CEED
Cooperative & Experiential Education Division

Spring Newsletter

SPRING 2019

Welcome New CEED Members

Dr. Mahmoud M Al-Quzwini
Rowan University

Dr. Preethi Baligar
KLE Technological University

Ms. Pat Duong
University of Waterloo

Dr. Sheila Anne Gobes-Ryan
University of South Florida

Angela Gorny
University of Toledo

Mr. Terrence Green
Georgia Institute of Technology

Beata Johnson
Purdue University-Main Campus, West Lafayette

Georgia Looney
Northeastern University

Mr. Richard Robles
University of Cincinnati

Dr. Fred Wentorf
Grace College

Miss Adrianne J Wheeler
Project SYNCERE

Dr. Sylvanus Wosu
University of Pittsburgh

Letter from the new CEED Chair: Lisa Massi

Since its inception in 1926 as a co-operative education association, CEED has expanded to include other forms of work-integrated learning (WIL) to reflect the changing times. Research studies have shown that high impact practices, such as WIL activities, have a positive impact on student learning, retention, and career outcomes. The CEED community links members to a network of like-minded professionals to share best practices and discuss challenges. Think of it as your support group.

There are two main foci that I encourage you to think about:

1. Engagement: Connect to your CEED community. CEED provides plenty of opportunities for member interaction to suit a range of time commitments, from a few minutes to larger time commitments. There are opportunities to nominate your best intern or co-op student, employer, professional practitioner colleagues for CEED awards. I will periodically send out announcements with engagement opportunities to the CEED membership.

2. Diversity and Inclusion: Increase diversity and inclusion among our CEED membership in terms of geographic location (increased participation from west coast schools) and institution types (increased participation from Hispanic Serving Institutions and Historically Black Colleges). My home institution, University of Central Florida, recently received designation as a Hispanic Serving Institution by the U.S. Department of Education. There are studies, one in particular that I like by Foor et al. (2007), that show that co-op does not necessarily provide a level playing field for marginalized students. The paper recounts the experience of one such engineering student who, although eligible to participate in co-op, saw co-op as an opportunity for "elite" students but not for her. It is an interesting read. As an ASEE member, you can access this journal free as part of your membership through your ASEE membership portal. I have included the citation below. Based on my experience (and research studies), there are three key takeaways for marginalized students: (1) Experiential learning opportunities do not necessarily provide a level playing field for some students; (2) Financial stability is critical; and (3) Social support systems are integral to the success of female, Hispanic, and African American students. Talk to your colleagues to join ASEE CEED so that as a community, we can have conversations on topics such as these and other topics of interest in a variety of forums.

Citation: Foor et al. (2007, April). I wish I belonged more in this whole engineering group: Achieving individual diversity. Journal of Engineering Education 96(2), 103-115.

Lisa Massi
Chair, ASEE CEED
Email:
Lisa.Massi@ucf.edu

UCF
UNIVERSITY OF CENTRAL FLORIDA

Meet the CEED Board

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Lisa Massi, Ed.D
University of Central Florida
Lisa.Massi@ucf.edu

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Robin Hammond
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Robin.Hammond@asu.edu

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University of Cincinnati
arthurby@ucmail.uc.edu

Secretary - Effective 6/1/19
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Assistant CIEC Program Chair
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Membership Chair
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Research Chair
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Thank you!
Craig Gunn,
CEED Past Chair

AWARDS

Lorraine Mountain
2019 Alvah K. Borman Award

Lorraine Mountain is Assistant Dean of Cooperative Education for the Northeastern University College of Engineering, overseeing the college's undergraduate and departmental graduate co-op programs. She has served as a leader in College of Engineering co-op since 2013, facilitating team efforts in curriculum and teaching, job development, and faculty/staff hiring. As Senior Faculty Cooperative Education Coordinator in the Mechanical & Industrial Engineering Department, Lorraine has enjoyed advising and teaching students and connecting with employers in the field since 2001. Lorraine's connection to ASEE began in 2004, and she has presented on a range of topics through the years including continuous reflection, ePortfolio's, model employer partnerships, and job development. Prior to Northeastern, Lorraine worked in industry at General Electric Aviation in Engineering Design and as a Six Sigma Blackbelt and Instructor, and at Gateway, Inc. as a Program Manager. She earned a Master of Science in Mechanical Engineering at Tufts and a Bachelor in Mechanical Engineering from Villanova University.

Jonathan Gordon
2019 Lou Takacs Award

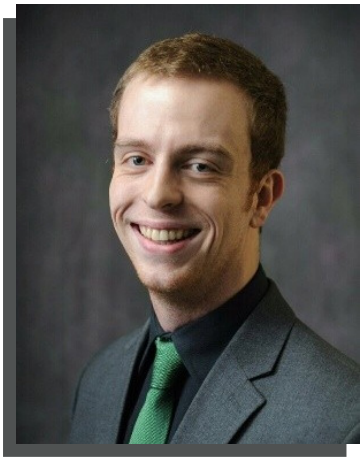
Jonathan Gordon graduated from the University of Cincinnati with his Bachelor's in Chemical Engineering in 2013 after completing six unique co-op rotations with The Lubrizol Corporation. After graduating, he joined Lubrizol full-time as a Process Development Engineer. In October 2014, he was appointed to the position of Chemical Engineering Co-op Program Manager, supporting the growth and development of the chemical engineering co-op students and program, which serves as the primary talent pipeline for entry-level chemical engineers. In January of 2018, he took on a new role for Lubrizol as the full-time Engineering Co-op Program Manager, responsible for the entire program of 88 chemical and mechanical engineers. Through his years managing this program, it has doubled in size, both in number of students and opportunities available, allowing for 35 unique student terms in 19 locations across the United States. He has led initiatives toward strong diversity in recruitment and full-time conversion, global expansion of the program opportunities, and enhanced professional development of all students. He continues to drive the success and evolution of the program, working to strengthen key partnerships with universities, faculty, professional organizations, and industry partners.

AWARDS

Julie Shields
2019 Co-op Student of the Year

Julie hails from a small town in Pennsylvania and was valedictorian of her 95 member high school class. She recently completed the University of Pittsburgh's industrial engineering program, earning a 3.90 GPA. In addition to outstanding academics, Julie was Co-Chair of the Swanson School of Engineering's 2017 Freshman Conference; she worked with "Students Consulting for Non-Profit Organizations", where she assisted the Jewish Community Center in Squirrel Hill to implement document work flow software; is a member of SWE, Alpha Pi Mu, Tau Beta Pi, and the Institute of Industrial Engineers. In addition, she was nominated for and awarded the Howard Bernstein Scholarship, and the John Nofsinger Honor Scholarship. Julie also participated in the Global Supply Program at the University of Montevideo, Uruguay. Julie completed three outstanding co-op rotations with FedEx Supply Chain, where she was the Lead Engineer on one of the largest bids ever for a complex design and takeover of two distribution buildings, which the company ultimately won. Julie has accepted a full-time position with FedEx Supply Chain.

Mathew Hunt
2019 Intern Student of the Year



Mathew, from Washington State University, always found himself gazing towards the stars, dumbfounded by the majesty of the snow speckled void we call space. This interest guided him forward, providing a foundation as to make his stamp in college. Mathew was drawn to the thought-provoking questions of Dr. Jake Leachman, P.I. of the Hydrogen Properties for Energy Research (HYPER) Laboratory. In this lab, focused on cryogenic hydrogen for energy and space application Mathew flourished. He began to foster the skills necessary to conduct cryogenic research which led to his internship with the National Institute for Standards and Technology (NIST), where he worked along researchers exploring the effects of cryogenic temperatures on high-entropy alloys. Included in this was research into fatigue-life testing of pipeline steels in a gaseous hydrogen environment, pertinent to the growing need for more sustainable energy solutions. The work conducted at NIST has now led into Mathew's master's thesis. He will be working to define and develop new cryogenic standards for full thermal and rotational fatigue lifecycle testing of polymeric materials. Mathew hopes to see this research applied to more sustainable energy models, as well as advancing liquid propellant storage research for future spaceflights.

Registration and Housing are Open!

We look forward to hosting you in Tampa for the 126th Annual Conference & Exposition
"Charged up for the next 125 years"
For more details: https://www.asee.org/conferences-and-events/conferences/annual-conference/2019

Below are details for CEED-sponsored events, co-sponsored events, and other CEED information.

This year will include:

- 2 technical sessions
- 2 panel sessions
- Roundtable discussion
- Distinguished Lecture
- 2 co-sponsored sessions
- CEED Social (complimentary appetizers and drinks)

CEED
Cooperative & Experiential Education Division

CEED Schedule-at-a-Glance

Sunday, June 16

11:00 AM to 12:30 PM CEED Board Lunch
(Open to CEED Board members only)
Offsite Restaurant, Columbia Café
Tampa Bay History Center, Tampa Bay Riverwalk, 801 Old Water St #1905 Tampa, FL 33602

12:00 PM to 1:00 PM PIC V Business Meeting & Lunch
(Ticketed - Open to Division Chair/Elect/Past only)
Meeting Room 5, Tampa Marriott Waterside

12:00 PM to 1:00 PM GREET THE STARS! New Members and First-time Attendees Lunch
(Open to first time attendees & new members as of 1/1/19)
Grand Ballroom A, Tampa Convention Center

1:15 PM to 4:15 PM CEED Board Meeting
(Open to Board members only)
Meeting Room 1, Tampa Marriott Waterside

4:30 PM to 6:00 PM ASEE Division Mixer
Grand Ballroom B & C, Tampa Convention Center

6:00 PM to 7:30 PM Focus on Exhibits: Welcome Reception
(Open to Board members only)
Exhibit Hall, Tampa Convention Center

Monday, June 17

8:00 AM to 9:30 AM Plenary
Grand Ballroom B & C, Tampa Convention Center

9:45 AM to 11:15 AM FOCUS ON EXHIBITS: Brunch & NSF Grantees Poster Session
Exhibit Hall, Tampa Convention Center

11:30 AM to 1:00 PM CEED I: Technical Session: WIP: Experiential Learning Potpourri
Grand Salon C, Tampa Marriott Waterside

For additional details on CEED sessions, please visit ASEE's online session locator
https://www.asee.org/public/conferences/140/registration/sessions

Monday, June 17 - Continued

1:30 PM to 3:00 PM CEED II: Joint Panel: Leveraging Industry Collaboration and Insight to Build an Engineering Co-op Program
Grand Salon A, Tampa Marriott Waterside

3:15 PM to 4:45 PM CIEC Executive Board Meeting
(Open to CEED Chair, CEED Chair Elect, CEED Ad hoc Members of CIEC Board)
Meeting Room 10, Tampa Marriott Waterside

3:15 PM to 4:45 PM Interdivisional Town Hall Meeting, Stop Lecturing About Active Learning
Grand Ballroom A, Tampa Convention Center

Tuesday, June 18

9:45 AM to 11:15 AM Plenary
Grand Ballroom B & C, Tampa Convention Center

11:30 AM to 1:00 PM FOCUS ON EXHIBITS: Lunch & ASEE Division Poster Sessions
Exhibit Hall, Tampa Convention Center

1:30 PM to 3:00 PM CEED III: Technical Session
Room 11, Tampa Convention Center

1:30 PM to 3:00 PM CEED IV: Joint Panel: Leveraging Experiential Education to Become an Emerging Engineering Education Leader
Room 17, Tampa Convention Center

3:15 PM to 4:45 PM CEED V: Postcard Roundtable (Panel): Leveraging Experiential Learning to Integrate Liberal Arts Into Engineering Education
Room 17, Tampa Convention Center

3:15 PM to 4:45 PM CEED VI: Industry Day Session: Brainstorming Diversity, Equity and Inclusion Approaches and Challenges in Industry
Room 21, Tampa Convention Center

5:00 PM to 6:00 PM CEED Business Meeting
(Open to all ASEE members)
Meeting Room 7, Tampa Marriott Waterside - HQ Hotel

6:30 PM to 8:30 PM CEED Social
(Open to CEED members and invited guests)
Offsite Restaurant, Columbia Café
Tampa Bay History Center, Tampa Bay Riverwalk, 801 Old Water St #1905 Tampa, FL 33602

Wednesday, June 19

9:45 AM to 11:15 AM DISTINGUISHED LECTURE: Social Disruption of Emerging Technologies & Implications for Engineering Education
Room 13, Tampa Convention Center

11:30 AM to 1:00 PM ASEE Current & Incoming Program/Division Chairs' Meeting
Grand Ballroom A, Tampa Convention Center

1:30 PM to 3:00 PM ASEE 2020 Incoming Program Chair Orientation
Sponsor Tech Room, Tampa Convention Center

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For additional details on CEED sessions, please visit ASEE's online session locator
https://www.asee.org/public/conferences/140/registration/sessions

CEED Session Details

Monday, June 17 1:30 PM to 3:00 PM - Grand Salon A, Tampa Marriott Waterside - HQ Hotel

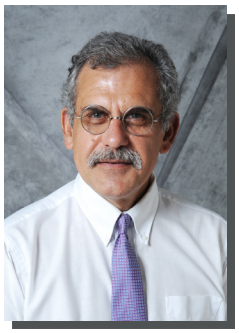
Joint Panel Session: Dean's Panel
Leveraging Industry Collaboration and Insight to Build an Engineering Co-op Program

Sponsoring Divisions: Cooperative and Experiential Education Division and College Industry Partnerships Division

Leveraging industry collaboration is helpful in the development of an engineering co-op program. Research to determine stakeholder interest, common goals, mutual support, and shared reciprocity are critical elements in this process. The determination of stakeholders and the evaluation of stakeholder commitment, time, resources, and personal energy are a few of the considerations that will be discussed. Further discussion will involve the establishment of key partnership benefits, with advantages associated with industry ties and increased profile for the University and a talent pipeline that provides improved efficiency, innovative ideas, and relief from an increased workload for industry partners. The management of stakeholder relationships to ensure equity and prevent ineffective relationships, resulting from the dominance of one or more stakeholders, will also be a focal point of the discussion. This is an interactive session. Speakers will give a brief presentation, followed by an opportunity for attendees to discuss topics of interest in a group setting.

Speakers:

1. **Dr. J.P. Mohsen** - University of Louisville



Dr. J.P. Mohsen is Past President of the American Society for Engineering Education. He served as ASEE President during 2009-10. He has served on the ASEE Board of Directors previously as Vice President for Member Affairs and Vice President for Professional Interest Council. He is a Fellow of ASEE.

J. P. Mohsen is Professor and Associate Dean of Administration and Faculty Affairs at J. B. Speed School of Engineering, University of Louisville. Prior to that he served as Chair of the Civil and Environmental Engineering Department since 2004. He holds a Ph.D. in civil engineering from the University of Cincinnati. His area of research is non-destructive testing and evaluation of materials with a focus on concrete structures. He teaches courses and conducts research in the areas of structural analysis and design, pavement design, construction materials, and health monitoring of bridges using remote sensing.

He has been actively involved in the American Society of Civil Engineers, serving on the Educational Activities and Continuing Education committees as well as the Technical Council for Computing and Information Technology. He is active in the Transportation Research Board serving on Properties of Concrete and Design of Pavements committees.

Dr. Mohsen was named Engineer of the Year in Education by the Kentucky Section of ASCE in1999 and received the University of Louisville Distinguished Service to the Profession Award in 1999 and the Distinguished Teaching Professor Award in 2003. In 2014, he received the ASCE Computing in Civil Engineering Award.

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2. **Dr. Craig J. Hoff P.E.** - Kettering University

Dr. Craig J. Hoff is the Dean of the College of Engineering and Professor of Mechanical Engineering at Kettering University (formerly GMI) in Flint, Michigan. He has over 35 years in various teaching and administrative positions in higher education. He has taught undergraduate and graduate courses in fields such as energy systems and automotive engineering. His research focus is on sustainable mobility technologies including vehicle electrification and autonomous driving. He has conducted research and consulting projects with many companies and government agencies, including General Motors, Ford, Toyota, Ricardo, ArvinMeritor, Firestone, the U.S. Army TARDEC, and the U.S. Department of Energy. He is an active member of SAE International, ASME, IEEE and ASEE.

He earned his Ph.D. in Mechanical Engineering from the University of Michigan – Ann Arbor, and his B.S. and M.S. in Mechanical Engineering from Michigan State University. He is a registered professional engineer in the state of Michigan.

3. **Dr. Paul D. Plotkowski** - Grand Valley State University

Dr. Paul Plotkowski is the founding Dean of the Padnos College of Engineering and Computing at Grand Valley State University. The Padnos College enrolls nearly 2,500 students in a variety of B.S. and M.S. degree programs in engineering, computer science, information systems, information technology, health informatics & bio-informatics, occupational safety and health and data science & analytics. All of the undergraduate programs in the Padnos College require either internships (CS, IS, and OSH programs) or co-operative education (Engineering programs). His duties include nearly daily interaction with a wide variety of industries.

Paul has served as an international vice president of the American Society of Mechanical Engineers (ASME). His other activities include serving as an accreditation visitor for mechanical, manufacturing, and interdisciplinary engineering degree programs for the Accreditation Board for Engineering & Technology (ABET).

Paul is a Fellow of ASME and has received numerous awards including the Dedicated Service Award from ASME, the Outstanding Young Manufacturing Engineer of the Year award from SME, the Outstanding Educator award from Pi Tau Sigma, and the Alva K. Borman Award for career accomplishments in cooperative education. Most recently he was recognized as the 2018 Manufacturing Talent Champion by the Michigan Manufacturer's Association.

Paul holds B.S. and M.S. degrees in Mechanical Engineering, and a Ph.D. in Systems Engineering from Oakland University. He has over 75 professional publications and presentations on topics ranging from stress analysis, and machine vision to engineering education and enhancing student success.

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CEED Session Details

Tuesday, June 18 1:30 PM to 3:00 PM - Room 17, Tampa Convention Center

Joint Panel Session:
Leveraging Experiential Education to Become an Emerging Engineering Education Leader

Sponsoring Divisions: Cooperative and Experiential Education Division

Given industry feedback and recent engineering accreditation changes, STEM educators have been driving curricular changes to better meet the needs of student populations and surrounding business communities. As a result, higher learning institutions, particularly in the STEM fields, have been implementing proactive and innovative steps to design and deliver a curriculum that is outcomes-based, provides discipline-specific knowledge, and is informed by real-world business needs. This is a joint panel session. Speakers will give a brief (10 minute/panelist) presentation, followed by the opportunity (15 min/panel) for attendees to discuss topics of interest with the individual speakers in a large group setting.

Curriculum-Based Experiential Education Opportunities: This presentation and discussion is targeted to faculty or practitioners who are interested in learning about a wide range of hands-on, experiential learning opportunities throughout the curriculum that focus on "problem identification, as well as problem solution." These opportunities are typically supported by innovative maker spaces and team working areas, with assistance from longstanding industry partnerships.

Integration of Design Application throughout the Curriculum: This presentation and discussion is targeted toward those faculty and practitioners who are interested in integrating design applications throughout the curriculum, with mindfulness toward entrepreneurial ventures, social responsibilities, and a global skillset (skills to be effective in a global environment and to work across nationalities and cultures).

Speakers:

1. **Dr. Amitava 'Babi' Mitra** - Massachusetts Institute of Technology

Dr. Amitava 'Babi' Mitra is the founding-Executive Director of the New Engineering Education Transformation (NEET) program at MIT. What he enjoys doing most is 'starting up' and running innovative educational initiatives; prior to joining MIT he was the founder-Dean of Engineering, BML Munjal University, India. He also has experience in the corporate and NGO worlds. He grew a small e-learning R&D group into the profitable USD 24 million revenue Knowledge Solutions Business at NIIT, Inc. and led it as its Senior Vice-President. Twenty-five years ago, as a founder-Member, Council of Governors, he helped found an NGO, the Pan-Himalayan Grassroots Development Foundation, Kumaon, India. Mitra earned a B.E. (Honors), M.Sc. (Honors) and PhD from the Birla Institute of Technology and Science (BITS), Pilani, India; during his PhD he was a Visiting Engineer at the Department of Chemical Engineering, MIT. He studied at St. Columba's School, New Delhi, India. Mitra loves food, music, the intersects across people and technology, growing up with his children and playing squash.

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2. **Dr. Patricia Brackin P.E.** - Rose-Hulman Institute of Technology

Dr. Patricia Brackin is a professor in mechanical engineering at Rose-Hulman Institute of Technology where she also serves as Director of Engineering Design. Her B.S. and M.S. are from the University of Tennessee, and her Ph.D. is from Georgia Institute of Technology. She has significant industrial experience and is a licensed professional engineer. She is also a Fellow of ASME.

Her area of expertise is Design Methodology. She was a member of the organizing committee of the Capstone Design Conference from 2012 – 2018. She teaches design classes throughout the curriculum and has authored journal articles and given workshops and conference presentations on design. The new Engineering Design major at Rose-Hulman focuses on authentic design experiences starting in the freshmen year. The freshmen and sophomore curriculum weaves humanities and technical topics together by focusing on a design project in a studio setting.

3. **Dr. Christopher Lee** - Franklin W. Olin College of Engineering

Dr. Christopher Lee is a Professor of Mechanical Engineering at Olin College and has been on the faculty since 2006. He taught and developed courses across the curriculum including the engineering capstone, ME program courses, and first-year courses. Previously, he was an engineer at Lawrence Livermore National Laboratory.

4. **Dr. Alisha L. Sarang-Sieminski** - Franklin W. Olin College of Engineering

Dr. Alisha Sarang-Sieminski is the Director of SCOPE and an Associate Professor of Bioengineering at Olin College of Engineering. Her work focuses on human-centered design to maximize mobility and and the understanding of the experiences of non-majority voices to create inclusive learning environments.

5. **Ms. Christine Kennedy** - Minnesota State University, Mankato

Ms. Christine Kennedy is the Director of Iron Range Engineering and is part of the first set of students who pioneered and graduated from the IRE program. She graduated high school from Laporte, MN and went on to her A.S. in Engineering from Itasca Community College before attending IRE where she received her B.S. in Engineering with a mechanical focus. Since then, she worked 5 years in heavy industry where she managed multi-million dollar projects as well as designed structures and mechanical systems, and supervised an operations crew. During this time, Christine also received her M. S. in Engineering Management from the University of Minnesota - Duluth, with her thesis being in the realm of Industrial Psychology and change management.

As the director, Christine manages IRE's budget, coordinates recruiting and other events around campus, facilitates student project teams, teaches advanced project management techniques, ensures IRE maintains its ABET Accreditation, and works on continuous improvement efforts for faculty, student, and curriculum development. For fun, she likes to sing and play guitar (though not in public), exercise, spend time outdoors, and be with her family and friends.

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CEED Session Details

Tuesday, June 18 3:15 PM to 4:45 PM - Room 17, Tampa Convention Center

Postcard Roundtable (Panel): Leveraging Experiential Learning to Integrate Liberal Arts Into Engineering Education

Sponsoring Divisions: Cooperative and Experiential Education Division

Given industry feedback and recent engineering accreditation changes, STEM educators have been driving curricular changes to better meet the needs of student populations and surrounding business communities. As a result, higher learning institutions, particularly in the STEM fields, have been implementing proactive and innovative steps to design and deliver a curriculum that leverages experiential education to integrate liberal arts into engineering education. This is an interactive session. Speakers will give a brief presentation, followed by the opportunity for attendees to discuss topics of interest with the individual speakers in a roundtable format.

Integration of Liberal Arts into Engineering Education: This presentation and discussion is targeted toward those faculty and practitioners who are interested in integrating knowledge of the liberal arts into engineering education to provide for a greater understanding of engineering roles, responsibilities, and engineering ethics. Engineering curricula that emphasizes a greater focus on solving human challenges and societal issues will be explored and discussed.

Speakers:

1. **Dr. Alison Wood** - Franklin W. Olin College of Engineering

Dr. Wood is a distinguished researcher in the fields of both water and sanitation, as well as sustainability solutions, through interdisciplinary approaches. Her love of learning was first fostered by an unusual elementary school education that was deeply interdisciplinary with a substantial arts curriculum. After graduating from Harvard University with a B.A. in Dramatic Literature, she worked professionally in theater and wrote and recorded two musical albums. She then returned to school to study engineering, earning a B.S. in Civil Engineering from Rutgers University in 2011. While completing her degree at Rutgers, she wrote and arranged the music and lyrics for a stage musical in collaboration with a Los Angeles based playwright. Dr. Wood went on to earn a Master of Science in Engineering in Environmental and Water Resources Engineering and a Ph.D. in Civil Engineering from The University of Texas at Austin. Her love of teaching has grown through fifteen years of private tutoring, three years of teaching summer drama classes to teenagers, and her years as a teaching assistant at UT Austin. She has published research papers in incentivizing decentralized sanitation and wastewater treatment, sustainability analysis of coastal community water and sanitation service options, and automated data acquisition for integrating multiple datasets using GIS applications proceedings.

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2. **Dr. Diana S. Dabby** - Franklin W. Olin College of Engineering

Dr. Diana Dabby has taught at MIT, Tufts and Juilliard, and holds degrees in music and electrical engineering from Vassar, Mills, C.C.N.Y., and MIT. She is the Music Program Director and Electrical Engineering faculty at Olin where she teaches orchestration, composition, performance and signal processing, as well as interdisciplinary courses connecting art and science. In her doctoral research at MIT, Dabby combined music and engineering by devising a chaotic mapping for musical variation, as featured on NPR member station WBUR (2004), NPR's Weekend Edition (2007), in Science (2008) and the Boston Globe (2013). Her work has also been presented at a number of invited concert/lectures sponsored by the National Association of Schools of Music, MIT, Princeton, Cornell, Dartmouth, Union, IEEE, FIRST Place of New Hampshire, New Horizons in Science, the International Conference on Complex Systems, Christopher Newport University, and Harvard. A new web app, Cantovario, is currently under development with the MIT Venture mentoring Service (VMS) program. The app incorporates her algorithms for creating musical variations of original works. Awarded three patents, this work was selected for MIT's VMS Demo Day 2014, Entrepreneurial Edge Showcase 2017, and Innovation Corps 2018.

3. **Dr. Helen Donis-Keller** - Franklin W. Olin College of Engineering

Dr. Donis-Keller, Professor of Biology and Art and Michael E. Moody Professor has been a faculty member at Olin College since 2001. She has developed and currently teaches a project-based course called the Integration of Biology, Art and Technology (IBAT) that fully integrates the arts with science and technology. She also teaches a course called The Visual Eye that is about visual communication and utilizes photography as the creative medium. Writing figures prominently in this course, which is designed for first year engineering students. Prior to her association with Olin College she was Professor of Surgery and Genetics at Washington University School of Medicine in St. Louis, MO and was active in the biotechnology industry. She received a bachelor's degree in Biology from Lakehead University in Thunder Bay, Ontario, a Ph.D. in Biochemistry and Molecular Biology from Harvard University in Cambridge, MA and a master's degree in Studio Art from the School of the Museum of Fine Arts in Boston and Tufts University in Medford, MA.

CEED Session Details

Wednesday, June 19 9:45 AM to 11:15 AM - Room 13, Tampa Convention Center

DISTINGUISHED LECTURE:
Social Disruption of Emerging Technologies & Implications for Engineering Education

Sponsoring Divisions: Cooperative and Experiential Education Division, Civil Engineering Division, Multidisciplinary Engineering Division, and Engineering Economy Division

Given the recent focus on emerging technologies, the anticipated shift in engineering education is toward a more socially-relevant, outward-facing engineering curricula. Such curricula emphasize multidisciplinary learning, societal impact, experiential learning (within and outside of the traditional classroom), and a global mindset. The discussion will introduce the ethical, legal, and social impacts of autonomous vehicles and include an overview of some of the following topics: privacy, security, licensing, infrastructure, mixed automation, workforce disruption, economic impact, failure with human takeover, safety, and ethical deployment of automated vehicles.

The session will focus on the values of a liberal arts education in developing solutions for 21st century emerging technologies, particularly the implications associated with a driverless future. Relevant topics, including, but not limited to the following, will be addressed:
- Growth in driverless technologies
- Explosion of data-driven software development
- Innovation in vehicle design (electric, composite bodies that are 3D printed)
- Societal disruption involving vehicle ownership/parking, auto industry employment, privacy, and business models

Speaker:

Mr. Barry Einsig

Barry Einsig is a Principal of CAVita, responsible for business development and execution of the strategic advisory programs. Einsig will work closely with Econolite President & COO and CAVita Principal Abbas Mohaddes, and CAVita Principal Peter Sweatman. Einsig joins CAVita following six years with Cisco Systems, Inc., where he was an executive responsible for global automotive and transportation solution development. Einsig helped launch Cisco's leading innovative solutions in several new markets, including connected and automated vehicle, rail, roadways, and mass transit. Prior to Cisco Systems, Einsig was the Director of Transportation/Strategic Development for Harris Corp. (Washington D.C.) where he was one of the founding members of the Broadband team to lead the company into the LTE market. While at Harris, Einsig received a patent for the use of video over LTE networks. He is a member of Singapore CARTS Committee focused on Connected and Highly Automated vehicle systems. He has worked globally with customers in all modes of transportation, including: Network Rail, Deutsche Bahn, Dallas Fort Worth Airport, Port of Hamburg, SFMTA, Transport For London, BNSF, WMATA, AMTRAK, DART, PA Turnpike, TMR Australia, Metrolinx Toronto. Einsig is a published authority on ITS, infrastructure systems, and connected vehicle applications. He holds a Bachelor of Science from Juniata College (Huntingdon, PA).

Future Events

ASEE Annual Conference & Exposition

- 2020 | JUNE 21-24 | MONTRÉAL, QUÉBEC, CANADA
- 2021 | JUNE 27-30 | LONG BEACH, CA
- 2022 | JUNE 26-29 | MINNEAPOLIS, MN
- 2023 | JUNE 25-28 | BALTIMORE, MD

Conference for Industry and Education Collaboration (CIEC)

- 2020 | HILTON ORLANDO LAKE | ORLANDO, FL
- 2021 | HYATT REGENCY OC | GARDEN GROVE, CA
- 2022 | PHOENIX MARRIOTT | PHOENIX, AZ
- 2023 | EMBASSY SUITES | NORTH CHARLESTON, SC

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