

130TH ASEE ANNUAL CONFERENCE AND EXPOSITION

June 25 - 28, 2023 | Baltimore Convention Center, MD

WORKSHOPS

Sunday, June 25, 2023, 1:00 pm to 3:30 pm, Baltimore Convention Center

U457A: Faculty Development for Infusing Diversity, Equity, and Inclusion into Engineering Curricula and Faculty Review for ABET Accreditation, Room 319

This session will engage faculty developers and administrators in meaningful reflections and ideation about how to help faculty develop curricula that incorporate diversity, equity, and inclusion (DEI) principles, and understand DEI at their universities. The intended audience includes faculty developers and administrators seeking strategies and tools for curriculum development and personal understanding of DEI.

Facilitators will provide information and strategies gained from their experiences, followed by activities where participants consider mechanisms to apply what they learned to their institutional contexts. The session will:

- 1) Describe and discuss a 2022 BIG10+ conference about ABET, DEI, and the strategies developed there.
- 2) Share strategies for more effective teaching and assessment of both the teamwork and ethics outcomes through cases infused with identity/DEI challenges.
- 3) Share strategies for faculty development, including approaches for incorporating DEI into annual evaluation, promotion, tenure, merit raise, and other evaluative processes for meeting ABET criteria.

Dr. Karen A. High, Dr. Laura Ruth Grossenbacher, Dr. Sarah E. Zappe, Dr. Fatima Alleyne

[REGISTER](#)

U457B: Inspiring Student Engagement by Harnessing the Power of Feedback Loops, Room 320

This workshop will show instructors how to leverage good feedback practices in their classrooms to improve student engagement with a course and its content. It will cover all aspects of a complete feedback loop — both instructional team to students, and students to instructional team — and connect feedback practices in this loop to empirical research about student learning, motivation, and engagement. Activities consist of three modules, focusing on similar structures: providing feedback from the instructional team to students; receiving and processing feedback from students; and synthesizing outcomes and reflections from the first two modules, with the goal of collaboratively developing strategies and best practices that will inspire student engagement.

Dr. Tameka Clarke Douglas, Dr. Michelle Soledad, Dr. Cassandra Wallwey

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U457C: Current Developments in Engineering Pedagogy: Updated IGIP Prototype Curriculum and Certification to Ensure Effective Engineering Teaching, Room 318

The 4th Industrial Revolution is bringing a significant transformation in the development of education. At least three essential elements of this transformation process have to be tackled, especially in engineering education:

- The impact of globalization on all areas of human life;
- The exponential acceleration of developments in technology and the global markets, and the necessity for flexibility and agility;
- The enormous (and accelerated) growth of engineering.

To face these real-world challenges, higher engineering education must find innovative ways to respond quickly to the new needs. One approach is to improve the qualifications of engineering educators in pedagogy.

The International Society for Engineering Pedagogy (IGIP) has been developing and promoting the ideas of engineering pedagogy as a branch of professional pedagogy for 50 years and offers an international professional development program for engineering and engineering technology educators that leads to the designation of Ing.Paed.IGIP and corresponding professional registration. The program is based on the scientific principles of engineering pedagogy that enable effective teaching engineering.

Traditionally, the IGIP program has been offered in Europe through a network of IGIP-accredited training centers and content providers. Continuing globalization and a lack of national professional faculty development and recognition programs in many other parts of the world, have created increased interest in opportunities to become a formally qualified and registered professional international educator. In response, IGIP and its partners are now active in Latin America and the U.S. Development of a shared modular online curriculum is the vision.

This workshop will cover:

- Historical and current reasons for an IGIP Prototype Curriculum for Engineering Educators
- The new IGIP Prototype Curriculum and its scientific basis
- How to apply for IGIP Certification as International Engineering Educator – Ing.Paed.IGIP
- Roundtable discussion

Prof. Michael E. Auer, Tiia Rüttnann, Dr. Eleonore Lickl, Dr. Homero Murzi

[REGISTER](#)

SPECIAL SESSIONS

Sunday, June 25, 2023, 1:00 pm to 3:30 pm, Holiday 3, Hilton Baltimore Inner Harbor

- **U457D: Project-Based Teaching in Engineering**

Project-Based Learning (PjBL) has been widely used in engineering classrooms at all levels with varying yet consistently positive results. Gains in learning, critical thinking, teamwork, and communication skills are some of the aspects typically documented in educational literature as benefits of PjBL courses.

This approach highlights PjBL as experienced by students, but this workshop will explore PjBL from the perspective of faculty teaching such courses: Project-Based Teaching (PjBT).

The presenters would love to hear from those who teach PjBL engineering courses! Whether teaching in first-year or capstone design courses, your experience and questions will be valued here.

Those with no experience with PjBL who want to develop skills for facilitating it are also welcome.

Dr. Benjamin Chambers, Dr. Jennifer Benning, Dr. Juan David Ortega, Matthew James, Dr. Natalie Van Tyne

[REGISTER](#)

Monday, June 26, 2023, Ruth, Hilton Baltimore Inner Harbor

- **M357: Incorporating Inclusive and Equitable Practices in Engineering Courses Using the PIPES Menu and Decision Matrix, 11:00 am to 12:30 pm**

This special session will introduce the the PIPES Inclusive Practices Menu and Decision Matrix, which have been developed as a National Science Foundation-IUSE funded project. Most engineering instructors would consider creating a more inclusive classroom environment as a goal aligned with personal, department, school, and university priorities. These tools are designed to provide lists and examples of evidence-based practices and guidance for deciding which practice will fit best in a course, helping instructors to overcome inclusive and equitable implementation barriers.

Participants will be introduced to the PIPES Inclusive Practices Menu and Decision Matrix and receive guidance about how to use these tools to center equitable and inclusive practices in their course design. Participants should leave with a plan for modifications to a course that will support creating a more inclusive environment.

Dr. April Dukes, Miss Jessica Moriah Vaden

[REGISTER](#)

- **M457: Faculty Development for Culturally Responsive Mentoring of Graduate and Undergraduate Students in Research: Challenges and Strategies, 1:30 pm to 3:00 pm**

This is an interactive, facilitated dive into faculty development of culturally responsive mentoring undergraduate and graduate research students. Faculty developers will engage in reflections and ideation about how they could help faculty foster healthier, more robust mentoring approaches to improve the research self-efficacy of their students. Faculty developers seeking strategies and tools for facilitating productive, culturally responsive mentorship of both undergraduate and graduate research students are invited.

Dr. Karen High, Mrs. Jennifer Brown, Randi Sims

[REGISTER](#)

Wednesday, June 28, 2023, Hilton Baltimore Inner Harbor

- **W357: Meet the Authors and Editors: Handbook of STEM Faculty Development, 11:00 am to 12:30 pm, Latrobe**

This session will examine holistic STEM faculty development through engagement with the Handbook of STEM Faculty Development, organized by the co-editors of the Handbook. Chapter authors will be available for discussion of implications of their work.

The handbook has three themes:

- 1) Inputs to STEM faculty development;
- 2) Mechanisms for STEM faculty development;
- 3) Outputs from STEM faculty development.

The handbook provides STEM stakeholders with an opportunity to share studies and/or experiences that explore STEM faculty development (FD) in higher-education settings. Faculty developers and researchers who want to understand more about STEM faculty development and develop strategies to integrate into their own institutions and research programs are invited to attend.

Facilitators and chapter authors will collaborate with participants to develop strategies for their universities.

Dr. Karen A. High, Dr. Cindy M. Lee, Dr. Shannon K. Stefl, Dr. Sandra Linder

[REGISTER](#)

- **W457: Guidelines for Equitable Faculty Hiring Based on Research and Practice, 1:30 pm to 3:00 pm, Latrobe**

This session will provide a research- and practice-informed approach to equitable faculty hiring that will be of value to faculty search committee members, chairs, department and institutional leadership, and any faculty who engage in the search process. Conference attendees who are interested in learning about the (often mysterious) tenure-track faculty search process (e.g., graduate students, postdocs) can benefit.

Learning outcomes include:

1. Understand how the equitable hiring roadmap can help search committees reduce bias and enable a fairer search.
2. Identify attendees' institutional values and faculty hiring processes.
3. Provide a framework for attendees to evaluate their own institutional values and faculty hiring processes to identify opportunities for or barriers to equitable hiring.
4. Create a plan for attendees to enact change in their institutions' and departments' faculty hiring processes based on best practices and research.

Dr. Elizabeth Cosgriff-Hernandez, Dr. Gabriella Coloyan Fleming

[REGISTER](#)

- **W557: Supporting Engineering Student Mental Health and Wellness, 3:15 pm to 4:45 pm, Ruth**

While mental health concerns are not unique to engineering students, national data show that engineers are less likely to seek help, which can lead to escalation of symptoms. By promoting mental health and wellness in the classroom, faculty can help normalize discussions about mental health and promote a culture of wellness in engineering.

This session will help attendees:

- 1) Define the current state of research on mental health in engineering.
- 2) Recognize and respond to students who are in mental health distress.
- 3) Implement research-based strategies for integrating mental health into the classroom.

It will include a summary of the literature on mental health in engineering and how it was impacted by the Covid-19 pandemic.

To create an environment that is more supportive of student wellness, participants will receive tangible ideas for how they can integrate mental health and wellness into the classroom. This session will motivate faculty to take steps toward developing classroom environments that promote mental health and wellness as a priority, which will shift the needle from a culture of stress to a culture of well-being in engineering.

Dr. Karin Jensen, Dr. Sarah A. Wilson

[REGISTER](#)

PANELS

Monday, June 26, 2023, 3:15 pm to 4:45 pm, Baltimore Convention Center

- **M515: Faculty Leadership (with the Electrical and Computer Engineering Division), Room 307**

The ASEE Electrical and Computer Engineering Division, Faculty Development Division, and IEEE Educational Activities Board Faculty Resources Committee will present a hybrid panel aiming at providing insights about and skills of engineering faculty leadership. The panelists represent academic leadership roles in engineering disciplines. Participants will learn leadership knowledge and critical skills to prepare them for their careers in the future. The panel has the potential to provide participants with an academic network.

[REGISTER](#)

- **M557: Sharing the Stories of Engineering Faculty with ADHD to Create More Inclusive Academic Environments, Room 336**

In the broader literature, there has been a move to more asset-based approaches to understanding people with Attention Deficit Hyperactivity Disorder (ADHD). Research shows that, compared to neurotypical individuals, those with ADHD often have greater resiliency, tend to be more creative and innovative, and are capable of achieving intense focus when engaging in high-interest activities and tasks. Individuals who demonstrate these positive attributes may be especially suited for positions as engineering faculty, since these are exemplary faculty traits. This session will provide an opportunity for engineering faculty who have ADHD to share their

stories and for the broader ASEE community to begin to identify characteristics of an inclusive academic environment designed to help faculty with ADHD thrive.

Dr. Cindy Finelli, Dr. Nadia N. Kellam, Dr. Robin Fowler, Dr. Arash Esmaili Zaghi P.E.

[REGISTER](#)

Tuesday, June 27, 2023, 1:30 pm to 3:00 pm, Room 333, Baltimore Convention Center

T459C: More Teaching to Transgress in Computing: Creating Identity-Inclusive Computing Experiences in K-16 Computing Education (with the Equity, Culture, & Social Justice in Education Division) with Dr. Briana C. Bettin [REGISTER](#)

While many K–16 interventions exist to broaden participation in computing, they often center on students from historically excluded groups (based on race, ethnicity, class, ability, sexuality, and their intersections) and their perceived deficits ([such as a lack of access to computer science [CS] courses, role models, computational/critical-thinking skills, and self-efficacy), while ignoring the people, policies, and practices affecting them.

Successfully broadening participation requires that everyone, especially those from dominant identities, learn identity-inclusive computing (that is, how identity affects and is affected by computing). This requires K–16 educators who not only understand identity-inclusive computing, but also are comfortable with engaging students in the classroom while accurately and effectively teaching these important topics.

It is important to consider educator fears with respect to shifting paradigms. Thus, programs that provide the opportunity to express these concerns while learning to create/lead identity-inclusive activities are a necessary part of departmental/institutional transformation. The Cultural Competence in Computing (3C) Fellows program (developed in the 2020–2021 academic year and rooted in hooks’s practices) was a pilot to provide space and place for current and future CS educators to understand identity, privilege, intersectionality, bias, discrimination, and oppression; identify academic policies and practices impeding the academic success of students and colleagues from historically excluded identities; and develop identity-inclusive courses, modules, and other activities at their organizations.

This two-year, virtual, cohort-based professional development (PD) program provides an opportunity to discuss, reflect, and (un)learn while working within and across organizations to create more equitable and inclusive environments.

This panel convenes four 3C Fellows from the first two cohorts to discuss their experiences in developing and leading identity-inclusive courses and activities. The goals of this panel are to: 1) define identity-inclusive computing, 2) understand the importance of (un)learning and community in doing this work, and 3) explain the benefits of every (future) K–16 CS and STEM educator doing this work to effectively engage and educate students.

By the end of this panel, the audience will be able to identify strategies to build cultural competence in their courses and departments. This work contributes to the original creation of the ECSJ division, as defined by Dr. Stephen Secules: “the need to center topics such as culturally responsive pedagogy, critical analyses of dominant cultures, and opportunities for faculty to learn about equity.” The panel aligns specifically with the “Equitable practice” pillar of ECSJ, because each panelist will discuss curricula and other activities that have been used to develop student cultural competence, in the wake of the continued improvement of their own.

POSTER SESSION

Monday, June 26, 2023, 9:15 am to 10:45 am, Exhibit Hall ABCD, Baltimore Convention Center - [LEARN MORE](#)

- 1. Board 111: A Systematic Review of Instruments Used to Evaluate the Effectiveness of the Entering Mentoring Curriculum** [\[view paper\]](#)
Ms. Ha Pho (University of Massachusetts Lowell), Dr. Yanfen Li (University of Massachusetts Lowell), and Hsien-Yuan Hsu (University of Massachusetts Lowell)
- 2. Board 112: Creating an Institutional Culture of Empowering Faculty for Student-centered Learning through a Pilot Program** [\[view paper\]](#)
Dr. Sally J. Pardue (Tennessee Technological University), Dr. Kumar Yelamarthi (Tennessee Technological University), Mrs. Taylor Chesson (Tennessee Technological University), Dr. Lenly J. Weathers (Tennessee Technological University), Dr. J.W. Bruce (Tennessee Technological University), and Dr. Joseph C. Slater P.E. (Tennessee Technological University)
- 3. Board 113: Engineering Faculty's Academic Influence on Student Persistence: Faculty Use, Knowledge, and Comfort in Providing Encouragement to Students** [\[view paper\]](#)
Ms. Rachel Ziminski (University of Massachusetts Lowell) and Dr. Yanfen Li (University of Massachusetts Lowell)
- 4. Board 115: LESSONS LEARNED: A 360 Degree Review of Faculty Development Resources** [\[view paper\]](#)
Dr. Randy McDonald (Texas A&M University), Lani Draper (Texas A&M University), Dr. Sunay Palsole (Texas A&M University), and Sandra R. Childers (Texas A&M University)
- 5. Board 117: WIP: Exploring the Teaching Journey of Early-career Engineering Faculty** [\[view paper\]](#)
Mr. Marcus Vinicius Melo de Lyra (Arizona State University), Dr. Adam R. Carberry (Arizona State University), Dr. Samantha Ruth Brunhaver (Arizona State University), and Dr. Jennifer M. Bekki (Arizona State University)
- 6. Board 116: Lessons Learned: Building Our Capacity to Engage in Engineering Education Research** [\[view paper\]](#)
Dr. John Sangster (Northeastern University), Dr. Andrew L. Gillen (Northeastern University), and Dr. Aileen Huang-Saad (Northeastern University)

TECHNICAL SESSIONS

[M357B: Faculty Development Division \(FDD\) Technical Session 1](#)

Mon. June 26, 2023 11:00 AM to 12:30 PM

Room 336, Baltimore Convention Center

- 1. Work in Progress: Certification and Training for Robot and PLC Integration** [\[view paper\]](#)
Dr. Iftexhar Ibne Basith (Sam Houston State University), Vajih Khan (Sam Houston State University), Dr. Faruk Yildiz (Sam Houston State University), Abdulhamid Zaidi (Affiliation unknown), Dr. Suleiman Obeidat (Sam Houston State University), and Prof. Sumith Yesudasan (Sam Houston State University)
- 2. The CS POGIL Activity Writing Program** [\[view paper\]](#)
Dr. Helen Hu (Westminster College of Salt Lake City), Tricia D. Shepherd (Affiliation unknown), Dr. Clifton L. Kussmaul (Green Mango Associates, LLC), and Dr. Patricia B. Campbell (Campbell-Kibler Associates)
- 3. The Teaching Portfolio and Peer Review of Teaching** [\[view paper\]](#)
Dr. W. Vincent Wilding (Brigham Young University), Jennifer Ramsey (Brigham Young University), Richard Swan (Brigham Young University), and Tina M. Taylor (Affiliation unknown)
- 4. Understanding Environmental Factors in Academic Honesty Awareness Towards a Better Interpretation of Plagiarism via Turnitin Similarity Scores** [\[view paper\]](#)
Dr. Mireia Perera-Gonzalez (Northeastern University) and Dr. Shiaoming Shi (Northeastern University)

5. **Empowering Faculty Members through Mooc in Techno-Pedagogical Content** [\[view paper\]](#)
Dr. K.S.A. Dinesh Kumar (National Institute of Technical Teachers Training and Research, Chennai, India), Dr. Janardhanan Gangathulasi (National Institute of Technical Teachers Training and Research, Chennai, India), and Dr. Shanmuganeethi Velu (National Institute of Technical Teachers Training and Research, Chennai, India)

[M457B·Faculty Development Division \(FDD\) Technical Session 2](#)

Mon. June 26, 2023 1:30 PM to 3:00 PM

Room 336, Baltimore Convention Center

1. **Faculty Perceptions of Diversity Statements in STEM Faculty Job Applications** [\[view paper\]](#)
Dr. Torrie Cropps (University of Texas, Dallas), Dr. Yvette E. Pearson, P.E. (University of Texas, Dallas), Jue Wu (University of California, Berkeley), Ms. Samara Rose Boyle (Rice University), and Dr. Canek Moises Luna Phillips (Rice University)
2. **Navigating Faculty Identity Development through the Tenure and Promotion Process as Black and Hispanic Engineering Faculty** [\[view paper\]](#)
Dr. Maria L. Espino (University of South Carolina), Mr. Brian D. Le (University of California, Los Angeles), Dr. Henry Tran (University of South Carolina), and Dr. Spencer Platt (University of South Carolina)
3. **The Hidden Curriculum. Navigating Promotion and Tenure at University of Delaware** [\[view paper\]](#)
Dr. Robin Andreasen (University of Delaware), Dr. Heather Doty (University of Delaware), and Dr. Shawna Vican (University of Delaware)
4. **Peer Observation Practice to Enhance Inclusive Teaching: An Exploratory Approach to Evaluate Faculty Perceptions** [\[view paper\]](#)
Dr. Sarira Motaref, P.E. (University of Connecticut), Dr. Mousumi Roy, P.E. (University of Connecticut), and Dr. Maria Chrysochoou (University of Connecticut)
5. **Nuestro Impacto: An Insider Look into the Connections between Our Past Experiences and Current Teaching and Mentoring Practices** [\[view paper\]](#)
Dr. Idalis Villanueva Alarcón (University of Florida), Dr. Laura Melissa Cruz Castro (University of Florida), Dr. John Alexander Mendoza (University of Florida), Dr. Edward Latorre-Navarro (University of Florida), Mr. Diego Alvarado (University of Florida), and Dr. Lilianny Virguez (University of Florida)

[M557B·Faculty Development Division \(FDD\) Technical Session 3](#)

Mon. June 26, 2023 3:15 PM to 4:45 PM

Room 347, Baltimore Convention Center

1. **Inclusive Course Design Checklist: A Living Document for Faculty to Create Inclusive Classrooms** [\[view paper\]](#)
Dr. Swetha Nittala (Uber Technologies), Dr. Sheri Sheppard (Stanford University), and Dr. Helen L. Chen (Stanford University)
2. **Addressing New ABET General Criteria Focusing on Diversity, Equity, and Inclusion** [\[view paper\]](#)
Dr. Gary Lichtenstein (Arizona State University), Dr. Rocio C. Chavela Guerra (Rowan University), Dr. Stephanie Cutler (Pennsylvania State University), Dr. Ivan E. Esparragoza (Pennsylvania State University), and Dr. Sarah E. Zappe (Pennsylvania State University)
3. **"Say It Anyhow You Can": Unpacking How Engineering Faculty Members Approach Culturally Relevant Engineering Education at an Iraqi University** [\[view paper\]](#)
Moses Olayemi (Purdue University, West Lafayette), Prof. Jennifer Deboer (Purdue University, West Lafayette), and Mohammad Javad Ahmadi (Affiliation unknown)
4. **What Is Intercultural Communication Competence and Why We Need to Talk About It: A Call for Awareness among STEM Faculty** [\[view paper\]](#)

Camila Olivero-Araya (The Ohio State University), Dr. Julie P. Martin (The Ohio State University), and Micah Organ (Affiliation unknown)

5. **Lessons Learned: Designing an Empathy Workshop for Engineering Faculty to Promote Equity-Focused Teaching** [\[view paper\]](#)

Dr. Linjue Wang (University of Michigan)

[T457: Faculty Development Division \(FDD\) Technical Session 4](#)

Tue. June 27, 2023 1:30 PM to 3:00 PM

Room 344, Baltimore Convention Center

1. **A Professional Development Program for Emerging STEM Education Researchers** [\[view paper\]](#)

Shams El-Adawy (Kansas State University), Christopher Hass (Affiliation unknown), Eugene Y. Vasserman (Kansas State University), Dr. Mary Bridget Kustus (DePaul University), Dr. Scott Franklin (Rochester Institute of Technology), and Dr. Eleanor C. Sayre (Kansas State University and Rochester Institute of Technology)

2. **Evaluation of a Postdoctoral Early Career Fellowship Program Developing Future Faculty Members** [\[view paper\]](#)

Sydni Alexa Cobb (University of Texas, Austin), Audrey Boklage (University of Texas, Austin), Dr. Maura Borrego (University of Texas, Austin), and Lydia Contreras (Affiliation unknown)

3. **A Mind Map for Active Learning Techniques** [\[view paper\]](#)

Dr. Andrew L. Gerhart (Lawrence Technological University)

4. **Redesigning the Course and Teacher Ratings: Methods, Outcomes, and Lessons Learned** [\[view paper\]](#)

S. Stavros Valenti (Hofstra University), Kevin Patrick Nolan (Hofstra University), and Dr. Lynn A. Albers (Hofstra University)

5. **Lessons Learned: Faculty Search Committees' Attitudes Towards and Against Rubrics** [\[view paper\]](#)

Dr. Gabriella Coloyan Fleming (University of Texas, Austin)

[T557: Faculty Development Division \(FDD\) Technical Session 5](#)

Tue. June 27, 2023 3:15 PM to 4:45 PM

Room 327, Baltimore Convention Center

1. **Work In Progress: The Benefits and Challenges of Faculty Development through Interdisciplinary Public Outreach** [\[view paper\]](#)

Cassandra Wallwey (Virginia Tech), Dr. Renee M. Desing (Oregon State University), and Dr. Rachel Louis Kajfez (The Ohio State University)

2. **Innovation Training and Its Impact on Faculty Approach to Curricular and Pedagogical Changes** [\[view paper\]](#)

Prof. Arun R. Srinivasa (Texas A&M University), Rujun Gao (Texas A&M University), Prof. M. Cynthia Hipwell (Texas A&M University), Dr. Mindy Bergman (Texas A&M University), David Christopher Seets (Affiliation unknown), Emma Edoga (Texas A&M University), Luis Angel Rodriguez (Affiliation unknown), and Guillermo Aguilar (Texas A&M University)

3. **Faculty Development by Design** [\[view paper\]](#)

Dr. Kathryn Dimiduk (Cornell University)

4. **A Qualitative Exploration of Resource-Related Barriers Associated with EBIP Implementation in STEM Courses** [\[view paper\]](#)

Jeff Knowles (Oregon State University), Dr. Amy L. Brooks (Oregon State University), Elliott Clement (Oregon State University), Dr. Prateek Shekhar (New Jersey Institute of Technology), Dr. Shane A. Brown, P.E. (Oregon State University), and Mustafa Aljabery (Oregon State University)

5. **Faculty Workshop on Teaching Sustainability** [\[view paper\]](#)

Prof. Elisabeth Smela (University of Maryland College Park), Dr. Vincent Nguyen (University of

Maryland, College Park), Dr. David Isaac Bigio (University of Maryland, College Park), Dr. Natasha Andrade (University of Maryland, College Park), Dr. Nicole Farkas Mogul (University of Maryland, College Park), Dr. David Tomblin (University of Maryland, College Park), and Andrew Elby (University of Maryland, College Park)

[T257B-Faculty Development Division \(FDD\) Technical Session 6](#)

Tue. June 27, 2023 9:15 AM to 10:45 AM

Room 343, Baltimore Convention Center

1. **Facilitating Engineering Faculty Mentorship with a Focus on the Entrepreneurial Mindset** [\[view paper\]](#)
Dr. Lindy Hamilton Mayled (Arizona State University), Dr. Ann F. McKenna (Arizona State University), Dr. Adam R. Carberry (Arizona State University), Dr. Jennifer M. Bekki (Arizona State University), Julianne L. Holloway (Arizona State University), and Dr. Samantha Ruth Brunhaver (Arizona State University)
2. **Engineering Faculty Professional Development: Scholarship of Teaching and Learning (SOTL) Dissemination for Curriculum Integrating Entrepreneurial Mindset, STEAM, and Bio-Inspired Design** [\[view paper\]](#)
Dr. Lisa Bosman (Purdue University at West Lafayette), Dr. Katey Shirey (eduKatey LLC, STEAM Education Services), Dr. Alejandra J. Magana (Purdue University, West Lafayette), and Dr. Nathalie Duval-Couetil (Purdue University, West Lafayette)
3. **Work in Progress: Self-Starter Faculty Learning Community to Implement Entrepreneurially-Minded Learning (EML) Micromoment Activities** [\[view paper\]](#)
Dr. Erick S. Vasquez (University of Dayton), Dr. Megan Morin (ASHLIN Management Group), Vinayak Vijayan (University of Dayton), and Dr. Timothy Reissman (University of Dayton)
4. **Work in Progress: How to Get Faculty to Use and Leverage Makerspaces in Their Courses — A Peer-To-Peer Mentoring Model** [\[view paper\]](#)
Dr. Maria-Isabel Carnasciali (University of New Haven), Enakshie Prasad (Affiliation unknown), Eric Marcus (University of New Haven), Dr. Stephanie M. Gillespie (University of New Haven), and Joseph Smolinski (Affiliation unknown)
5. **Unpacking Engineering Faculty's Discrepant Views of Mentoring through the Lens of Attachment Theory** [\[view paper\]](#)
Mrs. Jennifer Hadley Perkins (Arizona State University), Dr. Samantha Ruth Brunhaver (Arizona State University), and Dr. Adam R. Carberry (Arizona State University)

[T357-Faculty Development Division \(FDD\) Technical Session 7](#)

Tue. June 27, 2023 11:00 AM to 12:30 PM

Room 343, Baltimore Convention Center

1. **Conceptual Framework for Empathy as a Teaching Practice in Engineering Education** [\[view paper\]](#)
Dr. Kate Youmans (Colorado School of Mines)
2. **Self-Reported Emotions of Engineering Instructors During and After a Sudden Change** [\[view paper\]](#)
Dr. Grace Panther (University of Nebraska, Lincoln), Prof. Heidi A. Diefes-Dux (University of Nebraska, Lincoln), and Mrs. Katie Mowat (University of Nebraska, Lincoln)
3. **Post-Pandemic Faculty Motivation: Causes for Burnout Offset by Motivation or Hygiene Factors** [\[view paper\]](#)
Mr. Veto Matthew Ray (Indiana University - Purdue University, Indianapolis), Dr. Brandon Sorge (Indiana University - Purdue University, Indianapolis), Dr. Katrenia Reed Hughes (Indiana University - Purdue University, Indianapolis), Kevin Rose (Affiliation unknown), and Carol Rownd (Affiliation unknown)
4. **A Measure of Engineering Instructors' Adaptability Based on Cognitive, Behavioral, and Emotional Dimensions** [\[view paper\]](#)

Prof. Heidi A. Diefes-Dux (University of Nebraska, Lincoln), Dr. Grace Panther (University of Nebraska, Lincoln), and Kayla Osen (Affiliation unknown)

[T357B: Faculty Development Division \(FDD\) Technical Session 8](#)

Tue. June 27, 2023 11:00 AM to 12:30 PM

Room 313, Baltimore Convention Center

1. **Leveraging Faculty Externship to Develop New Concentrations and Specializations in Construction Management Curricula** [\[view paper\]](#)
Dr. John Cribbs (Wentworth Institute of Technology), Dr. Hariharan Naganathan (Wentworth Institute of Technology), Christopher O'Neil (Affiliation unknown), and Mr. Michael J. D'Agostino (Wentworth Institute of Technology)
2. **Developing a Grounded Framework for Implementing Ungrading in a Disciplinary Context** [\[view paper\]](#)
Dr. Sarah Marie Coppola (University of Washington) and Dr. Jennifer A. Turns (University of Washington)
3. **Case Study: Encouraging Faculty Adoption of New Grading Software** [\[view paper\]](#)
Dr. Ben Mertz (Rose-Hulman Institute of Technology), Mr. Curtiss Larry Davis II (Rose-Hulman Institute of Technology), Daniel Tetteh-Richter (Affiliation unknown), and Dr. Kay C. Dee (Rose-Hulman Institute of Technology)
4. **Work in Progress: Development of an Innovative Undergraduate Engineering Academic Advising Model** [\[view paper\]](#)
Margaret Ruth Hammond (Pennsylvania State University) and Dr. Christine B. Masters (Pennsylvania State University)
5. **Work in Progress: The Antigua Forum Format: Increasing Information Flow for Increased Pedagogical Innovation**
Prof. M Cynthia Hipwell (Texas A&M University), Mr. Luis Angel Rodriguez (Texas A&M University), Dr. Astrid Layton (Texas A&M University), Prof. Arun R Srinivasa (Texas A&M University), Guillermo Aguilar (Texas A&M University), Dr. Karan Watson P.E. (Texas A&M University), Dr. Mindy Bergman (Affiliation unknown), Rujun Gao (Texas A&M University), and David Christopher Seets (Texas A&M University)

[T457B: Faculty Development Division \(FDD\) Technical Session 9](#)

Tue. June 27, 2023 1:30 PM to 3:00 PM

Room 327, Baltimore Convention Center

1. **Understanding Faculty Perspectives of Interdisciplinary Graduate Programs** [\[view paper\]](#)
Maya Menon (Virginia Tech), Dr. Marie C. Paretto (Virginia Tech), and Margaret Webb (Virginia Tech)
2. **Work in Progress: Let's Play — Improving Our Teaching by Reversing Roles and Being a Learner with Board Games** [\[view paper\]](#)
Dr. Peter Jamieson (Miami University), Dr. Eric James Rapos (Miami University), and Nathaniel Bryan (Affiliation unknown)
3. **WIP: Faculty Use of Metaphors When Discussing Assessment** [\[view paper\]](#)
Amanda Ross (Virginia Tech), Dr. Andrew Katz (Virginia Tech), Dr. Holly M. Matusovich (Virginia Tech), and Kai Jun Chew (Embry-Riddle Aeronautical University)
4. **Work in Progress: Creating Effective Prompts for "Teaming" Sessions** [\[view paper\]](#)
Dr. Jennifer A. Turns (University of Washington), Dr. Yen-Lin Han (Seattle University), Dr. Kathleen E. Cook (Seattle University), Dr. Gregory Mason, P.E. (zyBooks, A Wiley Brand), and Dr. Teodora Rutar Shuman (Seattle University)
5. **Training Faculty on Mentoring Students in Higher Education in Post-Pandemic World** [\[view paper\]](#)
Prof. Renukadevi Selvaraj (The National Institute of Technical Teachers Training and Research (NITTTR) Chennai, India)

[W357B·Faculty Development Division \(FDD\) Technical Session 11](#)

Wed. June 28, 2023 11:00 AM to 12:30 PM

Room 324, Baltimore Convention Center

- 1. Instructor Experiences Teaching Model-Based Systems Engineering Online Modules to Professional Learners** [\[view paper\]](#)
Mr. Leonardo Polletini Marcos (Purdue University, West Lafayette), Ms. Tiantian Li (Purdue University, West Lafayette), Kristin Bartlett (Affiliation unknown), Dr. Wanju Huang (Purdue University, West Lafayette), and Dr. Kerrie A. Douglas (Purdue University, West Lafayette)
- 2. Using Faculty Learning Communities to Create a Sustainable Community of Practice That Promotes Curricular and Instructional Change** [\[view paper\]](#)
Dr. Megan Morin (ASHLIN Management Group), Dr. Richard Goldberg (University of North Carolina, Chapel Hill), and Dr. Bryant Hutson (University of North Carolina, Chapel Hill)
- 3. Rapid Change to Refined Teaching: Lessons Learned and Lasting Impacts the COVID-19 Pandemic Had on How We Teach Engineering** [\[view paper\]](#)
Ms. Boni Frances Yraguen (Georgia Institute of Technology), Adam Steinberg (Affiliation unknown), Dr. Carol Subiño Sullivan (Georgia Institute of Technology), and Lance Matthew Crawford (Affiliation unknown)
- 4. Instructional Development at a Time of Involuntary Changes: Implications for the Post-Pandemic Era** [\[view paper\]](#)
Dr. Qin Liu (University of Toronto, Canada), Dr. Greg Evans (University of Toronto, Canada), Milad Moghaddas (University of Toronto, Canada), and Tamara Kecman (University of Toronto, Canada)
- 5. A Systematic Review of Research on Training Faculty on Well-Being in STEM** [\[view paper\]](#)
Prof. Renukadevi Selvaraj (The National Institute of Technical Teachers Training and Research (NITTTR) Chennai, India) and Subathradevi Subramoniam (Affiliation unknown)

[W457B·Faculty Development Division \(FDD\) Technical Session 12](#)

Wed. June 28, 2023 1:30 PM to 3:00 PM

Room 324, Baltimore Convention Center

- 1. Work in Progress: Examining the Impact of a Faculty Development Program in Engineering Instructors' Teaching Practices and Perceptions on Active Learning Methodologies** [\[view paper\]](#)
Gianina Morales (University of Pittsburgh and Universidad de Valparaiso, Chile) and Ms. Rene Alejandro Noel (Universidad de Valparaiso, Chile)
- 2. Learning in Transition: Developing and Employing Pedagogical Supports to Enhance Student Learning in Engineering Education** [\[view paper\]](#)
Dr. Eleazar Marquez (The University of Texas, Rio Grande Valley) and Dr. Samuel Garcia Jr. (Texas State University)
- 3. Are All 'EBIPs' Created Equal? An Exploration of Engineering Faculty Adoption of Nine Evidence-Based Instructional Practices** [\[view paper\]](#)
Dr. Amy L Brooks (Oregon State University), Jeff Knowles (Affiliation unknown), Elliott Clement (Oregon State University), Dr. Prateek Shekhar (New Jersey Institute of Technology), and Dr. Shane A. Brown, P.E. (Oregon State University)
- 4. Commonality of Failure Modes in New Engineering Program Development** [\[view paper\]](#)
Prof. David Robert Bruce (University of Ottawa, Canada), Dr. James Borrelli (Stevenson University), Gennifer Smith (University of San Francisco), Dr. Michael G. Lerner (Earlham College), and Dr. Anne Raich (DePaul University)
- 5. Work in Progress: Teaching Evaluation Demonstration Project** [\[view paper\]](#)
Dr. Vicki V. May, P.E. (Dartmouth College), Prof. Petra Bonfert-Taylor (Dartmouth College), and Eugene Korsunskiy (Affiliation unknown)