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REGISTRATION, TOURS, AND EXHIBIT INFORMATION
(7:30 AM - 4:00 PM)

BREAK

LUNCH

BUSINESS MEETING

FEATURED
Steve McGuire

K-12

Design Classroom Innovations
G. Mosher
V. Cariapa
R. O’Connell
N. He

Fluids Classroom Innovations
J. Buchholz
D. Burman
I. Demir
S. Sundararajan

Diversity
Kant/Burkhard
J.F. Sawyer
C.J. Tinant
Kasper/Koller/Gunderson
D. Besser

Flipped Classrooms
W. Zheng
W. Schilling
J. Jessop
J. Scheffler
C. McIntyre

Communication, Learning, & Research Skills
J. Douglas
K. Kozak
M. Lamm
M. Christiansen
S. Loveland

Entrepreneurship, Innovation, Research, & Networking
T. Lacksonen
M. Wilson
K. Kozak

Elect. & Comp. Eng. Classroom Innovations
N. He
D. DeBoer
C. Carroll
J. Kuhl

Program Leadership
M. Laugerman
Hall/Garry
Z. Smith
Kirby/Spisak/Blosser
D. Murhammer

Assessment
C. Mettler
A. Karabulut Ilgu
L. Stradins
B. Sharma
B. Garry
M. Thornton

Ethics
S. Coffel
P. Rummel Jinkins
J. Eriksson
R. Bates

Miscellaneous Classroom Innovations
A. Lague
Zierden/Boyd
S. Burckhard
D. Rethwisch

K-12 Assessment
M. Laugerman
Hall/Garry
Z. Smith
Kirby/Spisak/Blosser
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M. Christiansen
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T. Lacksonen
M. Wilson
K. Kozak

S. Coffel
P. Rummel Jinkins
J. Eriksson
R. Bates
Keynote Speaker
2nd Floor Ballroom (IMU)

8:15 Bob Chiusano

Session A. Design Classroom Innovations
Lucas Dodge Room (256 IMU)
Suzette Burckhard, South Dakota State University, Presiding

9:15 (1A-1) Enhancing Team-Based Senior Capstone Projects: Opportunities and Challenges
Mosher, Gretchen

9:33 (1A-2) Minivan Storage Rack for a Hand-Powered 3-Wheeled Cycle for People with Paraplegia and Quadriplegia
Marklin, Richard; Coriapa, Vikram; Schneider, Peter; Backhaus, Beau; Dieckhaus, Sam; Bork, Brandon; Fettig, Adam

9:51 (1A-3) Creating opportunities for exploration by modularizing a three credit engineering course
O’Connell, Rebecca; Starns, Gloria

10:09 (1A-4) The Use of BeagleBone Black Board in Engineering Design and Development
He, Nannan; Huang, Han-Way; Woltman, Brian

Track 2

Session A. Diversity
Lucas Dodge Room (256 IMU)
Tonya Peeples, University of Iowa, Presiding

10:45 (2A-1) Increasing diversity in engineering: Capacity building matters
Kant, Joanita; Burckhard, Suzette; Kilts, Whitney; Min, Kyungnan

11:03 (2A-2) Forging partnerships, experiential learning, and community impact: Capacity building matters
Sawyer, J. Foster; Kant, Joanita; Benning, Jennifer; Fick, Damon; Burckhard, Suzette

11:21 (2A-3) Building trust, experiential learning, and the importance of sovereignty: Capacity building in pre-engineering education – a tribally-controlled college perspective
Tinant, C. Jason; Kant, Joanita; LaGarry, Hannan; Sanovia, James; Burckhard, Suzette

11:39 (2A-4) Creative circuits with deaf students
Kasper, Brynn; Koller, Emma; Gunderson, Brett; Thomas, AnnMarie

Session C. Electrical & Computer Engineering Classroom Innovations
Ohio State Room (343 IMU)
Bryan Garry, South Dakota State University, Presiding

9:15 (1C-1) Experience of teaching advanced touch sensing technologies
He, Nannan; Huang, Han-Way

9:33 (1C-2) Using design hierarchy in a linear circuits class to illustrate the scientific method as a human invention
DeBoer, Douglas

9:51 (1C-3) First experiences with the AVR ATMega32 Microcontroller
Carroll, Christopher

10:09 (1C-4) Incorporation of agile development methodology into a capstone software engineering project
Kuhl, Jon

Session B. Fluid Classroom Innovations
Michigan Room (351 IMU)

Allen Bradley, University of Iowa, Presiding

9:15 (1B-1) The IIHR fluids workshop, a community of scholars
Buchholz, James

9:33 (1B-2) Shape and fluid drag: An experience with just-in-time learning
Burman, Debasish

9:51 (1B-3) Interactive web-based hydrological simulation system as an education platform using augmented and immersive reality
Demir, Ibrahim

10:09 (1B-4) Development, assessment and evaluation of remote thermo-fluids laboratory experiments: Results from a pilot study
Sundararajan, Sriram; Dautremont, James

11:03 (2B-1) The effects of “flipped classroom” concept on the effectiveness of teaching
Zheng, Wei; Becker, Timothy; Ding, Xuedong

11:03 (2B-2) Increasing material coverage in software engineering through the introduction of the flipped classroom
Schilling, Walter

11:21 (2B-3) Flipping without the cold turkey
Jessop, Julie

11:39 (2B-4) Flipping the college classroom
Scheffler, John

11:57 (2B-5) Developing a “high-impact” industry advisory board (Part of Program Leadership, Session 4A)
Gunderson, Brett; Kasper, Brynn; Koller, Emma; Gunderson, Brett; Thomas, AnnMarie

Session C. Communication, Teaming, and Research Skills
Ohio State Room (343 IMU)
Marcia Laugerman, University of Iowa, Presiding

10:45 (2C-1) Using oral quizzes in an engineering mechanics course
Douglas, Jamie; Knighten, Rachel

11:03 (2C-2) Speeding training: Library instruction in 30 minutes or less
Kozak, Kari; Kaskie, Darlene

11:21 (2C-3) Team-based learning in engineering classrooms: Feedback form and content adds value to the learning experience
Lamm, Monica; Dorneigh, Michael; Rove, Diane

11:39 (2C-4) Development of department writing guide for civil engineering
Christiansen, Mary; Eshan, Dave; Hanson, Adrian; Jenson, Jill; Ojard, Sara; Saftner, David; Teasley, Rebecca

Technical Program

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11:57  (2C-5) A learning community: Teaching technical writing in the chemical engineering unit operations laboratory

Loveland, Stephanie; McGough, Sheryl

Track 3

Session A. K-12 Outreach
Lucas Dodge Room (256 IMU)
Douglas De Boer, Dordt College, Presiding
2:00  (3A-1) Stories to inspire very young engineers

Lague, Allison; Thomas, Ann Marie

2:18  (3A-2) Science and engineering practices in food science and chemistry

Zierden, Alex; Boyd, Bonnie; Thomas, Ann Marie

2:36  (3A-3) Evolution of a bridge builder outreach activity

Burkhart, Suzette; Gutzmer, Zach

2:54  (3A-4) Engineering the future: A high school teachers workshop

Burkhart, Suzette; Vondruska, Judy; Emo, Kenneth; Gent, Stephen; Cortus, Erin; Hay, Christopher; Gutzmer, Zach

3:12  (3A-5) A study of the impact of project lead the way on achievement outcomes in Iowa

Rethwisch, David

Session B. Miscellaneous Classroom Innovations
Michigan Room (351 IMU)
Stephanie Loveland, Iowa State University, Presiding
2:00  (3B-1) Development of a case study problem in engineering economics based on a telephone replacement undertaking at UW-Platteville

Roy, Bidhan; Roberts, Matthew; Riedl-Farrey, Cathy; Bies, Gregory

2:18  (3B-2) “Paperless grading” of handwritten homework: Electronic process and assessment

Schneider, Susan

2:36  (3B-3) Thoughts about meeting the ABET safety requirements for chemical engineering programs

Murhammer, David

Session C. Entrepreneurship and Information Management
Ohio State Room (343 IMU)
Mary Christiansen, University of Minnesota Duluth, Presiding
2:00  (3C-1) An innovation management class in a polytechnic environment

Lacksonen, Thomas

2:18  (3C-2) Entrepreneurship Education: Engineering a pracademic approach

Wilson, Michael; Holloway, Eric; Ghandi, Jimmy

2:36  (3C-3) Standards, Standards: Where might you be?

Kozak, Kari

Featured Speaker

2nd Floor Ballroom (IMU)

3:00  Steve McGuire

Track 4

Session A. Program Leadership
Lucas Dodge Room (256 IMU)
Jon Kuhl, University of Iowa, Presiding
3:45  (4A-1) Supporting community college transfer students in engineering

Laugerman, Marcia; Rover, Diane; Mickelson, Steve; Shelley, Mack; Hensen, Kari

4:03  (4A-2) Multidisciplinary approaches: A management core for the applied sciences in engineering

Hall, Theresa; Garry, Byron; Steinlicht, Carrie

4:21  (4A-3) Global Engineering at the University of Iowa: Connecting Engineering Students with the World

Smith, Zach; Brewster, Amy; Allen, Megan

4:39  (4A-4) Building an engineering honors curriculum: Collegiate consistency with individual flexibility

Brewster, Amy; Kirby, Robert; Spisak, Art; Blosser Yoder, Holly

4:57  (4A-5) Mentorship program for undergraduate chemical engineering students

Murhammer, David

Session B. Assessment
Michigan Room (351 IMU)
David Rethwisch, University of Iowa, Presiding
3:45  (4B-1) Active teaching in an engineering classroom: Is a significant amount of modification to your lesson plans necessary to achieve positive learning outcomes?

Mettler, Cory; Ziegler, Nathan

4:03  (4B-2) Evaluation of hybrid course implementation in construction engineering

Karabulut Ilgu, Aliye; Jahrens, Charles

4:21  (4B-3) Hybrid teaching vs traditional teaching in computer engineering course: What works and what does not work?

Peng, Andy; Nelson, Robert; Liu, Cheng; Lin, Jia-Ling; Meredith, Lynn; Linards Stradins

4:39  (4B-4) Understanding engineering students’ perceptions and knowledge about sustainability and sustainable development across various systems for course improvement

Sharme, Bhavna; Steward, Brian; Ong, Say Kee; Miguez, F.

4:57  (4B-5) Multiple learning strategies and assessments used in an online technology, society & ethics course

Garry, Byron

5:15  (4B-6) Quantifying cognitive processes in virtual learning simulations

Thornton, Michael; Mosher, Gretchen

Session C. Ethics
Ohio State Room (343 IMU)
Rebecca Bates, Minnesota State University, Mankato, Presiding
3:45  (4C-1) Ethical Aerobics: Preparing engineers for the global workplace

Coffel, Scott

4:03  (4C-2) Ethical engineering in an age of what’s in it for me?

Rummel Linkins, Patricia; Clough, Jill

4:21  (4C-3) Peace and conflict: Engineering responsibilities and opportunities

Muscat, Robert; Eriksson, John

4:39  (4C-4) An ethical framework for engineering faculty: Examples & discussion

Bates, Rebecca