FALL 2023
MIDDLE ATLANTIC
SECTION CONFERENCE

Hosted by

TCNJ Engineering

October 27th - 28th, 2023
10:00 AM - 5:00 PM
Registration and Help Desk
Education 212 (Lobby)

11:00 AM - 12:00 PM
Keynote Address
Education 212

The Perry Initiative: Engineering a Diverse Talent Pipeline in Orthopaedics & Implications for Diversity Efforts in Engineering

Speaker: Jenni Buckley, Distinguished Teaching Award Winner
Moderator: Andrea Welker

12:00 - 12:15 PM
Break

12:15 - 1:15 PM
Lunch
Education 212

1:15 - 1:30 PM
Break
Applying the Flipped Classroom Model to Power Engineering Courses  
**Anthony Steven Deese**

Design of Reinforced Concrete Column Sections According to ACI 318-19 Based on a Numerical Optimization Method  
**Mariami Osepaishvili**, Qian Wang, Daniel Hochstein

ROPES: An Effort to Attract a Diverse Student Body  
**Kauser Jahan**, Elisa M DiLolle, Gaetane Jean-Marie

Innovative Activities and Technologies to Promote Careers in the Water/Wastewater Utilities  
**Fahmida Rahman**, Kauser Jahan, Adriana C. Trias Blanco, Cheng Zhu, Islam M. Mantawy

The Factors that Most Impact CETA Students’ Sense of Belonging to the School Community  
Song Wang, **Thaire Stansfield**, Sarah Serrano, Jessica Camarillo, Josue Ayala

Multi-Simulations of Mitigation of False Data Injections Attacks on Smart Grids via the Implementation of Blockchain  
**Mojeed Olamide Bello**, Kofi Nyarko

Electromyographically (EMG) Controlled Robotic Car for K-12 Outreach and Engagement  
**Katherine Logan Cable**, Susan Sharfstein

Gamified Learning: Integrating the Human Body with Systematic and Computational Thinking for K-12 Education  
**Chengzhang Zhu**, Ying Tang
The Curious Case for an Integrative Model of Engineering Ethics Acculturation: An Interactive Workshop

Workshop Leader: Bradley J. Sottile
Moderator: Anthony Deese

Reframing Learning and Education in the Exponential Age of Generative AI

Speaker: Joti Balani

A Different Paradigm for High Tech Startups (Getting faculty and students involved in entrepreneurship)

Speaker: Allen Katz
Moderator: Ioanna Fampiou
Automatic Selection of Any Available Phase in Three Phase Supply System
Kisan Gunvant Limbachiya, Navarun Gupta

Inspiring Curiosity in Materials Science Through A Gold Nanoparticle Synthesis and Characterization Experiment in an Introductory Materials Science Course
Matthew Jacob Hartzler, George Chan Ortiz, Stephanie Helmy, Sarah A. Goodman

Immersive Virtual Reality Solutions: Bridging the Workforce Gap in Water and Wastewater Utilities
Leeza Eimeria Duller

Gamified and IoT-integrated Approach for Water Industry Education and Outreach
LuoBin Cui, Ryan Hare, Ying Tang, Tyler Casas

Effectiveness of Virtual Reality to Improve Students’ Ability to Visualize Crystal Structures in an Introductory Materials Science Course
Matthew Jacob Hartzler, George Chan Ortiz, Sarah A. Goodman, Valerie Dumova

Enhancing Geotechnical Engineering Education Based on Multiphysics Enriched Mixed Reality Game
Chenchen Huang, Weiling Cai, LuoBin Cui, Cheng Zhu, Ying Tang

Arduino Based Handheld Surface Electromyography Fatigue Device
Hajer Ali, Michelle Foong

Characterizing Cardiovascular Responses to an Orthostatic Challenge
Amanda Dias

Computational Analysis of Fluid Flow and the Initiation of Thrombosis in an In-Vitro Flow System
Nathanial Safar

Effects of Low-Intensity Vibration and Exercise on Bone Mechanical Properties
Caroline O’Rourke

Evaluation of Flashiness of Four Small Streams in Pennsylvania
Terrell Osei-Kyel

Direct Iterative Solver for Model Predictive Control
Chris Toala

Computational Circuits for Embedded Control
Francis Aldridge

Optimal Design Strategies for External Green Walls: Integrating Aesthetics, Sustainability, and Functionality at TCNJ
Shayaan Makki

Structural Characterization of Lipase using Small-angle X-ray Scattering and QuartzCrystal Microbalance
Sachely Antuna

Thermal Stabilization of Glucose Oxidase for Continuous Glucose Monitoring
Grace Palahnuk

TCNJ Human Powered Vehicle
Bobby Hunter

TCNJ Unmanned Autonomous Vehicle
Chris Nelligan

Moderator: Christopher Wagner
SATURDAY
10/28/2023

8:30 AM - 1:30 PM
Education 212 (Lobby)
Registration and Help Desk

8:30 AM - 9:00 AM
Education 212
Continental Breakfast

9:00 - 10:30 AM
Education 113
The First Year and Beyond
Moderator: Michael Shenoda

The Role of Project-based learning in First Year Engineering
PS Dhanasekaran

Improving Student Engagement in the First-Year Transition Seminar Class with Open Educational Resources
Gang Liu

Incorporating Innovation and Virtual Collaboration in a Multidisciplinary First-Year Engineering Course
Nadir Yilmaz

A Practical RF Engineering Curriculum for Engineering Technology Students
Doug Kim

9:00 - 10:30 AM
Education 115
In and Out of the Classroom
Moderator: Felix Udo-Eyo

Literature Review of Analyzing and Predicting Students’ Performance in Examinations
Sakhi Aggrawal

Integrating CIVIL 3D in a Highway Engineering Course
Saravanan Gurupackiam, Rajarajan Subramanian

Alternative Modality of Delivery for the Exponential and Logarithmic Functions
Daniel Blessner

Promoting Successful Technical Apprenticeships: Aligning Industry and Education Needs to Improve Employment Outcomes for Community College Students
Guozhen Tony An, Dugwon Seo, David Mannes, Raymond K.F. Lam

Perceived Values Associated with Participation in Student Innovation Competitions
Sadan Kulturel-Konak, Abdullah Konak

10:30 AM - 10:45 AM
Break
Can We Find a Correlation between Students' Resilience and Academic Performance?  
Felix F. Udo-Eyo

Evidence-Based Best Practices in International (Technical) Virtual Exchange  
Tracey Carbonetto

Promoting Well-being Attitudes Among Engineering Undergraduate Students Through Concepts of Engineering Safety  
Matilde Luz Sanchez-Pena, Jennifer L. Zirnheld, Kevin M. Burke, Muhammad Ali Sajjad

iSTEAM: Design and development of a learnshop focused on use of non-western rhetorical practice to enhance inclusivity in STEM education  
Gary P. Halada, Lori Scarlatos

Augmenting Critical Thinking Skills in Programming Education through Leveraging Chat GPT: Analysis of its Opportunities and Consequences  
Christian Jay St Francis Clarke, Abdullah Konak

Preparing Engineers for the Future: Project Management for Developing Generative AI  
Sakhi Aggrawal

Artificial Intelligence Tools: Boon to Engineering Education or a Threat?  
Sofia M. Vidalis, Rajarajan Subramanian

Impact of AI Tools on Engineering Education  
Sofia M. Vidalis, Rajarajan Subramanian

An Innovation Active Learning Approach in Civil Engineering Education  
Shohana Iffat

A Model for Improving Stakeholder-focused Communication in Undergraduate Civil Engineering  
Jennie Perey Saxe

Implementation of an Industry-Inspired Undergraduate Construction Management Project - A Semester Long Feedback-Based Project  
Samaneh Gholitabar

Framework for Assessment of Performance and Retention in Civil Engineering Technology Programs through an Introductory Course  
Michael Shenoda
SUNDAY
10/28/2023

12:15 - 12:30 PM
Break

12:30 - 1:30 PM
Lunch and Business Meeting
Education 212
The Sarnoff Collection is named in honor of David Sarnoff, longtime chairman of the Radio Corporation of America (RCA) and internationally renowned pioneer in radio and television.

The museum collection, which comprises more than 6,000 artifacts related to the major developments in communication and electronics during the 20th century, was donated to The College of New Jersey in 2010.

There will be a Sarnoff Collection tour for ASEE guests on Friday, October 27th at 5:00 pm leaving from the Education Building lobby.
Map & Parking

We will be spending our time in the Education Building and Armstrong Hall. Parking is free but you must print and display the parking pass (next page) on your dashboard. On Friday, you may park in Lots 5, 6 or 7. On Saturday, you may park in Lot 17 which is connected to the Education Building.
Visitor Permit

Date(s) of event: 10/27/2023 - 10/28/2023
Parking Lot(s) assigned: Lots 5, 6, 7, 17
PERMIT VALID Time: 7:00 AM - 11:00 PM
License Plate # (guest to fill in)

Location of Event: Education Building
Title of Event: ASEE Fall Conference
Event Ref #: EMS-440181
Permit #: F-23-KK-0802-01

Permit issued by: CONFERENCE & EVENT SERVICES

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