professional practice”. Topics might include novel relationships between industry and capstone programs, industry partnerships extending through the curriculum or beyond the sole senior design effort.

## **Committee on Instructional Technology**

Chair: Norm Dennis, [ndennis@uark.edu](mailto:ndennis@uark.edu)

Co-Chairs: Monica Palomo, Timothy Wood, [twood3@citadel.edu](mailto:twood3@citadel.edu), Haritha Malladi, [malladi@udel.edu](mailto:malladi@udel.edu), David Saftner, [dsaftner@d.umn.edu](mailto:dsaftner@d.umn.edu)

## ***Holy cow! We’re going online when?***

This session discusses lessons learned from quickly transitioning to remote/online instruction in spring ‘20 term and, given more time to prepare, fall ‘20 semester. Potential topics include how to use instructional technology to deal with remote/online learning, reduced room capacity, and different modalities in the same course. Papers from both the instructor and administrative perspective are encouraged.

## ***Building virtual communities.***

This session shares methods of building virtual communities within student groups. Potential areas of interest include teamwork in the virtual environment, remote labs, and creation of student communities within class groups, student clubs, student cohorts, etc.

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## Committee on Educational Policy

Chair: Anuja Kamat, [kamata@wit.edu](mailto:kamata@wit.edu)

Co-Chairs: Sarah Christian, [sschrass@andrew.cmu.edu](mailto:sschrass@andrew.cmu.edu), Tonya Nilsson, [tnilsson@scu.edu](mailto:tnilsson@scu.edu)

### ***Development Around Diversity.***

This session looks for a broad discussion on ways we can address diversity issues in our classrooms, in our departments and with our curriculums. Topics could include:

- Teaching historical disparities in equity, for example where we build highways, wastewater treatment plants, etc.
- Instructing and assessing our students' ability to create a collaborative and inclusive environment in teams per the new ABET Criterion 3, Objective 5.
- Inclusive teaching methods to improve the learning and community experiences for our diverse students' both in terms of gender and race.
- The impact of civil engineering-related community engagement within courses or co-curricular groups.
- Changes implemented within departments to tackle systematic racism.
- Effective methods for recruitment and retention of racially and ethnically diverse faculty.

### ***Capitalizing on COVID - Using this disruptor to change the educational model.***

What are the lessons learned from the COVID experience and what do we keep and what do we lose to improve our courses or curriculums? COVID has highlighted pedagogical issues, equity issues and educational policies that work and don't work. This session highlights lessons learned that are leading to long term changes and improvements.

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## Important Dates:

- Abstract Submission: Open – September 8, 2020
- Abstract Submission: Due – October 12, 2020
- Draft Paper Due – February 8, 2021
- Revised Paper Due – March 22, 2021

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 2020-2021 Division Chair**

Steve Burian

Civil and Environmental Engineering

University of Utah

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### **CE Division 2020-2021 Program Chair**

Matthew Lovell

Civil and Environmental Engineering

Rose-Hulman Institute of Technology

[lovellmd@rose-hulman.edu](mailto:lovellmd@rose-hulman.edu)