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Message from the Chair of the Division

Dr. Sean St. Clair, P.E., Oregon Institute of Technology

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Greetings division members. Our program in Columbus in June was fantastic; thanks so much to everyone who helped make it a success. Thanks especially to the session moderators, reviewers, committee chairs, and authors. Our sessions were so great and so popular, that we were often overflowing into the conference center hallways. Thanks to Brock Barry for constantly finding us new rooms when we were bursting at the seams.

Looking forward to Salt Lake City, I would like to encourage each of you to work with Andrea Welker to help make our program better than ever. The quality of research and papers presented in our division continues to improve and we would love to hear about the work you are doing. Have a great academic year and I look forward to seeing you Salt Lake City in June!

Message from the Program Chair

Dr. Andrea Welker, P.E., Villanova University

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Wow! Sean St Clair did an amazing job organizing the Civil Division events this past June in Columbus, OH. The Civil Engineering Division sessions and social events were engaging and fun. It will be hard to top, but we are starting to plan out next year's events in Salt Lake City, Utah. The planning meeting yielded many wonderful ideas for sessions, so keep your eye out for the call for papers. I'm lucky to have Steve Burian doing intensive on-the-ground research for the RAP session and banquet in Salt Lake. I hope to see you there!

2018 ASEE Annual Conference

Civil Engineering Division Call for Papers

Standing Committee Chairs please attend the Executive Committee Meeting in Salt Lake City.

The CIVIL ENGINEERING (CE) DIVISION seeks papers for presentation at the 2018 ASEE Annual Conference and Exposition to be held in Salt Lake City, Utah, June 24-27, 2018. 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; 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.

Committee on Professional Practice

Mohammad Moin Uddin, uddinm@etsu.edu
Matthew Lovell, lovellmd@rose-hulman.edu

Fostering Business and Professional Skills in the Engineering Classroom

Knowledge of business and possession of strong professional skills are increasingly important for civil engineers. Papers are sought that highlight creative approaches to infusing public policy, business, and public administration into the classroom. In addition, paper describing the assessment of ways for students to demonstrate these skills and mechanisms for the evaluation of these skills are desired.

Industry Partnerships for Academic Resources

We invite papers that explore utilization of professional partnerships for academic resources. Partnerships with academic institutions may include; project and research funding from private sector, project sponsorship and advising, professionals serving

as adjunct professors or lecturers, professionals providing curriculum input, internship programs and other similar opportunities. Successful examples and lessons learned from industry/academic partnerships will be presented in this session.

Committee on Instructional Technology

Matthew Sleep, matthew.sleep@oit.edu
Jenny Retherford, jretherf@utk.edu

Benefits to Student Learning of Digital and Collaborative Learning Platforms

Papers are sought that describe the benefits of digital and collaborative learning platforms. Topics of discussion and scholarship may include use of electronic problem sets, ebooks, collaboration tools, and electronic interaction/communication programs. Specific documentation of instructor effectiveness as well as translation of technical knowledge scaffolded through upper level courses and into the profession are of interest.

Student Benefits and Challenges to Electronically Documenting Student Achievement

Digital portfolios and badges are growing in popularity in engineering programs, but have a longer history in the liberal arts. This session will include studies of the benefits and challenges for faculty and students in using digital platforms to capture student achievement of learning outcomes and create a collection of student credentials.

Committee on Educational Policy

Derek Williamson, dwilliamson@eng.ua.edu
Norm Dennis, ndennis@uark.edu

Creating a Culture of Academic Integrity

Although ethical behavior is a key component to being a professional engineer, universities continue to struggle with this issue. Papers are sought that describe the following:

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- Creating assignments that encourage ethical behavior
- Developing and implementing effective academic integrity policies
- Teaching practices that link academic and professional ethics
- Detecting violations of and enforcing academic integrity policies

What Counts: How to Manage and Integrate Pre-college Credit

Students are arriving to college with an array of pre-college experiences. Papers are sought that describe the management of AP credit, IB credit, articulation agreements with other schools, and transfer credit from community college.

3Rs for the Future: Raising, Recruiting, and Retaining Civil Engineering Students

Attracting the best and brightest to our profession remains a top priority. Papers are sought that describe ways to create a pipeline of qualified students and keep those students in civil engineering.

Committee on Effective Teaching

Mary K. Watson, mwatson9@citadel.edu
David Saftner, dsaftner@d.umn.edu

The Evolving Classroom

Effective teachers are constantly evolving their techniques. Scholars are encouraged to submit papers in the following areas of effective teaching:

- Learning styles
- Knowledge domains
- Taxonomies
- Methods and methodologies
- Tools

Course Structure for Effective Student Engagement

It is generally accepted that increased student engagement leads to increased effectiveness in the

learning environment. Previous work has identified numerous techniques related to active learning, delivery methods, and other classroom interventions. However, how do instructors intentionally design a course and classroom activities to optimize student engagement? Further, what lessons have been learned; what successes, failures, and challenges have been identified; and what tools and/or frameworks have been developed and applied to address the effective learning-centric classroom? Paper addressing these topics are sought.

Ready-Set-Play!

This will be an interactive session whereby the techniques described in the papers are implemented. Each author will be given 5 minutes to describe or demonstrate their favorite toy, technique, or in-class activity. Time for questions will be provided at the end.

ASCE Liaison Committee

Tom Lenox, tlenox@asce.org, 703.887.3320
Jim O'Brien, jobrien@asce.org, 703.295.6055

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. Many civil engineering professionals are unaware of educational and professional issues being addressed by ASCE's volunteers and staff.

The purpose of this session is to explore several of the key educational and professional issues of strategic importance to the civil engineering profession

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Civil Engineering Division Call for Papers

that are being addressed (or should be addressed) by ASCE. This might include, but is not limited to, the following areas:

- The “Raise the Bar” initiative – Where is ASCE going? Where should ASCE be going?
- A progress report on the new Civil Engineering Body of Knowledge
- A progress report on the new Civil Engineering Technologist Body of Knowledge
- The roles and recognition of the Civil Engineering Technologist
- The sociology of professions for the Civil Engineering Technologist
- Should ASCE promote discipline specific licensure of engineers?
- The proposed changes to Criterion 3 and Criterion 5 of the EAC/ABET General Criteria
- A business case for Raise the Bar based upon workforce structure/organization
- An assessment of the ExCEED Teaching Workshop and its impact on civil engineering education
- ABET accreditation - neither necessary nor sufficient for ASCE strategic interests?
- How can the ASCE/department head connection be strengthened?
- Issues related to faculty licensure
- Leveraging the ASCE report card

Open Session

Claire Dancz, cdancz@clermson.edu

Justin Hess, Hess, hessjl@iupui.edu

Yvette Pearson Weatherton, yvette.p.weather-ton@rice.edu

Applications of the Envision Rating System in Engineering Courses and Curricula

The Formal Engineering Education Committee, a subcommittee of the American Society of Civil Engineers (ASCE) Committee on Sustainability, pro-

poses to organize a session on applications of Envision in engineering courses and curriculum. Specifically, this session will provide an opportunity for faculty to share curricular materials, lessons learned, or related ideas pertaining to Envision, a rating system administered by the Institute for Sustainable Infrastructure (ISI). Envision provides a comprehensive framework of 60 criteria to address environmental, social, and economic impacts of project design, construction, and operation. It offers a holistic framework for evaluating and rating the community, environmental, and economic benefits of all types and sizes of infrastructure projects. We hope for this session to be co-sponsored by Civil Engineering, Environmental Engineering, and other disciplinary divisions of ASEE.

About the Civil Engineering Division

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 program may be directed to the Program Chair, Andrea Welker, PhD, PE, at andrea.welker@villanova.edu.



Above: Salt Lake City, UT

Civil Engineering Division Awards

Presented at the 2017 Division Banquet

Younger Leader Fellow

Farzam Maleki, Massachusetts Maritime Academy

Civil Engineering Division Younger Leader Fellows attend the Division business and planning meetings and shadow the Program Chair and the Division Chair. This allows the awardee to network with Division members and encourages him/her to consider opportunities for joining the Division leadership. The Younger Leader Fellow receives a \$500 stipend to help offset the annual conference registration fee.



Above: Asghar Bahti presents the Younger Leader Fellow Award to Farzam Maleki.

PIC 1 Best Paper Nomination

Angela Bielefeldt, University of Colorado Boulder

Each year, the Awards Committee nominates a CE Division paper to be considered for the PIC 1 Best Paper Award. This year, the CE Division nomination entitled “Challenges of a Professional Issues Course in Civil Engineering: Comparison Across Two Years” by Dr. Angela Bielefeldt was awarded the PIC 1 Best Paper Award. The PIC 1 includes the following divisions: Aerospace, Architectural Engineering, Biological & Agricultural Engineering, Chemical Engineering, Civil Engineering, Construction Engineering, Electrical & Computer Engineering, Engineering Economy, Engineering Management, Industrial Engineering, Manufacturing, and Mechanical Engineering.

Gerald R. Seeley Award

Mary Katherine Watson, The Citadel

The Gerald R. Seeley Award is awarded to a civil engineering faculty member with five or fewer years of teaching experience. The basis for selection is the quality of a paper submitted for presentation in a CE Division session at the ASEE Annual Conference. This year’s paper was entitled “Validating Content of a Sustainable Design Rubric Using Established Frameworks,” which was a collaboration between C. Cowan, E. Barrella, M.K. Watson, and R. Anderson. The award consists of a \$500 reimbursement for conference registration. The recipient receives an ASEE certificate and is invited to attend CE Division events.



Above: Kevin Hall presents the Gerald R. Seeley Award to Mary Katherine Watson.

Stephen J. Ressler Best Paper Award

Kenneth J. Fridley, The University of Alabama
W. Edward Back, The University of Alabama
Derek G. Williamson, The University of Alabama

The Stephen J. Ressler Best Paper Award is given for the best paper on a topic in civil engineering education, presented at the ASEE annual conference and published in the Proceedings in the year prior to the award. Each co-author is awarded an engraved plaque and one complimentary ticket to all CE Division social events at the ASEE annual conference at which the award is presented. The winning paper this year was entitled “The ASCE BOK, ABET Accreditation Criteria, and NCEES FE Exam - Are They Appropriately Aligned?”

Civil Engineering Division Awards *Presented at the 2017 Division Banquet*



Above: University of Alabama Recipients of the Stephen J. Ressler Best Paper Award



Above: Tom Lenox and Brock Barry present Norm Dennis with the George K. Wadlin Distinguished Service Award.

Glen L. Martin Practitioner Service Award *Daniel H. Tobias, Illinois Dept of Transportation*

The Glen L. Martin Practitioner Service Award is awarded to an engineering practitioner for distinguished service to or support of civil engineering education. While the recipient can be a former faculty member, the distinguished service must occur over a period of time when the recipient served as an engineering practitioner in a position not normally held by an engineering educator.



Above: Michelle Sabick presents the Glen L. Martin Practitioner Service Award to Daniel H. Tobias.

George K. Wadlin Distinguished Service Award

Norm Dennis, University of Arkansas

The George K. Wadlin Distinguished Service Award is given to a member of the Division for outstanding service in support of civil engineering education and the Civil Engineering Division of ASEE. The recipient is awarded an engraved plaque and a complimentary ticket to all CE Division social events at the ASEE annual conference.

ExCEED New Faculty Teaching Awards

James Kaklamanos, Merrimack College
Edward Segal, Hofstra University

The award was established by ASCE's Project ExCEED and the Committee on Faculty development to recognize and reward outstanding new faculty. Nominees are judged based on a Letter of Endorsement from their current Department Chair/Dean, Curriculum Vitae, and Teaching Portfolio.

ExCEED Leadership Award

Robert James O'Neill, Florida Gulf Coast Univ

The award honors an ASCE member who has shown exceptional leadership and dedication to educational activities within the organization and is presented at the American Society for Engineering Education Annual Conference.



Above: Camilla Saviz presents the ExCEED Leadership Award to Robert James O'Neill.

Civil Engineering Division Awards

Previous Award Winners

George K. Wadlin Distinguished Service Award

The George K. Wadlin Distinguished Service Award is given for [*outstanding service in support of civil engineering education*](#). This award often goes to the most senior past division chair who has maintained strong contact with the division and provided strong support over the years. Sometimes, ASCE will have a candidate they would like to have considered because of their strong service to civil engineering education. Past award winners are displayed below.

2016	Dennis Fallon	2001	Richard O. Anderson
2015	Ronald W. Welch	2000	William E. Kelly
2014	Kristen L. Sanford	1999	Donn E. Hancher
2013	Jim Hanson	1998	William J. Wilhelm
2012	Wilfred Nixon	1997	Gerald R. Seeley
2011	J.P. Mohsen	1996	Daniel J. McGinley
2010	Jeffrey S. Russell	1995	E. Walter LeFevre
2009	Stewart G. Walesh	1994	Frederick W. Beaufait
2008	James J. O'Brien	1993	James F. McDonough
2007	Stephen J. Ressler	1992	Colby V. Ardis
2006	James M. Nau	1991	Marvin E. Criswell
2005	Alan L. Prasuhn	1990	Ronald W. Eck
2004	Howard C. Dunn, Jr.	1989	Glen L. Martin
2003	Thomas A. Lenox	1988	Peter G. Hoadley
2002	Vincent P. Drnevich	1987	George K. Wadlin

Gerald R. Seeley Award

The Gerald R. Seeley Award is awarded to a civil engineering faculty member with five or fewer years of teaching experience. The basis for selection is the quality of a paper submitted for presentation in a CE Divisions session at the ASEE Annual Conference. Past award winners are displayed below.

2016	Simon T. Ghanat	2009	Brock E. Barry
2015	Nicole Leo Braxtan & Goli Nossoni	2008	Tanya Kunberger & Diane Bondehagen
2014	Matthew D. Lovell	2007	Decker Hains
2013	Berndt Spittka	2006	Andrea Surovek
2012	Michelle Oswald	2005	Scott R. Hamilton
2011	Ellie Fini	2004	Andrew T. Rose
2010	Steve Hart	2003	Tonya Emerson (Nilsson)

Civil Engineering Division Officers 2017-2018



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Session Summaries

U106·Balancing Act: Ideas in Pre- & Post-Surveys and Assessment of Professional Skills

Moderators: Dr. Jennifer Retherford P.E. and Dr. Rebekah Oulton P.E.

This session included discussion of assessment using pre- and post- surveys and identifies approaches to assessment in commonly challenging topic areas such as "soft skills" and engineering economy.

Assessment of Students' Prior Knowledge and Learning in an Undergraduate Foundation Engineering Course by Dr. Simon T. Ghanat P.E. (The Citadel), Prof. James Kaklamanos (Merrimack College), Dr. Suresh Immanuel Selvaraj (University of Evansville), Dr. Corrie Walton-Macaulay (Bucknell University), and Dr. Matthew Sleep (Oregon Institute of Technology)

Study of Pre- and Post-Course Knowledge Surveys in an Engineering Economy Course by Dr. Simon T. Ghanat P.E. and Dr. Dimitra Michalaka (The Citadel)

Application of Indirect and Direct Measures for Student Teamwork Outcome Assessment within an Undergraduate Civil Engineering Curriculum by Dr. William J. Davis P.E., Dr. Simon T. Ghanat P.E., Dr. Kweku T. Brown, and Dr. Dimitra Michalaka (The Citadel)

Challenges of a Professional Issues Course in Civil Engineering: Comparison Across Two Years by Dr. Angela R. Bielefeldt (University of Colorado, Boulder)



Above: Session U106 presenters.

U206·Integrating Teaching Assistants, Tenure-track, and Non-tenure-track Faculty into a Cohesive Department

Moderators: Prof. Michelle Marincel Payne and Dr. Kristen L. Sanford Bernhardt P.E.

Instructional duties in many civil engineering departments are shared among tenure-track faculty, non-tenure-track faculty, and teaching assistants. The papers in this session provided innovative approaches to mentoring, training, and coordinating this diverse group of personnel to achieve a cohesive department with a shared goal of providing a quality engineering education.

Development of a Training Workshop for Undergraduate Mentor TAs in an Introductory Engineering Course by Dr. Tanya Kunberger, Dr. Chris Geiger, and Dr. Jackie Greene (Florida Gulf Coast University)

Impact of Undergraduate Teaching Fellows Embedded in Key Undergraduate Engineering Courses by Dr. Molly A McVey, Dr. Caroline R. Bennett P.E., Jae Hwan Kim, and Miss Alexandra Self (University of Kansas)

Non-Tenure Track Faculty Professional Development Opportunities by Dr. Ronald W. Welch, Dr. Robert J. Rabb P.E., and Dr. Kevin C Bower P.E. (The Citadel)

Teaching Model as a Living Document by Col. Brad Wambeke, Dr. Brock E. Barry, and Lt. Col. Jakob C Bruhl P.E. (U.S. Military Academy)

Growing and Training Effective Faculty by Dr. Ronald W. Welch, Ally Martin, Dr. Robert J. Rabb P.E., and Dr. Kevin Bower PE (The Citadel)

2017 ASEE Annual Conference

Session Summaries



Above: Session U206 presenters.

U306·Let's Get Pumped: Innovative Approaches for Better Student Engagement

Moderators: Dr. Matthew D. Lovell and Dr. Kevin G. Sutterer

This session will introduce unique and creative strategies, approaches, and course formats geared toward improving student ownership and engagement in their own learning process.

Classroom implementation of game-based module for geotechnical engineering education by Victoria Bennett (Rensselaer Polytechnic Institute), Dr. Tarek Abdoun (Rensselaer Polytechnic Institute), Dr. Casper Hartevelde (Northeastern University), Dr. Flora P. McMartin (Broad-based Knowledge, LLC), and Dr. Usama El Shamy P.E. (Southern Methodist University)

Adopting an ACI/ASCE Competition as a Learning Tool in Civil Engineering Materials Class by Dr. Daniel Hochstein, Dr. Goli Nossoni, and Dr. Mohab El-Hakim (Manhattan College)

Candy Land: Engaging Students in Class by Dr. Tonya Lynn Nilsson P.E. (Santa Clara University), Dr. Camilla M. Saviz P.E. (University of the Pacific), and Dr. David A. Saftner (University of Minnesota Duluth)

Homework Graded by Students by Dr. Ashraf Badir P.E. (Florida Gulf Coast University) and Dr. Robert O'Neill P.E. (Florida Gulf Coast University)

Assessment of Flipped Classroom in Upper-Level Engineering Course by Dr. Julie E. Fogarty (California State University, Sacramento)



Above: Session U306 presenters.

M506·Educational & Professional Issues of Strategic Importance to the Civil Engineering Profession – and ASCE

Moderators: Dr. Thomas A. Lenox and Mr. Jim O'Brien

The session explored several key educational and professional issues of strategic importance to civil engineering. A primary focus was ASCE's current initiative to prepare and publish a third edition to the Civil Engineering Body of Knowledge

Is It Time For a Third Edition of the Civil Engineering Body of Knowledge (BOK)? by Dr. Kenneth J. Fridley (University of Alabama), Dr. Decker B. Hains (Western Michigan University), Ms. Leslie Nolen (American Society of Civil Engineers), Dr. Brock E. Barry PE (U.S. Military Academy), and Dr. Beth Lin Hartmann P.E. (Iowa State University)

Professional Licensure: The Core of the Civil Engineering Body of Knowledge by Dr. Matthew Swenty P.E. (Virginia Military Institute) and Dr. Brian J. Swenty P.E. (University of Evansville)

A Survey of Credit Hour Requirements in BS Civil, Electrical, and Mechanical Engineering ABET Accredited Programs by Dr. Derek Guthrie Williamson and Dr. Kenneth J. Fridley (University of Alabama)

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Session Summaries

Leveraging the ASCE Infrastructure Report Card in the STEM Classroom by Dr. Janey Camp P.E. (Vanderbilt University), Ms. Leslie Nolen (American Society of Civil Engineers), and Ms. Carolyn Sofman (American Society of Civil Engineers)

Structural Engineering Education and Accreditation: Perspectives, Developmental Paradigms, and Recommendations by Dr. Stephen J. Ressler (U.S. Military Academy) and Dr. Thomas A. Lenox (American Society of Civil Engineers)



Above: Session M506 presenters.

T106 Thinking Globally, Acting Locally: The Role of Engineering Education towards Attaining UN Sustainable Development Goals

Moderators: Dr. Yvette Pearson Weatherton P.E. and Dr. Claire L. A. Dancz

This session is designed to disseminate strategies for incorporating the UN Sustainable Development Goals in engineering curricula and programs.

A Methodology to Model the Integrated Nature of the Sustainable Development Goals: Importance for Engineering Education by Mr. David Zelinka and Dr. Bernard Amadei (University of Colorado, Boulder)

Higher Education Capacity Building in Water Resources Engineering and Management to Support Achieving the Sustainable Development Goal for Water in Pakistan by Dr. Steven J. Bur-

ian (University of Utah), Dr. Mercedes Ward (University of Utah), Prof. Tariq J. Banuri (University of Utah), Prof. Sajjad Ahmad (University of Nevada, Las Vegas), Dr. Rasool Bux Mahar (Mehran University, Pakistan), David Lawrence Stevenson (University of Utah), Dr. James A. VanDerslice (University of Utah), Dr. Kamran Ansari, and Prof. Abdul Latif Qureshi

Survey Development to Measure the Gap Between Student Awareness, Literacy, and Action to Address Human-caused Climate Change by Dr. Tripp Shealy (Virginia Tech), Dr. Allison Godwin (Purdue University, West Lafayette), and Miss Haley Margaret Gardner (Affiliation unknown)

Validating Content of a Sustainable Design Rubric Using Established Frameworks by Charles Cowan (James Madison University), Dr. Elise Barrella (James Madison University), Dr. Mary Katherine Watson (The Citadel), and Dr. Robin Anderson (James Madison University)



Above: Session T106 presenters.

T506 Approaches to Virtual Learning

Moderators: Dr. Matthew Sleep and Dr. Steven J. Burian P.E.

Topics covered in this session included online-based and virtual methods to enhance the traditional classroom experience.

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Pedagogical Considerations in Use of Online Problem Sets in Technical Courses by Dr. Carmine C. Balascio P.E. (University of Delaware)

Impact of Mastering Engineering on Student Learning and Perceptions in a Strength of Materials Course by Dr. Harry G Cooke P.E. and Dr. MD Abdullah Al Faruque (Rochester Institute of Technology (CAST))

Mobile Learning for Undergraduate Course through Interactive Apps and a Novel Mobile Remote Shake Table Laboratory by Alec Maxwell, Dr. Zhaoshuo Jiang P.E., and Dr. Cheng Chen (San Francisco State University)

Application of a Virtual Environment for Education on the Construction Process of the Colosseum of Rome by Dr. Adrian Hadipriono Tan, Prof. Fabian Hadipriono Tan, Dr. Michael Parke, and Dr. Tarunjit Singh Butalia (The Ohio State University)



Above: Session T506 presenters.

W106• Horizontal and Vertical Integration

Moderators: Dr. David A Saftner and Dr. Dimitra Michalaka

Papers in this session covered topics and projects that extend across and along the curriculum.

Pedagogical Skill Development Through the Horizontal Integration of a Second-Year Engineering Curriculum by Mr. Kyle Daniel Balkos, Mr. Benjamin Dow, Ms. Shoeleh Shams, Dr. Rania

Al-Hammoud P.Eng., Prof. Monica B. Emelko, Prof. Scott Walbridge, and Prof. Chris Bachmann (University of Waterloo)

Horizontal Integration of the Same Design Project in Multiple Structural Engineering Courses by Dr. Benjamin Z. Dymond (University of Minnesota Duluth) and Dr. Matthew Swenty P.E. (Virginia Military Institute)

Developing a Vertically Integrated Project Course to Connect Undergraduates to Graduate Research Projects on Smart Cities Transportation Technology by Dr. Jack Bringardner (NYU Tandon School of Engineering)

A Tiered Mentoring Model for Deepening Student Learning Across Undergraduate and Graduate Design Courses by Dr. Caroline R. Bennett P.E., William N. Collins, and Dr. Molly A. McVey (University of Kansas)

Weaving Entrepreneurially Minded Learning Throughout a Civil Engineering Curriculum by Dr. Andrea L. Welker, Dr. Kristin M. Sample-Lord, and Dr. Joseph Robert Yost (Villanova University)



Above: Session W106 presenters.

W306• Mechanics, Music, Meaning, and Mohr

Moderators: Dr. Charles Riley P.E. and Dr. Allen C Estes P.E.

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Session Summaries

Session focused on improving mechanics learning through music, inquiry, and programming and improving student achievement by incorporating sustainability as ubiquitously as mechanics.

A Musical Twist on the Standard Bridge Project by Prof. Vicki V. May (Dartmouth College)

Let's Break Stuff! A Refit of the Mechanics Sequence of Courses to Inspire Student Inquiry by Lt. Col. Jakob C Bruhl P.E., Dr. James Ledlie Klosky, and Prof. Joseph P. Hanus (U.S. Military Academy)

Enhancing Student Meaning-Making of Threshold Concepts via Computation: The Case of Mohr's Circle by Mr. Hayden William Fennell (Purdue Polytechnic Institute), Prof. Genisson Silva Coutinho (Instituto Federal de Educação, Ciência e Tecnologia da Bahia), Dr. Alejandra J. Magana (Purdue University, West Lafayette), Dr. David Restrepo (Purdue University), and Pablo D. Zavattieri (Purdue University)

Student Perceptions of Sustainability and Engineering Mechanics in Undergraduate Civil and Environmental Engineering Education at Virginia Tech by Prof. Craig M. Shillaber (Northeastern University), Prof. Joseph E Dove P.E. (Virginia Tech), Prof. James K. Mitchell (Virginia Tech), Dr. Cristopher D. Moen, and Ms. Victoria A Mouras P.E. (Virginia Tech)

W406·Integrating Sustainability and Social Responsibility into the Curriculum

Moderators: Dr. Norman D. Dennis Jr. P.E. and Dr. Andrea L Welker P.E.

Papers in this session focused on the inclusion of sustainability, now a required component of the Civil Engineering Program Criteria.

Knowing and Caring about Sanitation by Leslie Dodson, Dr. David DiBiasio, Dr. John Andrew

Bergendahl, Ms. Paula Quinn, Prof. John M. Sullivan Jr, Prof. Glenn Gaudette, Dr. Curtis Abel, and Kristin Boudreau (Worcester Polytechnic Institute)

A New Framework for Teaching the Triple Bottom Line: The Sustainability Triangle and the Sustainability Index by Dr. Michael R. Penn and Dr. Kristina M. Fields (University of Wisconsin, Platteville)

Strengthening Sustainable Design Principles in the Civil Engineering Curriculum by Prof. Michelle Marincel Payne and Dr. John Aidoo (Rose-Hulman Institute of Technology)

Assessing Sustainability in Design in an Infrastructure Course through Project-Based Learning by Capt. Jeremiah Matthew Stache P.E., Prof. Joseph P Hanus P.E., and Capt. Jennifer Gonser (U.S. Military Academy)



Above: Session W406 presenters.

W506·Innovative Pedagogies for Facilitating Student-driven Learning Experiences

Moderators: Dr. Mary Katherine Watson and Dr. James Michael Grayson

Session included discussion of student-centered practices, with emphasis on project- and problem-based learning, for enhancing learning across civil engineering curricula.

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Motivating and Investing in the Freshmen: Paying the Way for the Future by Dr. Allen C. Estes and Prof. John W. Lawson (California Polytechnic State University, San Luis Obispo)

Project Based Learning in an Introduction to Civil Engineering Course: A Cascade Effect on Student Engagement and Retention in Subsequent Years by Dr. David Brian Dittenber (LeTourneau University)

Active Problem-based Learning on Nano-amended Cement Composites for Nuclear Waste Storage for Civil and Environmental Engineering Undergraduate Students by Caroline Haggard, Fabio Matta, and Dr. Charles E. Pierce (University of South Carolina)

Redeveloping a Senior-level Highway Design Course Considering Industry Feedback by Mr. Steven Kurtis Younkin and Dr. Peter T. Savolainen (Iowa State University)

Assessing Individual Temperament and Group Performance in a Project-Based Learning Experience by Capt. Jeremiah M. Stache P.E., Dr. Brock E. Barry PE, Dr. James Ledlie Klosky, and Dr. Gregory Martin Freisinger (US Military Academy)



Above: Session W506 presenters.

T306-CE Division Poster Session

Board # 27 : Developing Integrated Standards for Systematic Civil Engineering Course Design by Prof. Jim Morgan, Prof. Euan Lindsay, and Dr. Pamela Roberts

Board # 22 : Enhancing Student Education through International Research Experiences by Dr. Fouad H. Fouad, Miss Paula Alvarez Pino, Prof. Andrew J. Sullivan, and Dr. Talat Salama

Board # 21 : Intercultural Competence at the Intersection of Engineering and Study Abroad by Dr. Deborah Besser P.E., Dr. Camille M. George, Ms. Erin Anne Kern, and Jenna Laleman

Board # 24 : "Was it Worth It?" Reassessing the Lasting Value of a LEED Credentialing Course to its Students a Few Years After Graduation by Major Jennifer Gonser and Capt. Todd Mainwaring P.E.

Board # 29 : Research Needs Statements for Project Topic Selection: A Pilot Study in an Undergraduate Civil Engineering Transportation Course by Dr. V. Dimitra Pyrialakou, Prof. Heidi A. Diefes-Dux, and Dr. Konstantina Gkritza

Board # 26 : Reversing the Hierarchy of Causation and Effect in Civil Engineering and Construction Management Courses by Dr. Sami Maalouf and Dr. Anwar Alroomi

Board # 30 : STEM Scholarships to Engage Exceptional Students by Dr. Ronald W. Welch, Dr. Kevin C. Bower P.E., Dr. Robert J. Rabb P.E., Ally Kindel Martin, and Dr. Robert J. Barsanti Jr.

Board # 28 : The CIT-E Model Introductory Infrastructure Course: Summary of the "Fundamentals" Module by Dr. Philip J. Parker P.E. and Dr. Carol Haden

Board # 25 : The Journey to Initial Accreditation of a Civil Engineering Program by Dr. Kenneth R. Leitch P.E., Dr. Byungik Chang P.E. Dr. Erick Butler, Dr. J. Arn Womble P.E., and Dr. Nathan Howell

Board # 23 : Unique Approach to Teaching Heavy Civil Estimating by Dr. Okere O. George and Dr. W. Max Kirk

Historian's Report

Columbus, OH

CE Division's Historical Files

The Historian maintains many administrative documents (agendas, minutes, and treasurer reports), past newsletters, and approximately 50 copies of the booklet *ASEE Civil Engineering Division – Divisions Chairs 1935-1993*. These files are fairly complete for the period from 1975 to the present. There are no documents on file for any date prior to 1975. And the Historian maintains a database of Division Officers and award winners between 1975 and the present – available upon request. The Award winners will be added to the CE Division web site after this conference. So **CHECK IT OUT!**

Inventory of Division Newsletters

Our semiannual newsletters are a valuable source of historical information. In 2006, we scanned our entire inventory of past newsletters into PDF files. This inventory has been continually updated since 2006, and was maintained on a website by our past Webmaster, but has been moved to the ASEE website.

ASEE Civil Engineering Division – Divisions Chairs 1935-1993 and Beyond

Single copies of *ASEE Civil Engineering Division, Division Chairs, 1935-1993* will be distributed free of charge to any Division member upon request. I have 10 copies set aside for historical purposes. To supplement *Division Chairs, 1935-1993*, The Historian has been collecting the pictures and biographies of all Division Chairs for the years since 1993. We have obtained a short biographical sketch and an acceptable head-and-shoulders color picture from all of our Past Chairs between 1993 and 2016. This document has been posted as a more “dynamic – i.e., COLOR” Division Chairs document to the Division web site. So **CHECK IT OUT!**

Special Thanks to our Division members!

As you will note from the trivia questions, many of our past leaders have retired or stopped participating in our annual conference. Please help me congratulate all of our long-standing members who were part of division activities prior to 2007! Let's celebrate our future by asking those that have been participating since 2007 to be recognized! All of us must reach out to our CE faculty peers and get them involved both at the regional and national level of ASEE! We must mentor others as they have mentored so many of us to ensure we have a terrific Division with great programs, engaged members, and outstanding leaders. May we all continue to “Raise the Bar!” There is still much work to be done to continually produce the civil engineering leaders of tomorrow.

Ronald W. Welch
The Historian (2011-)
Dean of Engineering, The Citadel
Phone: (843) 953-6588
Email: ronald.welch@citadel.edu

Historian's Report

Civil Engineering Division Trivia

30 Years Ago (AY 1986-87)

- The Division Chair was _____ of Valparaiso University.
- The Program Chair was _____ of Iowa State University.
- The annual conference was held at the Bally Grand Hotel in Reno, Nevada.
- George Wadlin, retired in October as ASCE's Director of EDEX, moved to Northern Maine.
- A banquet was held on Tuesday evening – George Wadlin entertained the attendees with several quasi-politically-incorrect jokes.
- The Division's annual expenses included \$61.45 for mailing the Fall newsletter.

25 Years Ago (AY 1991-1992)

- The Division Chair was _____ of the City University of New York (CCNY).
- The Program Chair was _____ of Wayne State University.
- The annual conference was held in Toledo, Ohio.
- The Division's annual expenses included \$248.44 for mailing the Fall newsletter.

20 Years Ago (AY 1996-97)

- The Division Chair was _____ of the US Coast Guard Academy.
- The Program Chair was _____ of the US Military Academy.
- The annual conference was held in _____.
- A banquet was held on Tuesday evening – Bill Wilhelm entertained the attendees with several quasi-politically-incorrect jokes.
- The Division's annual expenses included \$321.08 for mailing the Fall newsletter.

15 Years Ago (AY 2001-2002)

- The Division Chair was _____ of the University of Louisville.
- The Program Chair was _____ of the US Military Academy.
- The annual conference was held in Montreal, Canada.
- A banquet was held on Tuesday evening – Bill Wilhelm entertained the attendees with several quasi-politically-incorrect jokes.
- The Division's annual expenses included \$447.13 for mailing the Fall newsletter.

10 Years Ago (AY 2006-2007)

- The Division Chair was _____ of Lafayette College.
- The Program Chair was _____ of the US Military Academy.
- The annual conference was held in _____.
- A banquet was held on Tuesday evening – Bill Wilhelm entertained the attendees with several quasi-politically-incorrect jokes.
- The Division's annual expenses included \$ _____ for mailing the Fall newsletter.

5 Years Ago (AY 2011-2012)

- The Division Chair was _____ of University of Tennessee at Knoxville.
- The Program Chair was _____ of the University of Iowa.
- The annual conference was held in _____
- The proposed by-laws change for 4.10 The Historian _____

Historian's Report

Past Civil Engineering Division Meetings

Year	Annual Meeting	Chair
2016-2017	Columbus, OH	Brock Barry
2015-2016	New Orleans, LA	Kevin Hall
2014-2015	Seattle, WA	Yusuf Mehta
2013-2014	Indianapolis, IN	Matthew Roberts
2012-2013	Atlanta, GA	M. Asghar Bhatti
2011-2012	San Antonio, TX	Shashi Nambisan
2010-2011	Vancouver, BC, CAN	Kevin Sutterer
2009-2010	Louisville, KY	Norm Dennis
2008-2009	Austin, TX	Dennis Fallon
2007-2008	Pittsburgh, PA	Ron Welch
2006-2007	Honolulu, HI	Kristen Sanford Bernhardt
2005-2006	Chicago, IL	Jim Hanson
2004-2005	Portland, OR	Wilf Nixon
2003-2004	Salt Lake City, UT	Vince Drnevich
2002-2003	Nashville, TN	Steve Ressler
2001-2002	Montreal, Quebec, CAN	J. P. Mohsen
2000-2001	Albuquerque, NM	Sam Clemence
1999-2000	St. Louis, MO	Jim Nau
1998-1999	Charlotte, NC	Alan Prasuhn
1997-1998	Seattle, WA	Tom Lenox
1996-1997	Milwaukee, WI	Howard Dunn
1995-1996	Washington, DC	William Kelly
1994-1995	Anaheim, CA	Tom Mulinazzi
1993-1994	Edmonton, Alberta, CAN	Bob Henry
1992-1993	University of Illinois at Urbana-Champaign, IL	Fred Beaufait
1991-1992	Toledo, OH	Edward Reitz
1990-1991	New Orleans, LA	M. Dean Parsons
1989-1990	Toronto, Ontario, CAN	William Highter
1988-1989	Lincoln, NE	Noel Tolbert

Historian's Report

Past Civil Engineering Division Meetings

Year	Annual Meeting	Chair
1987-1988	Portland, OR	Mardith Thomas
1986-1987	Reno, NV	Gerald Seeley
1985-1986	Cincinnati, OH	Colby Ardis
1984-1985	Atlanta, GA	Roger Seals
1983-1984	Salt Lake City, UT	Ron Eck
1982-1983	Rochester Institute of Technology, Rochester, NY	Jim McDonough
1981-1982	Texas A&M University, College Station, TX	Marvin Criswell
1980-1981	University of Southern California, Los Angeles, CA	Gordon Batson
1979-1980	University of Massachusetts, Amherst, MA	Eugene Chesson
1978-1979	Louisiana State University, Baton Rouge, LA	Donald L. Bender
1977-1978	University of British Columbia, Vancouver, CAN	William J. Wilhelm

Civil Engineering Division Photos
From the Division Banquet

