

The **CIVIL ENGINEERING (CE) DIVISION** seeks papers for presentation at the 2016 ASEE Annual Conference and Exposition to be held in New Orleans, Louisiana, 26-29 June 2016. 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 blind; 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.

*Professional Collaboration for CEE Program Change*

This session will include studies that involve collaboration with professionals and/or industrial advisory boards to enact and assess curricular improvements.

*So That Happened...Case Histories in Professional Practice*

This session will include presentations of papers that describe the use of case histories or case studies to elucidate issues in professional practice (that than technical failures). Cases based in and around New Orleans are particularly encouraged.

*Use of Technology in Engineering Courses*

This session will explore the effective use of technology for content delivery in engineering courses. Topics of interest may include, but are not limited to:

Effectiveness of classrooms with different balances of technology (case studies, recent technology development, MOOCs, hybrid, flipped classrooms, etc.)

Novel uses of devices and software (e.g. iPad, smart phones, clickers, etc.)

*Effective Mentoring of Faculty*

This session will encourage papers describing cases of effective mentoring of faculty in engineering programs at all levels (e.g. early, mid-career, and adjunct faculty).

*Fostering Transformational Change*

The session will encourage papers related to case studies, processes, or research on transforming civil engineering education, including development of new programs.

*Enhancing Inclusivity in Civil Engineering*

Departmental practices in curriculum, projects, recruiting, messaging and the like can impact the inclusivity of the student body and faculty. Papers are sought which describe innovative practices that positively affect diversity in civil engineering.

*Proven Strategies in Classroom Engagement: Artifacts & Activities for Creative Pedagogy*

This session is seeking artifacts and activities that have been shown to effectively engage students and result in improved performance. Authors of selected papers will be asked to provide a demonstration of the artifact and activity during the conference presentation. Single page summary handouts will also be encouraged for use during the presentation. Examples could include: new in-class assessment technologies, effective online engagement, just-in-time teaching, physical artifacts, demonstrations, etc.

*Capstone Experiences to Encourage Innovative Solutions that Address the Grand Challenges*

Non-traditional capstone experiences that address ill-defined problems faced by society today. Projects should include real societal constraints such as: politics, cultural norms, ethics, economics, and sustainability.

#### *PBL...Wat Dat?*

This session will demonstrate techniques related to project/problem based learning, with or without a just-in-time element. The audience will take away an understanding of how to structure, apply, and assess these techniques in their immediate contexts.

#### *Educational & Professional Issues of Strategic Importance to the Civil Engineering Profession – and ASCE.*

Significant changes ARE occurring in the professional practice of civil engineering and the education of future civil engineers. ASCE has been working proactively to address those educational and professional issues of greatest strategic importance to the future of the civil engineering profession. To this end, there are several groups of future-focused civil engineering educators and practitioners working to define and analyze the strategic issues – and prepare action plans to appropriately and proactively respond to changes. Most civil engineering professionals are not aware of the educational and professional issues being addressed by ASCE – and the scholarly investigations of these issues that are being pursued by ASCE volunteer groups.

The purpose of this session is to explore several of the key educational and professional issues of strategic importance to the civil engineering profession that are being addressed by ASCE. This might include, but is not limited to, the following areas:

- The “Raise the Bar” initiative.
- Changes to professional licensure-related laws, rules, and policies.
- The role, recognition, and Body of Knowledge of the Civil Engineering Technologist.
- The accreditation of academic programs in the advanced specialty areas of civil engineering; e.g., structural engineering, geotechnical engineering, etc.
- The certification of individuals in the civil engineering specialty areas.
- Competencies of civil engineers from the U.S. Department of Labor (USDOL) perspective. (See <http://blogs.asce.org/department-of-labor-plans-to-add-engineering-to-industry-competency-models-seeks-member-review/>)
- Other?

#### *Influencing the Next (Third!) Edition of the Civil Engineering Body of Knowledge for the 21<sup>st</sup> Century.*

The first and second editions of Civil Engineering Body of Knowledge (now known as “BOK1” and “BOK2”) were published in 2004 and 2008, respectively. Following the publication of BOK1 and BOK2, the need for a long-term plan for updating the Body of Knowledge (and its associated accreditation criteria) was identified by the Raise the Bar leaders and affirmed by civil engineering department heads/chairs. The plan for synchronized change was outlined in a 2011 ASEE paper titled “The Civil Engineering Body of Knowledge and Accreditation Criteria: A Plan for Long-Term Management of Change.” The plan for the long-term management of change called for the organization of a new Body of Knowledge Task Committee (BOKTC) by October 2016. To this end, the task committee’s member and staff leadership team is scheduled to begin its planning and organizational work in October 2015.

The first objective of the new task committee is to determine if BOK2 should be revised. The new task committee could recommend no revisions, minor revisions, or extensive revisions to BOK2. If substantive changes are recommended to BOK2, the master plan calls for the

completion of the third edition of the Civil Engineering Body of Knowledge for the 21<sup>st</sup> Century (BOK3) before October 2018.

The purpose of the papers/presentations of this session is to provide stakeholder input to the leaders and members of the BOKTC in advance of their detailed work. Said another way, this session gives stakeholders an opportunity to proactively influence the individuals who will be working on one of the most important foundational documents of the civil engineering profession; i.e., its body of knowledge. Possible questions to be addressed by the authors/presenters of this session include:

- What outcomes included in BOK2 need to be modified, clarified, or deleted? Rationale?
- What outcomes are missing from BOK2 and need to be incorporated into BOK3? Rationale?
- What are other shortcomings of BOK2? How should/could these shortcomings be addressed?
- What are the key lessons learned by those who developed BOK1 and BOK2 – and the associated accreditation criteria?
- What can be learned from a close review and analysis of the following post-BOK2 developments/publications of the engineering education community:
  1. The Environmental Engineering Body of Knowledge, published in 2009 by AAES.
  2. The Engineering Body of Knowledge for Professional Engineers, published in 2013 by NSPE.
  3. The Graduate Attributes and Professional Competencies, published in June 2013 by IEA.
  4. The Fundamentals of Engineering (FE) Exam, implemented by NCEES in conjunction with its transition to a computer-based examination format in 2013.
  5. Criterion 3 (Student Outcomes) of the ABET Criteria for Accrediting Engineering Programs, which are currently being considered by the ABET Engineering Accreditation Commission.

#### *Notable Topics in Civil Engineering Education*

This session will highlight well-written papers on a variety of topics related to civil engineering education, that may not otherwise fall within other defined technical sessions.

#### *Developing Infrastructure Professionals*

Infrastructure themed courses go beyond the technical design of water, transportation, and other civil engineering systems to investigating how these systems serve society. Development and delivery these courses are very different from calculation or project based courses. This session discusses the formation and activities of an infrastructure education community of practice; explores emergent infrastructure themed course offerings; and envisions innovative techniques to incorporate political, social, economic, and creative dimensions into infrastructure themed courses. Papers will also address the positive effects of infrastructure education on student engagement, perceptions of the profession and society, and appreciation of the importance of the humanities and social sciences.

#### *Innovative Instructional Strategies for Integrating Sustainability into Civil Engineering Curricula*

Topics of interest include, but are not limited to, the following:

- Methods by which institutions are responding to ASCE's new ABET Program Criterion related to sustainability and Civil Engineering Body of Knowledge, 2nd edition, (BOK2) Outcome 10: Sustainability
- Proven techniques of using innovative instructional strategies to enhance civil engineering student learning of sustainability topics/concepts
- Successful models for integrating sustainability into civil engineering curriculum, including course-based, modular-based, and/or other blended methods
- Innovative and proven methods for assessing effective teaching and learning related to sustainability, including development and implementation of validated instruments
- Demonstrated success in integrating sustainability within civil engineering curricula at different levels, from freshman to senior year
- Challenges and opportunities for institutions integrating sustainability across the civil engineering curriculum and across the university
- Papers addressing innovative methods to connect and address sustainability within civil engineering subdisciplines, such as, but not limited to, structures, geotechnical, construction, are especially encouraged.

The **CE Division is a publish-to-present division.** At least one author for each paper is expected to register for, and present at, the Annual Conference. All papers are expected to demonstrate an appropriate level of originality and scholarship. Accepted papers will also be considered for appropriate award recognition within the Division.

Please forward this Call for Papers to all interested parties. Questions regarding the 2016 CE Division program may be directed to the Program Chair, Brock E. Barry, P.E., PhD, at: [brock.barry@usma.edu](mailto:brock.barry@usma.edu) or 845.938.5850.