ASEE Rocky Mountain Section Conference 2023

May 15-17, Colorado School of Mines, Golden, CO

Monday, May 15

1:00 PM	**Paper Session 1 (Ballroom D)**	Project-Based Learning Experience: Design, Construction, and Testing of Neutral Buoyancy Bubble Generation Machine	Mr. Blake Brandt, Ms. Melanie Butts, Prof. Abdennour Seibi*, Dr. Matthew Ballard, Dr. Mohammad Shekaramiz
		Work In Progress: Journey Mapping as Means to Illustrate Engineering Identity Development	Dr. Janet Tsai
		Proposal for a New Interdisciplinary Graduate Program Master of Engineering: Lessons learned	Dr. Devi Kalla*, Dr. Zsuzsa Balogh, Dr. Julio Proano, Dr. Jeno Balogh, Dr. Fred Barlow
		Strategy for Integrating Design Codes in Structural Design Lectures	Dr. Hongyan Liu
	Paper Session 2 (Ballroom E)	Crushed Dreams: Faculty Perceptions of Discrepancies Between Engineering Academics and Students' Future Careers	Ms. Alexis Capitano*, Mr. John Cook, Dr. Kathryn Johnson
		Infusing Your Course with Social and Environmental Justice and Ethics Discussions	Dr. Pinar Omur-Ozbek
		Advancing Energy Justice in Power and Energy Systems: A Project-Based Learning Approach	Dr. Salman Mohagheghi
		Approaching Math as a Tool for Engineering: A Bridge into College Engineering	Dr. Angela Bielefeldt*, Mr. Daniel Godrick, Ms. Joan Tisdale, Dr. Melissa Davis
	Workshop 1 (McNeil 213)	Experiential Interdisciplinary Learning through Exploration and Story Telling	Dr. Allison Caster, Dr. Lauren Shumaker, Mr. Christopher Thiry
	Workshop 2 (McNeil 214)	Innovations in Engineering Education Student Panel	Dr. Dean Nieusma, Annie Welch, Sigourney Burch, Emily Robinson, Austin Spaulding, Ashley Turnage
2:30 PM	Break and Refreshments (Ballrooms A&B)		
3:00 PM	**Paper Session 3 (Ballroom D)**	Rethinking Electronics Industry Workforce Development: Case Studies on High School and Middle School Students with Semiconductor Design and Advanced Electronics Prototyping	Mr. Nathan Edwards*, Mr. Steven Kiss, Mr. Carter Grizzle, Mr. Asher Edwards, Ms. Vaanathi Sekar, Mr. John Branning, Mr. Brett Meadows, Mr. Mohamed Kassem, Mr. Michael McGivern
		Meeting Schools Where They Are: Integrating Engineering Outreach Curriculum in the Classroom Without Forcing an Agenda	Mr. Austin Hayes*, Mrs. Vani Sundaram*, Mr. Graham Williams*, Ms. Shreya Venkatesh*, Ms. Claire Isenhart, Mr. Antonio Yervez, Ms. Celesse Myles, Mrs. Vera Sebulsky, Dr. Kaushik Jayaram, Dr. Marina Vance, Dr. Gregory Whiting
		Enhancing Construction Workforce through Joint Education and Industry Efforts: A Collaborative Co-Teaching Model	Mr. John Annor*, Dr. Francois Jacobs
		Comparison of the DIT2 and EERI instruments for assessing the development of ethical reasoning of engineering students	Dr. Joel R. TerMaat*, Dr. Kris Williams, Dr. Christopher D. Wentworth
	Workshop 3 (McNeil 213)	Getting started with engineering education research	Dr. Justin Shaffer
	Workshop 4 (McNeil 214)	Free Oscilloscope!	Dr. Eric Bogatin, Dr. Mona ElHelbawy
5:00 PM	RMS Section Business Meeting (Ballroom D)		
6:00 PM	Welcome Dinner (Ballrooms A&B)		

Tuesday, May 16			
7:30 AM	Breakfast (Ballrooms A&B)		
8:30 AM	Welcome and Keynote #1 - Dr. Tanya Davis Ennis (Ballrooms A&B)		
10:15 AM	**Paper Session 4 (Ballroom D)**	Project-Based Learning of Computational Fluid Dynamics: Challenges and Lessons Learned – A Personal Perspective	Ms. Melanie Butts, Mr. Isaac Manning, Prof. Abdennour Seibi*, Dr. Matthew Ballard, Dr. Mohammad Shekaramiz, Dr. Abolfazl Amin
		Comparing learning outcomes and student experiences in Engineering Math using virtual and physical robots	Mr. Daniel Godrick*, Dr. Angela Bielefeldt, Ms. Rachel Sharpe
		Preliminary Readiness Evaluations to Motivate Improved Exams (PREMIE)	Prof. Kevin Lear*, Ms. Victoria Palmer
		Measure Bode Plots in 5 Minutes	Dr. Eric Bogatin*, Dr. Mona ElHelbawy*
	Workshop 5 (McNeil 213)	Using Concept-Based Instruction to Create an Engaging Classroom Environment	Dr. Brian Self
	Workshop 6 (McNeil 214)	Sociotechnical Integration as Engineering Education Programmatic Foundation	Dr. Dean Nieusma, Dr. Marie Stettler Kleine, Dr. Chelsea Salinas, Dr. Aubrey Wigner, Dr. Elizabeth Reddy, Dr. Yosef Allam
11:45 AM	Lunch (Ballrooms A&B)		
1:00 PM	**Paper Session 5 (Ballroom D)**	Where do we start? Lessons learned from the PI, graduate research assistant, undergraduate researcher, and a community member starting their inter-institutional STEM-focused community-engaged project using PALAR	Dr. Jessica Rush Leeker*, Ms. Lyndsay Ruane*, Ms. Hannah Sanders, Ms. Robertha Richardson
		Enhancing STEM Education with a Global and Interdisciplinary Perspective: Developing and Teaching a Course on Global Water Challenges through an International Collaboration	Dr. Pinar Omur-Ozbek*, Dr. Ketul Popat, Dr. DaeSeok Chai, Dr. Christie Peebles, Dr. Abdulkhakim Salokhiddinov
		Teaching with Heart in Community	Dr. Cortney Holles*, Cynthia James, Dr. Roel Snieder, Dr. Qin Zhu
		The Graduate Student Research Data Bootcamp: A Work in Progress	Prof. Elizabeth Novosel
	Workshop 7 (McNeil 213)	Ungrading for Equity	Ms. Susan Stirrup, Dr. Kate Goodman
	Workshop 8 (McNeil 214)	Leveraging Students' Funds of Knowledge to Build Engineering Identity	Ms. Arielle Rainey
2:30 PM	Break and Refreshments (Ballrooms A&B)		
3:00 PM	**Paper Session 6 (Ballroom D)**	Smartphone-Based Labs for Engineering Vibration Class	Dr. Randy Hurd*, Dr. Dustin Grote
		A Practical Application of Thevenin Circuit Model	Dr. Eric Bogatin, Dr. Mona ElHelbawy
		Teaching Quantum Computer Engineering: Practical Exercises Using the IBM Quantum Experience	Dr. Shellee Dyer
		Multi-Disciplinary Design: Implications for CS and Engineering Pedagogy	Prof. Iris Bahar*, Ms. Ashley Oelrich, Ms. Bridget Griswold, Ms. Eva Goetz
	Workshop 9 (McNeil 213)	(S)TEAM Teaching Environmental Justice	Dr. Paula Farca, Dr. Alina Handorean, Dr. Jurgen Brune
	Workshop 10 (McNeil 214)	Kickstart Discussion: An exploration of student-led campus change	Mr. Fischer Argosino, Ms. Parmida Mahdavi, Prof. Mirna Mattjik
4:45 PM	Poster Session (Ballroom C)		

Wednesday, May 17			
8:00 AM	Breakfast (Ballrooms A&B)		
8:30 AM	Awards and Keynote #2 - Dr. Dean Nieusma (Ballrooms A&B)		
10:15 AM	**Paper Session 7 (Ballroom D)**	Confidence, Identity, and Belonging Among Engineering and Engineering-Interested Students in a First-Year Engineering Design Course	Dr. Angela Bielefeldt*, Ms. Joan Tisdale, Dr. Katherine Ramos, Dr. Mike Soltys
		No Choice but to Succeed: Persistence and Graduation Determinants of First-Generation STEM Students	Dr. Ben Weihrauch
		The Neuroscience Behind the Advice Given to Freshmen College Students	Dr. Dendy Sloan*, Dr. Cynthia Norrgran*
		The Path to Improving the Capstone Course	Dr. Abolfazl Amin*, Dr. Israd Jaafar, Prof. Abdennour Seibi, Dr. Sean Tolman
	Paper Session 8 (Ballroom E)	Airflow Velocity Measurements: A Project-Based Learning Experience	Mr. Kayson Christensen, Mr. Jordan Hunt, Mr. Brayden Parady, Ms. Melanie Butts, Prof. Abdennour Seibi*, Dr. Mohammad Shekaramiz, Prof. Mohammad Masoum
		Grab Your Shovel and Pail: Teaching Civil and Environmental Engineering Concepts Using an Augmented Reality (AR) Sandbox	Mr. Christopher Thiry
		A Framework for Teaching Project Based Structural Engineering Courses	Dr. Paul McMullin
		WARP-SPEED: Increasing engineering student engagement through co-curricular undergraduate research	Prof. Barbra Sobhani*, Dr. Veronica Corral Flores, Dr. Victor Andersen
	Workshop 11 (McNeil 213)	Where to Start?: A Beginner's Guide to Ungrading & Alternative Assessment	Dr. Carter Moulton, Dr. Amy Hermundstad Nave
11:45 AM	Lunch (Ballrooms A&B)		
1:00 PM	Local Excursions		
4:00 PM	Mountain Toad Tour and Happy Hour		

*Presenting author

For details about each presentation and the most up-to-date schedule visit https://aseerms2023.exordo.com/programme