



HUIC

Hawaii University International Conferences

2026

STEM/STEAM & Education

Conference

Diamond Head Lighthouse



June 9, 10, & 11



Waikiki and Diamond Head

Prince Waikiki Resort, Honolulu, Hawaii



☆☆☆ SUBMARINE MUSEUM ☆☆☆

Diamond Head and Diamond Head Lighthouse

The Hawaiian name for Diamond Head is **Lē'ahi**, meaning 'brow of the tuna'. In 1825, sailors approaching the crater's slopes saw shimmering rocks which they mistook for diamonds. These were clear calcite crystals, but the moniker 'Diamond Head' has remained.

The unique structure formed about 300,000 years ago when a single violent explosive event of rising magma encountered ocean or coastal groundwater, resulting in the liquid rock instantly transforming into tiny fragments of ash, steam, and rock, then falling back down and compressing into a type of rock called *tuff*.

Today, the interior of the crater is the headquarters for the Oahu Civil Defense. The Diamond Head trail is a popular hiking destination and offers stunning views of Oahu's south shoreline. Reservations for non-residents are required. For more information, visit <https://gostateparks.hawaii.gov/diamondhead/about>

The **Diamond Head Lighthouse** was first constructed in 1899, then rebuilt in 1917. Its red *Fresnel lens* warns approaching vessels up to 17 nautical miles away from the dangerous reefs and shoals as they sail toward Honolulu harbor. The residence adjacent to the lighthouse, built in 1921 and remodeled after WWII, has become the home for the Commanders of the Fourteenth US Coast Guard. This historic structure now marks one end of the finish line for the 2,225-mile Transpacific Yacht Race that begins in Long Beach, California. The lighthouse is easily viewed from Diamond Head Road lookouts or from the summit of Diamond Head.

WELCOME ADDRESS

Aloha and welcome to the annual Arts, Humanities, Social Sciences and Education Conference held at the Prince Waikiki Resort on the island of Oahu. We trust that you will gain new experiences and new insights in your field of study while interacting with your peers. This is an exciting opportunity to meet with educators from different universities throughout the nation and throughout the world. They bring with them a wealth of knowledge and experience in their particular disciplines to share with each and every one.

We hope you enjoy your stay with our host, the Prince Waikiki Resort, located a block from the Ala Moana Shopping Center offering a wide variety of shops and attractions.

The famous Waikiki Beach and prime restaurants are close by for your convenience. Be sure to check with the hotel's activity desk for all the latest adventures and tours to make your trip to the Hawaiian Islands a memorable experience.

The Islands of Hawaii offer a very unique experience for all people who visit to gain a better understanding of the Hawaiian culture and its spirit only found in these islands. Enjoy some of the best weather and beaches found anywhere in the world, and take your experiences home with you to return another day.

E' Komo Mai!

(All are welcome!)



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Please visit our website for more details on the next conference.

www.artshumanitieshawaii.org

artshumanities@huichawaii.org

Contact Number: 1-808-537-6500

STEM 2026 CONFERENCE SCHEDULE

Registration Hours

June 08 - Monday - 3rd. Floor	1:00 pm - 5:00 pm
June 09 - Tuesday - 3rd. Floor	6:30 am - 5:00 pm
June 10 - Wednesday - 3rd. Floor	6:30 am - 4:00 pm
June 11 - Thursday - 3rd. Floor	11:30 am - 1:30 pm

KEYNOTE ADDRESS:

June 09, Tuesday **: 7:30 am - 8:00 am, Naio Room

Today's Speaker is **Stefanie Zaklan Duff, BSc, MSc, PhD** who is a Professor of Ecology in the Department of Fisheries and Aquaculture at Vancouver Island University on Vancouver Island, in so-called Canada. Her academic background includes degrees from Simon Fraser University and the University of Alberta, as well as educational stays at Duke University, Bamfield Marine Sciences Centre, Friday Harbor Marine Labs, American Museum of Natural History, and the Smithsonian Museum of Natural History.

KEYNOTE ADDRESS:

June 10, Wednesday **: 7:30 am - 8:00 am, Naio Room

Today's Speaker is **Dr. Garry E. Roy** who is an Assistant Professor of Health Information Management at the University of Hawaii–West Oahu and a leader in expanding STEM and STEAM educational pathways across Hawaii's health and technology sectors. His work bridges medicine, data science, behavioral health, and educational innovation, with a special focus on advancing equitable access to STEM opportunities for students throughout the state.

CONCURRENT SESSION TIMES

8:15 - 9:45am * 10:00 - 11:30am * 12:45 - 2:15pm * 2:30 - 4:00pm * 4:15 - 5:45pm

POSTER EXHIBITS

June 10: 11:00 am - 12:30 pm, Naio Room

BREAKFAST - Naio Room

(Breakfast is complimentary for registered participants & paid guests with Meal Voucher)

June 09 - Tuesday	6:30 am - 8:30 am
June 10 - Wednesday	6:30 am - 8:30 am

TEA BREAK - Foyer (Registration Area)

Tuesday & Wednesday - 9:30am - 12:00pm / 1:00 - 3:30pm

LUNCH BREAK

11:30am - 12:30pm (LUNCH IS NOT PROVIDED)

APPRECIATION LUNCH - Naio Room June 11, Thursday: 11:30 am - 1:30 pm

(Complimentary for Registered Participants & paid guests with Meal Voucher)



DAY 1

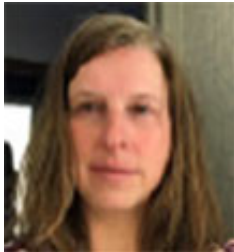
Tuesday - June 09, 2026

KEYNOTE ADDRESS

Tuesday - June 09, 2026

Room: Naio

Time: 7:15am-7:45am



Dr. Stephanie Zaklan Duff
Professor of Ecology
Department of Fisheries and Aquaculture
Vancouver Island University
Nanaimo, British Columbia
Canada

Stefanie Zaklan Duff, BSc, MSc, PhD is a Professor of Ecology in the Department of Fisheries and Aquaculture at Vancouver Island University on Vancouver Island, in so-called Canada. Her academic background includes degrees from Simon Fraser University and the University of Alberta, as well as educational stays at Duke University, Bamfield Marine Sciences Centre, Friday Harbor Marine Labs, American Museum of Natural History, and the Smithsonian Museum of Natural History. Stefanie has published in academic journals on the topics of evolution, development, asymmetry, systematics, morphology, behaviour, aquaculture and fisheries. More recently she has turned her thoughts towards indigenizing sciences and understanding what that means in the academic classroom. Specifically, classrooms and laboratory arenas that reside on the lands from which the language Hul'q'umi'num' emerged. It is these thoughts that she will share. Ah tuna kuyal, hvala, mahalo, huy ach q'ua.



Tuesday - June 09, 2026

Room: Palolo 1

Time: 8:15 - 9:45am

Session: STEM Education; Peer Mentorship; Well-being; Growth; Education

Session Chair: Dr. Kim McGarraugh Jones

I. Students Taking Control of their Learning

Though the edTPA is no longer used in many states, the focus on schools using target language effectively still remains. In this paper, target-focused student voice criteria will be presented as well as how it is included in the National Board Certification process, the TGEM and TPEP (which are frameworks aimed to evaluate practicing teachers). Instruments, that this researcher designed to assist teaching candidates with implementing student voice effectively will also be included.

Q: Why is student voice target language important?

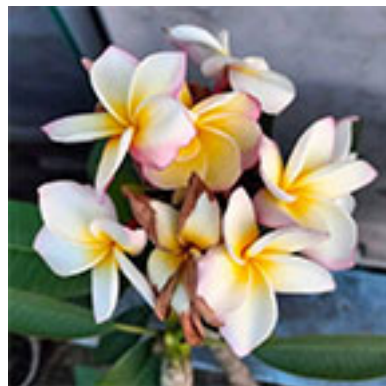
A: Students are given the opportunity to direct their own learning.

Author/Presenter:



Dr. Kim McGarraugh Jones

Curriculum, Supervision, and Educational Leadership Department
Central Washington University
Ellensburg, Washington



Tuesday - June 09, 2026

Room: Palolo 1

Time: 8:15 - 9:45am

Session: STEM Education; Peer Mentorship; Well-being; Growth; Education

Session Chair: Dr. Kim McGarraugh Jones

II. Scholars Academy Peer Mentor Groups and Well-Being for Performance and Growth

University of Houston-Downtown Scholars Academy, a STEM unit, first implemented peer mentors in 1999. What began as a single group with one peer mentor has evolved into 18 groups of discipline-based peer mentors and faculty mentors over the 25-year period. Peer and faculty mentors form the small learning communities each semester. This organizational infrastructure brings expert peers (faculty mentors), near peers (peer mentors), and peer-to-peer mentoring to the small groups to offer support, and information. The more skilled peer mentor encourages, counsels, and befriends the less skilled or less experienced mentee, thereby promoting increases in professional, personal, and career path development (Maha, 2021; Nabi, Walmsley, Mir, Osman, 2024). There is some evidence that peer support/mentoring can offer support to mental wellbeing through friendship, camaraderie, and shared current or past experiences (Cooper, Saunders, Greenburgh, et al., 2024). However, positive mentor-mentee relationships are critical for balance and academic success.

Author/Presenter:



Dr. Mary Jo Parker

Scholars Academy
University of Houston-Downtown
Houston, Texas



Tuesday - June 09, 2026

Room: Palolo 1

Time: 8:15 - 9:45am

Session: STEM Education; Peer Mentorship; Well-being; Growth; Education

Session Chair: Dr. Kim McGarraugh Jones

III. On Ground or Online Education

This paper examines the key characteristics of online education versus the traditional ground or on-campus education. The paper aims to clarify several myths about both online and on-campus programs. By comparison, this paper provides an objective approach to help potential students students to make an informative yet subjective decision on whether online or on-campus is more suitable. This personal decision would depend on one's own circumstances, preferences, and personal strength and weakness.

Q1: If one can take either the traditional on compus classes or the more convenient online classes, which one should one choose?

A1: This depends on one's time and location and more importantly what kind of experience one would expect or would achieve.

Q2: What are the factors to consider to choose between online vs. on ground education?

A2: This paper will cover the major characteristics or advantages and disadvantages of online education vs. ground.

Author/Presenter:



Prof. Xiaodong Wu

School of Business, APUS and University of Phoenix

American Public University System (APUS)

Charleston, West Virginia



Tuesday - June 09, 2026

Room: Palolo 2

Time: 8:15 - 9:45am

Session: Technology, Engineering and Mathematics; Mathematical finance; Statistics

Session Chair: Dr. Mohammed Qazi

I. A Model to Prepare STEM Students from Low Income Communities for Careers in the STEM Workforce through Mentoring and Making

We describe a model funded by the NSF’s S-STEM program, awarded to a Consortium of institutions in Alabama and Michigan to prepare students from low-income communities for the STEM workforce. This co-curricular program provides students with mentoring to promote College success and experiential learning opportunities to promote STEM workforce readiness by engaging them in the development of technological solutions to global challenges.

Q: Share some of the strategies to promote the success of the NSF funded MAKERS/RISE S-STEM Model

A: Mentoring by STEM Faculty, Fostering community amongst the Scholars, STEM workforce preparation

Authors/Presenters: **Dr. Mohammed Qazi**
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Tuskegee, Alabama



Dr. Mohammed Qazi

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Dr. Martha Escobar

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Dr. David Shannon

Tuesday - June 09, 2026

Room: Palolo 2

Time: 8:15 - 9:45am

**Session: Technology, Engineering and Mathematics; Mathematical finance;
Statistics**

Session Chair: Dr. Mohammed Qazi

II. Modelling of Big Data in Algorithmic and High-Frequency Trading

Methodological aspects of modelling of big data in algorithmic and high-frequency trading will be discussed.

Q: Can we model big data arising in algorithmic and high-frequency trading in finance ?

A: Stochastic models for mid-price changes in the markets is the answer,

Authors/Presenters: **Prof. Anatoliy Swishchuk**
Mathematics & Statistics
University of Calgary
Calgary, Alberta
Canada



Tuesday - June 09, 2026

Room: Palolo 2

Time: 8:15 - 9:45am

Session: Technology, Engineering and Mathematics; Mathematical finance; Statistics

Session Chair: Dr. Mohammed Qazi

III. A Machine Learning Framework for Driver Behavior Analysis Using CARLA Simulation Data

This study analyzes driver behavior using the CARLA dataset with sensor data from seven drivers. A combined logistic regression model performed poorly, showing accuracy of 0.5481. Exploratory analysis revealed distinct driver patterns, leading to separate models for each driver. These individualized models showed better accuracy and classification metrics, highlighting the value of driver-specific modeling for safety and vehicle assistance systems.

Q: Why is modeling driver-specific behavior important for improving road safety and vehicle assistance systems?

A: Because each driver behaves differently, a single model cannot capture everyone's driving style. Creating separate models for each driver improves prediction accuracy and helps identify risky events more effectively, which can lead to safer driving and better driver-assistance systems.

Authors/Presenters:

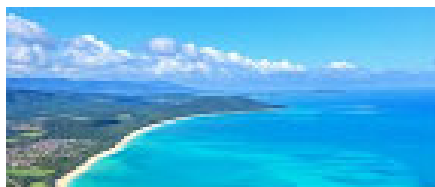


Dr. Dulanjalee Devage Dona

Department of Mathematics
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Whitewater, Wisconsin

Mr. Sachithra Karunathilake

Department of Industrial Engineering and Management
Oklahoma State University
Stillwater, Oklahoma



Tuesday - June 09, 2026

Room: Palolo 3

Time: 8:15 - 9:45am

Session: Earth-Centered Healing, BIPOC TAY, Embodiment of Critical Consciousness

WORKSHOP:

Healing in Nature and Creating Critical Consciousness among BIPOC TAY

Taking intentional steps to cultivate a relationship with nature, Earth Mother, can lead to reduced stress and anxiety among Black, Indigenous, People of Color, Transitional-age youth (BIPOC TAY). In this experiential workshop, we will explore the contemporary efforts to measure the embodiment of critical consciousness, to engage BIPOC TAY, and to integrate traditional healing practices among this population. This workshop offers a portal into the heart of belonging to Earth Mother.

Q: What are the experiences and social emotional learnings required to cultivate a relationship with nature, Earth Mother?

A: Consider your own relationship to Earth Mother and what, if any, teachings you received to deepen your understanding of interdependence.

Authors/Presenters: **Dr. Anthony Tróchez**
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Dr. Ekland Abdiwahab
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Ms. Yvette Mari Robles
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San Francisco, California



Tuesday - June 09, 2026

Room: Palolo 1

Time: 10:00 - 11:30am

Session: Technology / Feminism; Mathematics (Geometry, Algebra)

Session Chair: Dr. Angela Macias

I. Teachers and Technofeminism

This paper provides qualitative data gathered from 5 women in tech industry jobs and 5 educators, each from varied backgrounds and stages in their careers. Interviews with tech professionals were synthesized using narrative inquiry and their stories shared with 5 educators who were asked to reflect on their experiences, provide insights, and reimagine their role in the larger socioeconomic sphere of technology.

Q: What is an educator's role in solving equity issues in tech industries?

A: Reimagining their daily encounters with technology as a part of a larger sociological mission of equity can impact the role of women as STEM mentors in K-12 education.

Author/Presenter:



Dr. Angela Macias

Liberal Studies

California State University Dominguez Hills

Carson, California



Tuesday - June 09, 2026

Room: Palolo 1

Time: 10:00 - 11:30am

Session: Technology / Feminism; Mathematics (Geometry, Algebra)

Session Chair: Dr. Angela Macias

II. An Explicit Derived MCKAY Correspondence for some Complex Reflection Groups of Rank Two

I will speak about some recent work of the author and collaborators which extend the two-dimensional derived McKay correspondence to certain reflection groups. Along the way we'll talk about the history of the McKay correspondence, equivariant derived categories, and future directions.

Q: What are some future questions?

A: Other reflection groups, but also so-called "NCCRs"

Authors/Presenters: **Dr. Dylan Spence**
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Dr. Peter McDonald
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Dr. C. Eric Overton-Walker
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University of Arkansas, Fayetteville
Fayetteville, Arkansas



Tuesday - June 09, 2026

Room: Palolo 1

Time: 10:00 - 11:30am

Session: Technology / Feminism; Mathematics (Geometry, Algebra)

Session Chair: Dr. Angela Macias

III. On the Coxeter Cohomology of Irreducible Representations of Symmetric Groups

This work is part of a research program to compute the Hochschild homology groups of specific quotients of polynomial rings via Coxeter cohomology, which utilizes an isomorphism provided by Larsen and Lindenstrauss. While previous work has focused exclusively on the two-variable case, we extend some results to all values of d . Although the problem is motivated by algebra and topology, the solution relies primarily on combinatorial arguments.

Q: Can research in graduate-level mathematics be made accessible to undergraduates?

A: Of course!

Authors/Presenters: **Dr. Hayley Bertrand**
Ms. Jing Anne McLaughlin
Department of Mathematics
University of Wisconsin - Whitewater
Whitewater, Wisconsin



Tuesday - June 09, 2026

Room: Palolo 2

Time: 10:00 - 11:30am

Session: Mathematics Education; Education; Mathematics, Foundations of Math

Session Chair: Dr. Elise Simmons

I. Redesigning Gateway Mathematics at a Rural HBCU: Strengthening Alignment, Engagement, and Student Success Across College Algebra, Quantitative Reasoning, and Precalculus

This presentation examines a comprehensive redesign of College Algebra, Quantitative Reasoning, and Precalculus at a rural HBCU. By strengthening course alignment, increasing faculty collaboration, and implementing consistent learning structures, the project improved student engagement, reduced confusion across sections, and created a more supportive pathway for early math success.

Q: Why is redesigning gateway math courses so important for student success?

A: Gateway math courses often determine whether students stay on track academically and whether they pursue opportunities in STEM. By rethinking how these courses are structured—through supportive tools, consistent expectations, and faculty collaboration—we create learning environments where students feel capable, confident, and motivated. These shifts lead to stronger performance, reduced anxiety, and clearer pathways for students to succeed in college and beyond.

Author/Presenter:



Dr. Elise Simmons
Mathematics Department
Albany State University
Albany, Georgia



Tuesday - June 09, 2026

Room: Palolo 2

Time: 10:00 - 11:30am

Session: Mathematics Education; Education; Mathematics, Foundations of Math

Session Chair: Dr. Elise Simmons

II. Empowering STEM Undergraduates at an HBCU through Peer-reviewed Research Article Presentation

Students present research as if they did the work themselves. This is part of their grade. It builds knowledge, communication skills, critical thinking, and an increase in the desire to pursue further STEM careers.

Q: Has this practice worked?

A: Yes; I have a list of students who have emerged as success in the fields of STEM, who all, to the person, did presentations as if they did the research themselves.

Author/Presenter:



Dr. Rose Stiffin
Health and Natural Sciences
Florida Memorial University
Miami Gardens, Florida



Tuesday - June 09, 2026

Room: Palolo 2

Time: 10:00 - 11:30am

Session: Mathematics Education; Education; Mathematics, Foundations of Math

Session Chair: Dr. Elise Simmons

III. Second-Year Outcomes of the PE-STEM-MAPS Program: Improving Mathematics Readiness and STEM Retention at a Historically Black University

The Program of Excellence in STEM – Mathematics Academic Progress (PE-STEM-MAPS) at Florida Agricultural & Mechanical University (FAMU) was developed to address mathematics readiness, placement, and early academic success among underrepresented students pursuing STEM disciplines. Mathematics serves as a critical gatekeeper for STEM majors, often influencing retention and progression to degree completion.

Q: What is the importance of early intervention of math for STEM majors?

A: The early intervention of mathematics for STEM majors is critical because mathematics functions as a gateway (or gatekeeper) subject that determines whether students persist in STEM majors, change majors, or leave college altogether. Many studies show that performance and placement in first-year math courses strongly predict STEM retention and graduation.

Authors/Presenters:



Dr. Tiffany Ardley
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Tallahassee, Florida



Dr. Elise Simmons
Albany State University
Albany, Georgia

Dr. Jason T. Black
School of Business and Industry
Florida A&M University
Tallahassee, Florida



Tuesday - June 09, 2026

Room: Palolo 3

Time: 10:00 - 11:30am

Session: Teacher Education, Higher Education, Interdisciplinary Education

WORKSHOP:

Teaching Across Difference: Facilitating Dialogue to Support Student Learning

College instructors, including those in STEM disciplines, increasingly encounter moments of difference and disagreement in their classrooms. This interactive workshop invites STEAM faculty to practice inclusive dialogue strategies and explore how engaging difference can deepen student learning and critical thinking. Participants will build confidence by leaning into difference, and leave with concrete ideas for implementing and facilitating dialogue in their classrooms.

Q: Where does dialogue across differences fit—or not fit—within your classroom?

A: Some instructors may feel uncertain if dialogue supports student learning in the classroom and feel their responsibility is to focus explicitly on course content. Other instructors may teach in a discipline where dialogue is more readily integrated, and the course is designed to explore multiple sides of a complex societal problem. However, regardless of the discipline, the role of the instructor is to support students in broader inquiry into the discipline's role in society. This requires an introduction to dialogue that critically examines diverse perspectives to deepen students' understanding of the discipline.

Authors/Presenters: Dr. Rachel Kennison

Dr. JoAnn Roberts

Center for Education Innovation and Learning in the Sciences

University of California, Los Angeles

Los Angeles, California

Ms. Maia Ferdman

University of California, Los Angeles

Los Angeles, California



Tuesday - June 09, 2026

Room: Palolo 1

Time: 12:45 - 2:15pm

Session: Social Sciences; Economics; Information Technology

Session Chair: Dr. Todd Ames

I. The Emergence of Small-Scale Cash-Crop Production in Agricultural and Marine Resource Markets on Palau (FSM)

This paper looks at how subsistence activities in agriculture and marine resources are being transformed into cash-crop activities in Palau, ROP.

Q: How are cash-crop productions helping local economies?

A: By contributing to local family economies.

Author/Presenter: **Dr. Todd Ames**
Sociology Program and Micronesian Studies Program
University of Guam
Mangilao, Guam
US Minor Outlying Islands

II. Economic Impact of Business Retention & Expansion Strategies on Small Businesses during COVID-19

This study explores how small businesses perceived and experienced Business Retention and Expansion (BRE) programs during COVID-19. Using resilience, crisis management, and stakeholder theories, it examines program effectiveness, access, and impact on operations. Interviews with 11 owners show BRE supported survival and adaptation while revealing barriers.

Q: How did Business Retention and Expansion strategies influence the survival and adaptation of small businesses during COVID-19?

A: The BRE strategies were critical in helping small businesses navigate economic disruption.

Author/Presenter:



Dr. Wade Robinson
Accounting, Economics, and Finance
Delaware State University
Dover, Delaware

Continued on next page

Tuesday - June 09, 2026

Room: Palolo 1

Time: 12:45 - 2:15pm

Session: Social Sciences; Economics; Information Technology

Session Chair: Dr. Todd Ames

III. Social and Economic Relations and the Need for Participatory Development in Small Island Economies of Micronesia

This paper focuses on enhancing the growth of appropriate entrepreneurship and economic opportunities, in particular micro-finance and small-business development which promote sustainability of small and medium-sized farms and marine communities. Focus areas include the identification of micro-market opportunities currently being produced through sustainable practices; capacity building and stakeholder participation in entrepreneurship and small-scale business development opportunities.

Q: Why is participatory development so important in Micronesia?

A: Participatory development needs to include indigenous knowledge and cultural components which make up small island economic structures.

Author/Presenter: Dr. Angeline Ames
Department of Sociology
University of Guam
Mangilao, Guam
US Minor Outlying Islands



Tuesday - June 09, 2026

Room: Palolo 2

Time: 12:45 - 2:15pm

**Session: Education Technology or Mechatronics/MEMS/NEMS/Robotics/
Automation; AI / Cybersecurity; Science Education Artificial Intelligence
Literacy**

Session Chair: Dr. Ahmed Hasan

I. Integrating AI Tools into Robotics Programming: Student Perceptions of Learning and Verification

This study examines the structured integration of AI-assisted programming within a first-year mechanical engineering course at the University of New Mexico. In a robotics module using the Dobot Magician arm, 26 students worked in teams to translate block-based logic into Python scripts, debug AI-generated code, expand algorithms for more complex tasks, and transfer programs from a visual programming environment to an external Python platform.

Q: What is the specific students' outcome from this integrated approach?

A: Students will learn how to program robotic arms using its native software as well as using python platform to program the robotic arm to do the same function.

Authors/Presenters:



Dr. Ahmed Hasan
Mechanical Engineering
University of New Mexico
Albuquerque, New Mexico

Mr. Gleb Dziuba
Mr. Seif O. Elsabagh
Mechanical Engineering
University of New Mexico
Albuquerque, New Mexico



Continued on next page

Tuesday - June 09, 2026

Room: Palolo 2

Time: 12:45 - 2:15pm

**Session: Education Technology or Mechatronics/MEMS/NEMS/Robotics/
Automation; AI / Cybersecurity; Science Education Artificial Intelligence
Literacy**

Session Chair: Dr. Ahmed Hasan

II. AI Internship: The Supervised Intern Model for Enterprise AI and Cybersecurity Operations

Enterprises increasingly rely on AI, but most fail to capture its value. Human analysts drown in billions of log entries, missing critical threats while attackers lurk undetected for an average of 204 days. Inspired by Ethan Mollick's metaphor of AI as an "intern," this paper introduces the Supervised Intern Model (SIM): a phased, NIST-aligned conceptual framework that turns AI-human collaboration into practical, scalable enterprise processes. SIM addresses a stubborn reality: 78% of organizations now use AI, yet only 26% generate tangible business value from it. The problem isn't the technology, 70% of implementation failures stem from people and process issues. SIM solves this by prescribing three deployment phases, Observe, Collaborate, and Autonomy with Oversight, each with explicit transition criteria and governance checkpoints. This paper presents the conceptual framework and illustrates its application to cybersecurity, where AI can address the cognitive limitations that create exploitable detection gaps.

Q: What's the biggest reason AI implementations fail, and how do you fix it?

A: People and process, not technology. 70% of AI failures stem from human factors. The Supervised Intern Model (SIM) addresses this by treating AI like what it is: a capable but unpredictable intern that needs structured onboarding. We'll present a NIST-aligned framework with three deployment phases and demonstrate its application to cybersecurity threat detection.

Author/Presenter: Mr. Douglas Hertle
Sim Ventions
Department of Defense Contractor
Fredericksburg, Virginia



Tuesday - June 09, 2026

Room: Palolo 2

Time: 12:45 - 2:15pm

**Session: Education Technology or Mechatronics/MEMS/NEMS/Robotics/
Automation; AI / Cybersecurity; Science Education Artificial Intelligence
Literacy**

Session Chair: Dr. Ahmed Hasan

III. DAIL: Discipline-Based Artificial Intelligence Literacy

AI is reshaping all disciplines, demanding not only general AI literacy but contextualized competence. This paper introduces Discipline-Based Artificial Intelligence Literacy (DAIL) as the ability to understand, apply, and critically reflect on AI in authentic disciplinary practice. We propose a six-component framework integrating conceptual knowledge, tool use, data literacy, critical evaluation, ethics, and collaborative reflection, and outline principles for assessing DAIL.

Q: Can you provide a concrete example of DAIL in science education?

A: Yes.

Author/Presenter: Dr. Xiaoming Zhai
AI4STEM Education Center
University of Georgia
Athens, Georgia



Tuesday - June 09, 2026

Room: Palolo 3
Time: 12:45 - 2:15pm
Session: Educational Administration

WORKSHOP

Creating a Sense of Community in a New Medical School

Developing a new college of medicine is a long and challenging journey. From the outset of Roseman University College of Medicine's development, our leadership was committed not only to creating a welcoming working and learning environment but also to fostering a sense of true community. With that intention at the forefront, we intentionally grounded our work in a mission and vision that tell the story of who we are—our values, our purpose, and the kind of community we strive to build together.

Q: If we're building a medical school from the ground up—what would we do differently to make everyone feel seen, supported, and connected?

A: This is an exciting opportunity for innovation and co-creation and to challenge the status quo.

Author/Presenter:



Dr. Cheryl Brewster
Office of Access, Opportunity and Collaboration
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Las Vegas, Nevada

Tuesday - June 09, 2026

Room: Palolo 1

Time: 2:30 - 4:00pm

Session: Mathematics Education; Business Calculus; Computer Science Education; Teacher Education, Pre-service Teachers, Artificial Intelligence

Session Chair: Dr. Sunny Le

I. Learning to Thrive Online: What Business Calculus Reveals about Student Engagement and Course Design

This study identifies motivation, participation, and course content quality as key predictors of student success in synchronous business calculus, offering insights into how live online instruction can promote engagement and equity in mathematics education. The findings remain relevant as higher education transitions toward hybrid and flexible teaching modalities in the post-COVID era.

Q: What lessons from emergency remote teaching still matter today?

A: The study found that structured participation and clear course design improved learning and confidence in business calculus. These insights continue to guide effective hybrid and in-person instruction post-COVID era.

Authors/Presenters:



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Mr. Kenny Le
Office of Institutional Research and Decision Support (IRDS)
Claremont Graduate University
Claremont, California

Continued on next page

Tuesday - June 09, 2026

Room: Palolo 1

Time: 2:30 - 4:00pm

Session: Mathematics Education; Business Calculus; Computer Science Education; Teacher Education, Pre-service Teachers, Artificial Intelligence

Session Chair: Dr. Sunny Le

II. Enhancing an Accelerated Computer Science Teacher Summer Bootcamp in a Southeastern US State

Computer Science (CS) teachers in a southeastern US state are typically business teachers with little CS background. In this study, we implemented an accelerated, yet comprehensive, summer bootcamp that was completed by 13 teachers who reported considerable CS self-efficacy and domain content knowledge gains. This bootcamp design included updates based on our 2024 pilot, resulting in teachers praising our current program. There, however, remains a high dropout rate, which we need to address.

Q: How can we design an accelerated program to improve the quality of Computer Science Teachers?

A: First conduct a focus group to see what teachers need, conduct a pilot study and then implement a full summer program with various supports to ensure they are successful.

Authors/Presenters:



Dr. Marvin Evans

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Continued on next page

Tuesday - June 09, 2026

Room: Palolo 1

Time: 2:30 - 4:00pm

Session: Mathematics Education; Business Calculus; Computer Science Education; Teacher Education, Pre-service Teachers, Artificial Intelligence

Session Chair: Dr. Sunny Le

III. From Innovation to Implementation: Examining the Impact of AI-Supported Mathematics Lesson Planning on Belonging, Engagement, and Instructional Practice

This paper presentation reports findings from the implementation of AI-supported mathematics lesson planning introduced as a workshop during the 14th Annual STEM/STEAM and Education Conference. Results highlight impacts on instructional practice, student engagement, and belonging, particularly for underserved learners, while also addressing challenges teachers faced in integrating AI in equitable and culturally responsive ways.

Q: How can AI-supported lesson planning move beyond efficiency to actually improve students' sense of belonging and engagement in mathematics, especially for those historically underserved?

A: This study shows that when teachers critically adapt AI-generated lessons (rather than adopt them wholesale), they can create more inclusive, responsive instruction that meaningfully enhances both engagement and students' sense of belonging.

Author/Presenter:



Dr. Darolyn A. Flaggs
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Tuesday - June 09, 2026

Room: Palolo 2

Time: 2:30 - 4:30pm

**Session: Inter-disciplinary and other areas of Technology and Engineering;
Inter-disciplinary areas of STEM, 3D Printing Technology, Teacher
Education; Computer Science; Social Science**

Session Chair: Dr. Mir Hasan

I. Cybersecurity in Renewable Energy Systems: A Scoping Review of Protocols, Vulnerabilities, and Research Trends

This session presents a scoping review of cybersecurity threats, protocols, and recent research trends in renewable energy systems, highlighting the most significant threats and the protocols used to address them. The review identifies key research trends as well as critical gaps in real-world testing and human-factor considerations. Insights will be shared on how future work can better protect modern renewable energy infrastructure from evolving cyber risks.

Q: Why is cybersecurity in renewable energy systems becoming a critical research priority now, even more than in traditional, centralized power grids?

A: The transition to renewable energy fundamentally replaces the traditional grid's large, isolated physical systems with a highly decentralized and digitally connected network of Distributed Energy Resources (DERs), vastly expanding the attack surface and making it exponentially more vulnerable to communication-based threats like False Data Injection and Denial-of-Service.

Author/Presenter:



Dr. Mir Hasan

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Clarksville, Tennessee

Mr. Ernesto Rama

Mr. Barry Bruster

Department of Computer Science and Information Technology
Austin Peay State University
Clarksville, Tennessee

Continued on next page

Tuesday - June 09, 2026

Room: Palolo 2

Time: 2:30 - 4:30pm

**Session: Inter-disciplinary and other areas of Technology and Engineering;
Inter-disciplinary areas of STEM, 3D Printing Technology, Teacher
Education; Computer Science; Social Science**

Session Chair: Dr. Mir Hasan

II. Designing Drones to Foster STEM Inquiry in Synchronous Mathematics Classrooms

In this study, an integrated STEM inquiry, "Building a Quad Drone," was designed and implemented in a synchronous online math course for preservice teachers (PSETs) to enhance their understanding of STEM concepts. The research aimed to assess the feasibility of this implementation by exploring how PSETs applied STEM principles while constructing drones. The study also identified the challenges and opportunities presented during the implementation to promote effective STEM education.

Q: In what way do college students draw STEM concepts to build a quad drone?

A: Students' actions were observed and analyzed to determine which disciplinary knowledge in STEM they applied to solve problems while building quad drones.

Authors/Presenters: **Prof. Sasha Wang**
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Boise, Idaho
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Honolulu, Hawaii



Tuesday - June 09, 2026

Room: Palolo 2

Time: 2:30 - 4:30pm

**Session: Inter-disciplinary and other areas of Technology and Engineering;
Inter-disciplinary areas of STEM, 3D Printing Technology, Teacher
Education; Computer Science; Social Science**

Session Chair: Dr. Mir Hasan

III. A Trustworthy AI Platform for Structured Academic Learning

This study presents Lernix, an AI-powered learning platform designed to support structured academic learning through persistent document interaction, learner analytics, integrated assessments, and trust-based AI evaluation. Lernix creates a more personalized, reliable, and accountable learning environment for students.

Q: How can AI move beyond simply answering questions to actually supporting structured and trustworthy academic learning?

A: Our presentation introduces Lernix, an AI-powered learning platform that combines persistent document-based interaction, learner analytics, integrated assessments, and trust-based AI evaluation to create a more personalized, reliable, and accountable learning experience.

Authors/Presenters: **Dr. Prasanthi Sreekumari**
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Computer Science
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Tuesday - June 09, 2026

Room: Palolo 2

Time: 2:30 - 4:30pm

**Session: Inter-disciplinary and other areas of Technology and Engineering;
Inter-disciplinary areas of STEM, 3D Printing Technology, Teacher
Education; Computer Science; Social Science**

Session Chair: Dr. Mir Hasan

**IV. Spatio-Temporal Statistical Modeling of Suicide Mortality in the United States:
Structural Breaks, Spatial Dependence, and Exploratory Machine Learning**

This study analyzes U.S. suicide trends from 1980–2021 using regression, multilevel analysis, and machine learning to identify key demographic, socio-economic, and geographic risk factors. High-risk groups and states like Montana and Wyoming are highlighted. Spatio-temporal and predictive models, including random forests and gradient boosting, enhance risk forecasting and support targeted, evidence-based interventions.

Q: Which demographic groups and states show the highest vulnerability to suicide, and what statistical patterns explain these disparities ?

A: Older non-Hispanic White adults and American Indian/Alaska Native youth exhibit the highest vulnerability. Western, rural states - particularly Montana and Wyoming- are persistent hotspots. Higher old-age dependency, lower population density, and socio-economic stressors statistically explain much of this elevated risk.

Author/Presenter:



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Ms. Thilini Karunasena

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Tuesday - June 09, 2026

Room: Palolo 3

Time: 2:30 - 4:30pm

Session: Law, Chemistry Education and Disability Rights; Chemistry; Curriculum, Research and Development; Higher Education; Inter-disciplinary and other areas of Arts and Humanities; Academic Counseling and Advising

Session Chair: Dr. Ruby Dhand

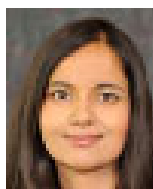
I. Law, Chemistry Education and Disability Rights: Addressing Barriers for Students with Disabilities

This presentation will examine the barriers students with disabilities experience in Chemistry labs and classrooms and the legal obligations around the duty to accommodate. There are evident tensions for university administrators, students, and faculty regarding the application of reasonable accommodation and undue hardship. Since this is a grey area of law, stakeholders are often unsure of how to apply the legal requirements of the duty to accommodate appropriately for accommodating students pursuing science education, while balancing the factors of health, safety and cost for all. Drawing from the law, chemistry education and disability rights, this presentation examines the extent to which disability laws are working to support and accommodate students with disabilities and the role of educators to increase accessibility, equitable access and inclusion. We will examine case law and provide perspectives to increase accessibility and inclusion for chemistry education.

Q: How does the duty to accommodate apply to students with disabilities in post-secondary Chemistry classrooms and labs?

A: Attend our presentation to find out!

Authors/Presenters:



Dr. Ruby Dhand

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Dr. Dipesh Prema

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Continued on next page

Tuesday - June 09, 2026

Room: Palolo 3

Time: 2:30 - 4:30pm

Session: Law, Chemistry Education and Disability Rights; Chemistry; Curriculum, Research and Development; Higher Education; Inter-disciplinary and other areas of Arts and Humanities; Academic Counseling and Advising

Session Chair: Dr. Ruby Dhand

II. Enhancing Perceived Relevance of Chemistry: Insights from Contextualized Curriculum Approaches Across Engineering and Science Majors

This study explored how engineering and science students perceive the relevance of chemistry, emphasizing the influence of disciplinary identity. Using a quasi-experimental design, it compared a traditional curriculum with a contextualized approach that included real-world applications. Findings showed that engineering students viewed chemistry as more relevant, highlighting the need for context-rich, interdisciplinary education.

Q: How do engineering majors perceive chemistry relative to the science majors?

A: Engineering majors perceive chemistry as more personal, useful, and societally relevant than science majors.

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Oklahoma State University
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Tuesday - June 09, 2026

Room: Palolo 3

Time: 2:30 - 4:30pm

Session: Law, Chemistry Education and Disability Rights; Chemistry; Curriculum, Research and Development; Higher Education; Inter-disciplinary and other areas of Arts and Humanities; Academic Counseling and Advising

Session Chair: Dr. Ruby Dhand

III. From Advising to Coaching: Developing Reflective, Learner-Centered Practices Through Structured Professional Development

This proposal describes an ongoing professional development initiative designed to integrate coaching-informed practices into academic advising within a medical education context, with applicability across STEM education settings. Recognizing that advisors are often positioned as problem-solvers rather than facilitators of learner reflection and agency, this initiative reframes advising interactions as opportunities to support adaptive learning, self-awareness, and sustainable student success.

Q: How exactly does 'coaching' differ from 'mentoring' or 'counseling' in this context?

A: In our model, mentoring involves a senior expert providing a roadmap based on their own experience ('Follow me'). Coaching, however, is a non-directive, future-oriented partnership.

Author/Presenter:



Dr. Gretchen Keys

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Tuesday - June 09, 2026

Room: Palolo 3

Time: 2:30 - 4:30pm

Session: Law, Chemistry Education and Disability Rights; Chemistry; Curriculum, Research and Development; Higher Education; Inter-disciplinary and other areas of Arts and Humanities; Academic Counseling and Advising

Session Chair: Dr. Ruby Dhand

IV. Bridging Humanities and Career Readiness: Integrating NACE Competencies to Enhance Student Retention and Professional Pathways

Building on Emory's Mellon Humanities Pathways Grant (2019-2024), this paper examines the strategic integration of NACE core competencies into humanities courses to address student retention and career applicability concerns. Through case studies in English & Art History, the presentation demonstrates how explicit competency mapping, intentional student communication, and skills reevaluation transform student perceptions of humanities education while embodying true STEAM integration.

Q: How can humanities educators address student concerns about the applicability of their degrees in today's competitive job market while maintaining the integrity of humanistic inquiry?

A: By explicitly integrating NACE core competencies into course design and assessment, communicating transferable skills throughout the learning process, and fostering interdisciplinary connections that embrace "AND" rather than opposition. Embodying STEAM through combinations like Art History AND Pre-Medicine, educators can demonstrate that humanities skills are essential across all professional sectors.

Author/Presenter:



Dr. Tasha Dobbins-Bennett

Art History and Studio Art

Emory University: Oxford College

Oxford, Georgia



DAY 2

Wednesday - June 10, 2026

KEYNOTE ADDRESS

Wednesday - June 10, 2026

Room: Naio



Dr. Garry E. Roy
Assistant Professor of Health Information Management
University of Hawaii West Oahu
Hawaii

Dr. Garry E. Roy is an Assistant Professor of Health Information Management at the University of Hawaii–West Oahu and a leader in expanding STEM and STEAM educational pathways across Hawaii’s health and technology sectors. His work bridges medicine, data science, behavioral health, and educational innovation, with a special focus on advancing equitable access to STEM opportunities for students throughout the state.

With a Doctor of Medicine from the University of Iowa and advanced training in Psychiatry and Geriatric Psychiatry at the University of Hawaii John A. Burns School of Medicine, Dr. Roy integrates clinical expertise with system-level thinking. He later completed a Master of Health Administration, graduating Summa Cum Laude, and has since dedicated his career to developing interdisciplinary educational models that prepare students for emerging careers at the intersection of health, technology, and community impact.

Dr. Roy’s academic and professional contributions extend beyond the classroom. His background includes behavioral health program development, psychopharmacology research, clinical informatics training, and the integration of healthcare technology within federally qualified health centers. His research portfolio—including studies in neuroendocrinology, transplant immunology, psychiatry, and healthcare workforce well-being—reflects a strong foundation in scientific inquiry and translational STEM practice.

His longstanding commitment to community well-being, older adult mental health, and expanding access to health and technology careers has made him a valued leader in STEM/STEAM education across the state.



Wednesday June 10, 2026

Room: Palolo 1

Time: 8:15 - 9:45am

Session: Higher Education; Educational Foundations, Educational Measurement and Evaluation, Human Resource Development, Science Education, Teacher Education, Architecture, Product Design; Mathematics

Session Chair: Dr. Tami Knotts

I. Understanding Perceptions of Academic Integrity: Interpretations from Professors, Students, and Employers

Academic integrity has been a long-term concern in higher education. While a great deal has been written about academic integrity and cheating, less discussion has focused on the parameters of what constitutes appropriate academic behavior. Our study expands this research opportunity by considering potential differences in interpretations of academic integrity between professors, students, and employers.

Q: In our study, what were some academic integrity perception differences between professors, students, and employers?

A: Students did not consider any of the unacceptable behaviors to be very inappropriate.

Authors/Presenters: **Dr. Tami Knotts**

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Dr. Nancy D. Albers

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Dr. Karen E. James

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Wednesday June 10, 2026

Room: Palolo 1
Time: 8:15 - 9:45am
Session: Higher Education; Educational Foundations, Educational Measurement and Evaluation, Human Resource Development, Science Education, Teacher Education, Architecture, Product Design; Mathematics

Session Chair: Dr. Tami Knotts

II. Student-Led Observation Frameworks for Improved Higher-Ed STEM Student Learning

This study identifies effective teacher traits to improve learning in STEM-based Environmental Design majors at the University of Colorado. In Phase I, fall 2025, student/faculty data helped create an observation protocol focused on professor passion, engagement, and student care. Phase II, spring 2026, validated this via observations and interviews. Findings will refine department-wide surveys and observation protocols for fall 2026, fostering a student-centered culture of teaching excellence.

Q: Did students feel more comfortable sharing 'inconsistencies' in teaching effectiveness with a peer than they might have in a traditional departmental evaluation?

A: We thought about this before the interviews, and decided that the student-partner would be more effective at establishing a safe environment for students to share their honest opinions and perspectives.

Authors/Presenters:



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Mr. Aris Wertin

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Wednesday June 10, 2026

Room: Palolo 1

Time: 8:15 - 9:45am

Session: Higher Education; Educational Foundations, Educational Measurement and Evaluation, Human Resource Development, Science Education, Teacher Education, Architecture, Product Design; Mathematics

Session Chair: Dr. Tami Knotts

III. A successful implementation of Lesson Study in Mathematics in cultures outside Japan: an experience in the United States

The presentation will discuss the implementation of a Lesson Study by establishing a school-wide community and by effectively teaching math lessons in an American school.

Lesson Study is a professional development for school teachers. The presenter, a Japanese leader, will share how she developed lesson study across different cultures and education systems based on the following question: What are lesson study's directions and principles? She will also share action research classrooms.

Q: What are the directions and the principles of Lesson Study that could overcome the cultural differences for its implementation?

A: Lesson Study is originated in Japan. Recently, many countries adopted it as a teacher professional development (teacher education). There are differences of education systems and curriculums in each country. However, the lesson study is universal way of the teacher development unless they teach students in their lessons. The lesson study principles are: 1) Establish effective school wide community 2) Investigation of the teaching materials to understand the content of the lessons 3) Grasping the students' level of understanding and necessary support 4) Principle 2) and 3) tight up.

Author/Presenter:



Ms. Naomi Ishida
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Wednesday June 10, 2026

Room: Palolo 2

Time: 8:15 - 9:45am

Session: Human and Health Services; Inter-disciplinary and other areas of Education

Session Chair: Dr. Jessica Hoggle

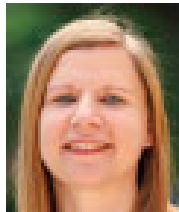
I. Strengthening the Front Line: Thematic Analysis of Mental Health First Aid Training Outcomes for Alabama First Responders

First responders often encounter mental health crises with limited training. This qualitative study examined six-month follow-up survey responses from Alabama first responders who completed Mental Health First Aid (MHFA) training. Thematic analysis revealed increased confidence in mental health response, real-world application during drug overdose and suicide incidents, use of de-escalation strategies, and greater empathy during field encounters. Findings highlight the practical impact of MHFA.

Q: How did Mental Health First Aid training for first responders apply to improved outcomes in real-world scenarios?

A: First Responders taking Mental Health First Aid training reported increased confidence in applying skills learned in order to intervene in a mental health or substance use related crisis.

Authors/Presenters:



Dr. Jessica Hoggle

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Dr. Ellen Robertson

Mrs. Shanna McIntosh

Dr. David L. Albright

VITAL
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Tuscaloosa, Alabama

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Wednesday June 10, 2026

Room: Palolo 2

Time: 8:15 - 9:45am

Session: Human and Health Services; Inter-disciplinary and other areas of Education

Session Chair: Dr. Jessica Hogle

II. Creating Suicide Safer School Communities: The Intersection of the Zero Suicide Framework & School Settings

We are learning how to use elements of the national Zero Suicide model in school settings—expanding the reach of the framework past the walls of medical facilities. This has led our team to increase training for school staff, equipping them to not only recognize suicide warning signs and have knowledge of when to intervene, but also to fight stigma—buying into the belief that zero suicides are possible as we work together towards suicide resilient communities.

Q: Who is responsible for reducing suicide rates in schools?

A: Everyone.

Authors/Presenters: **Ms. Pam Williams**
Mr. Thomas Michael Hunter
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Dr. Paige Parish
VitAL
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Continued on next page

Wednesday June 10, 2026

Room: Palolo 2

Time: 8:15 - 9:45am

Session: Human and Health Services; Inter-disciplinary and other areas of Education

Session Chair: Dr. Jessica Hogle

III. Leadership as a Determinant of Program Fidelity & Patient Outcomes

Leadership as a Determinant of Program Fidelity & Outcomes examines how leadership influences implementation of new programs in adult behavioral health settings. Drawing on two years of IPS data from implementation sites, the workshop explores how evidence-based leadership traits have co-existed with higher levels of program fidelity and outcomes. Through the exploration of research and data, participants will leave with actionable tools for leadership-based program improvement.

Q: Why do some teams consistently perform at a high level while others struggle?

A: While talent, resources, and environment all matter, leadership is the driver and foundation of them all.

Authors/Presenters:



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Wednesday June 10, 2026

Room: Palolo 3
Time: 8:15 - 9:45am
Session: Higher Education

WORKSHOP

Expanding STEAM Pathways: A Public School and College of Medicine

The Health Scholars Academy’s pilot STEAM internship, developed with a medical magnet high school, provides hands on, mentor guided learning that builds science identity and real world problem solving skills. Early outcomes show increased interest in STEM–healthcare pathways. This session will compare the new school based internship with the previous after school model to show how it strengthens STEAM pathways in public schools.

Q: What impact did embedding the STEAM internship within a public-school medical magnet have compared to the previous after school model?

A: Inserting the internship in public school reduced barriers, expanded STEAM access, and strengthened learning, boosting students’ science identity, confidence, and interest in STEM-healthcare careers.

Authors/Presenters:



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Las Vegas, Nevada



Ms. LaCresha McManus
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Roseman University of Health Science
Las Vegas, Nevada



Wednesday June 10, 2026

Room: Palolo 1

Time: 10:00 - 12:00pm

Session: Curriculum, Research, and Development; TK-12 Educational Leadership and Policy; Education, STEM

Session Chair: Dr. Dayna Mitchell

I. Fostering Belonging in TK-12 Classrooms Utilizing an MTSS Peacebuilding and Peacekeeping Framework

Students' sense of belonging in schools is positively connected to learning and well-being outcomes, motivation and attitude toward learning, school attendance, and positive engagement. Findings from this two-year case study demonstrate the positive impact of a California TK-12 school district's integrated, systematic implementation of conflict resolution education on students' social-emotional learning, academic achievement, attendance, agency, and leadership.

Q: In what ways do conflict resolution strategies such as community circles and peer mediation impact students' social-emotional learning?

A: The peacebuilding practice of community circles can support student learning outcomes, cultivate a positive school climate, facilitate positive student-to-student and student-to-adult connections and relationships, foster student agency, and develop students' social-emotional wellness, leading to social cohesion outcomes of acceptance, belonging, inclusion, relational trust, and service to others. Peer mediation as a peacekeeping practice can support students in learning to understand and manage their emotions, leading to improved interactions and communication with their peers, creating supportive and trusting relationships, and positioning students as capable of handling and de-escalating conflicts in a constructive way, which can lead to decreased exclusionary disciplinary practices. Students can develop empathy by listening and understanding the feelings and perspectives of others. Peer mediation can provide agency to students to solve their own conflicts as students carry the cognitive load of problem solving and learn to negotiate agreement and facilitate alternatives to violence in schools.

Author/Presenter:



Dr. Dayna Mitchell
Educational Leadership
California State Polytechnic University, Pomona
Pomona, California

Continued on next page

Wednesday June 10, 2026

Room: Palolo 1

Time: 10:00 - 12:00pm

Session: Curriculum, Research, and Development; TK-12 Educational Leadership and Policy; Education, STEM

Session Chair: Dr. Dayna Mitchell

II. Strengthening STEM Education Through Attendance: A Dual-Pronged Digital and Health Model

The Digital Equalizer Program improved attendance in three Prantij middle schools by integrating STEM instruction with health and hygiene supports. Surveys and in-person interviews of middle school students showed reduced absenteeism driven by engaging STEM lessons, home visits from community organizers, clean water for hand washing, functioning toilets, and 24/7 access to sanitary napkins. This dual digital-and-health model reduced barriers for girls and strengthened STEM participation.

Q: How can cultural norms in rural villages improve school attendance, especially for girls?

A: Shifting norms requires combining cultural dialogue with STEM education and engagement as well as health and hygiene practices. Educators and community organizers can seek to educate parents and students to highlight the value of STEM digital education and schooling. Moreover, schools can provide clean water, working toilets, and 24/7 access to sanitary napkins, reducing hygiene-related absences. Finally, by also addressing cultural beliefs about girls' roles and menstruation, educators and community organizers can help families feel confident and supported in sending girls to attend school consistently.

Author/Presenter: Ms. Anya Dalal
Chair, Hillsborough Youth Commission
Castilleja School
Palo Alto, California



Wednesday June 10, 2026

Room: Palolo 1

Time: 10:00 - 12:00pm

Session: Curriculum, Research, and Development; TK-12 Educational Leadership and Policy; Education, STEM

Session Chair: Dr. Dayna Mitchell

III. STEAgM: Promoting the Integration of Agriculture and STEM Lessons

A 2021 National Science Board Report sharing that as scientific and technical expertise becomes increasingly critical for sustained economic growth, occupations such as those in Agriculture requiring this expertise is expected to increase. There remains a threat to U.S. agriculture attributed to a shortage of food, agriculture, natural resources, and human (FANH) Sciences and STEM. This study focuses on providing secondary students with lessons on Agriculture and STEM.

Q: What lessons are of great interest to secondary students in Agriculture?

A: Digital Agriculture/Drone Technology.

Authors/Presenters:



Dr. Paula Faulkner

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Dr. Robert Cobb, Jr.

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Greensboro, North Carolina



Wednesday June 10, 2026

Room: Palolo 1

Time: 10:00 - 12:00pm

Session: Curriculum, Research, and Development; TK-12 Educational Leadership and Policy; Education, STEM

Session Chair: Dr. Dayna Mitchell

IV. Developing Stakeholder Political Literacy Through Meaningful Engagement

California educational policy empowers school stakeholders to define student outcomes, priorities, goals, actions, metrics, and budget plans. This study explored the role of school district leadership in fostering stakeholders' political literacy, providing examples of strategies and protocols leaders used to meaningfully engage and empower stakeholder decision-making, and build capacity to make informed decisions to improve student outcomes.

Q: What processes, strategies, and protocols can leaders use to meaningfully engage students, staff, and parents in educational decision-making?

A: 1. Similarly aligned student, staff, and parent surveys can gather broad stakeholder voice and perception data regarding students' academic and social-emotional needs.

2. Focus groups and forums can facilitate input and feedback.

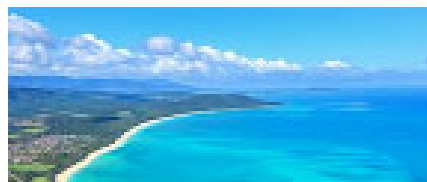
3. Advisories comprised of diverse groups, including students, provide an opportunity for groups to engage in data analysis protocols.

4. A variety of data analysis protocols provides stakeholders with a structured opportunity to discuss student data, and identify strengths, challenges, and growth areas, which can impact decision-making around outcome goals and metrics.

Author/Presenter:



Dr. Dayna Mitchell
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Wednesday June 10, 2026

Room: Palolo 2

Time: 10:00 - 12:00pm

Session: Mathematics, Topology; Information Technology; Education Topic, Focus Areas: Teacher Education; 3 D Integrated Circuit Design and Education Technology

Session Chair: Dr. Lakeshia Jones

I. An Inquiry-Based Approach to Teaching Topology with Real Data Applications

This talk presents an undergraduate Introduction to Topology course that integrates inquiry-based learning, collaborative reading, mathematical writing, and computational exploration. Classical point-set topology is taught alongside applied modules in Topological Data Analysis, enabling students to connect abstract concepts with real datasets. Students annotate readings, write proofs, & interpret topological structures, strengthening communication and reasoning.

Q: How will this course structure prepare students for future advanced math courses or graduate school?

A: This design teaches students to read, write, communicate, present and apply mathematics, skills needed for graduate school and the modern workforce.

Author/Presenter:



Dr. Lakeshia Jones
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Atlanta, Georgia



Wednesday June 10, 2026

Room: Palolo 2

Time: 10:00 - 12:00pm

Session: Mathematics, Topology; Information Technology; Education Topic, Focus Areas: Teacher Education; 3 D Integrated Circuit Design and Education Technology

Session Chair: Dr. Lakeshia Jones

II. Homeroom Activities in the Department of Information Engineering Utilizing a Learning Management System

This paper describes a student support method using video and material distribution via a learning management system within the academic advisor system. The goal is to ensure regular contact opportunities with students through video distribution and feedback via questionnaire responses, thereby enabling more stable student lives through daily learning guidance. This initiative has quantitatively demonstrated a significant impact on the relative improvement in academic performance among students.

Q: What is the academic advisor system?

A: A system where multiple faculty members as homeroom teachers provide academic guidance to students by grade level. This primarily involves course registration guidance, learning support, event announcements, and extracurricular activities.

Author/Presenter:



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Wednesday June 10, 2026

Room: Palolo 2

Time: 10:00 - 12:00pm

Session: Mathematics, Topology; Information Technology; Education Topic, Focus Areas: Teacher Education; 3 D Integrated Circuit Design and Education Technology

Session Chair: Dr. Lakeshia Jones

III. Examining Teachers' Generative Artificial Intelligence Competencies: A Network Perspective

This study examines teachers' generative AI (GenAI) competencies as an interconnected system using network analysis. Survey data from 478 teachers across five competency dimensions reveal a highly integrated structure, with student-focused GenAI practices and professional development emerging as the most central domains. Technical proficiency played a comparatively peripheral role, highlighting the importance of pedagogical, ethical, and professional integration in effective GenAI use.

Q: How can these findings inform teacher education programs?

A: Programs should emphasize student preparation, reflective practice, and collaborative professional learning rather than standalone technical training.

Author/Presenter: Dr. Lehong Shi
Department of Workforce Education and Instructional Technology
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Athens, Georgia



Wednesday June 10, 2026

Room: Palolo 2

Time: 10:00 - 12:00pm

Session: Mathematics, Topology; Information Technology; Education Topic, Focus Areas: Teacher Education; 3 D Integrated Circuit Design and Education Technology

Session Chair: Dr. Lakeshia Jones

IV. Integrating Layout-Based Design Projects into ECE 140: A Scalable Approach for VLSI System Design Education

This work presents a scalable framework for integrating layout-based projects into ECE 140: VLSI System Design at Fresno State. Using open-source layout and verification tools, the approach strengthens implementation-aware learning in large classes. Student feedback and quiz results show improved learning outcomes, while a geometry- and metadata-based workflow enables practical detection of plagiarized layout submissions.

Q: How can undergraduate VLSI courses teach physical IC layout effectively in large classes without relying on expensive commercial EDA tools?

A: This presentation shows how ECE 140 at Fresno State integrates open-source layout, DRC, and verification tools into a scalable project framework that improves implementation-focused learning outcomes while also using layout geometry and metadata to detect plagiarized submissions efficiently.

Authors/Presenters: **Dr. Nusrat Jahan**
Mr. Naren Myneedi
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Mr. Khairul Anam
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Wednesday - June 10, 2026

Room: Palolo 3

Time: 10:00 - 11:30am

Session: Literature and Language: French Studies; Self-study, Language Education, Environmental Education, Anti-oppressive, Arts-based Research; Linguistics

Session Chair: Prof. Marc Z. Yang

I. Bourdieu, Ernaux, and Eribon: A New Generation of "Intellectuels Engagés" after Sartre Confronting Social Shame in 20th-21st Century France

This paper examines 3 well-known French authors Pierre Bourdieu, Annie Ernaux, and Didier Eribon whose writing confronts social shame in 20th and 21st century France.

Author/Presenter:



Prof. Marc Z. Yang
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Wingate, North Carolina



Wednesday - June 10, 2026

Room: Palolo 3

Time: 10:00 - 11:30am

Session: Literature and Language: French Studies; Self-study, Language Education, Environmental Education, Anti-oppressive, Arts-based Research; Linguistics

Session Chair: Prof. Marc Z. Yang

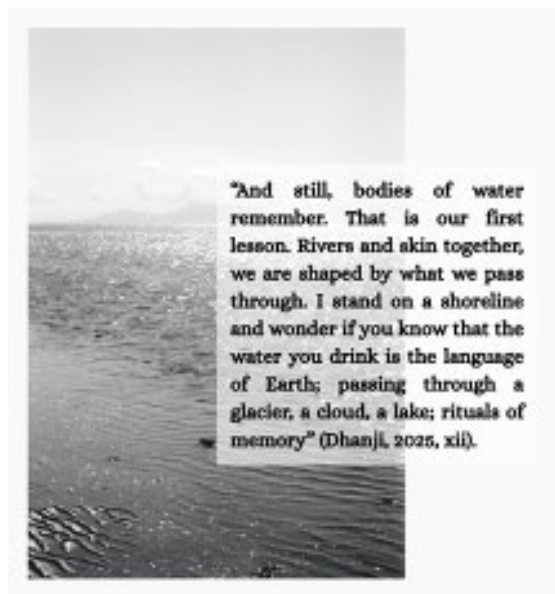
II. Embodiments of Water: on Plurilingual-Pluricultural Identities Through Memory and Language Learning-Teaching

This arts-based self-study explores plurilingual-pluricultural identity through the metaphor of water. Drawing on memory work, poetry, and visual art, I examine how language learning-teaching, colonial histories, and diasporic absences shape my becoming as an artist-researcher-teacher. Grounded in sociolinguistic, anti-oppressive, and environmental education, my research challenges monolingual paradigms and reimagines language education as fluid, relational, and justice-oriented.

Q: Which body of water reflects the shapes of your identities and learning-teaching practices?

A: Open question to incite creative critical thinking.

Author/Presenter: Mrs. Anisa Maya Dhanji
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Wednesday - June 10, 2026

Room: Palolo 3

Time: 10:00 - 11:30am

Session: Literature and Language: French Studies; Self-study, Language Education, Environmental Education, Anti-oppressive, Arts-based Research; Linguistics

Session Chair: Prof. Marc Z. Yang

III. What Words Do We See on TV? Exploring Language Exposure through TV Viewing Patterns

This study utilizes television subtitle and program metadata to investigate differences in vocabulary exposure and linguistic complexity, based on varying viewing habits and the actual content of programs consumed. Specifically, we conduct a comparative analysis using empirical data to examine how different viewing preferences influence the types of linguistic expressions and vocabulary an individual encounters.

Q: How does linguistic input differ between news-oriented viewers and entertainment-only viewers?

A: News viewers likely encounter more political and economic terms, while entertainment-focused viewers are exposed to popular vocabulary from arts and comedy. However, since Japanese news also covers topics like tourism and dining, it may offer a wider variety of vocabulary than expected.

Author/Presenter: **Dr. Hajime Mochizuki**
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Japan





POSTER SESSION

Wednesday - June 10, 2026
11:00 am - 12:30 pm
Naio Room

Wednesday - June 10, 2026

Room: Naio Room

Time: 11:00am - 12:30pm

Session: Posters

1. Learning by Creating: Student Outcomes from Developing an Educational Technology Project

This exploratory case study examines a small interdisciplinary student team at Utah Valley University that developed an AI-supported Canvas LMS learning system. Findings from self-assessments, reflections, artifacts, and faculty observations suggest growth in technical skills, agile project management, teamwork, and problem solving. The study shows that student-led educational technology projects can support both campus innovation and STEM/STEAM professional development.

Q: How can small student teams contribute meaningfully to curriculum development and innovation in higher education?

A: By engaging students as co-creators, even small teams can design impactful educational tools while gaining professional and technical skills. This dual outcome benefits both curriculum and student development.

Author/Presenter: **Dr. Ahmed Alsharif**
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Wednesday - June 10, 2026

Room: Naio Room

Time: 11:00am - 12:30pm

Session: Posters

2. Leveraging Custom GPT Models to Enhance AutoCAD Instruction in Higher Education

This study examined the integration of an instructor-grounded custom GPT (Generative Pre-Trained Transformer) model, “AutoCAD Studio@UC Berkeley,” within a live online AutoCAD course in higher education workforce programming. The purpose of the intervention was to provide on-demand, discipline specific instructional support aligned with course content, drafting standards, and instructor workflows while promoting more efficient use of valuable faculty time. A mixed methods design was used to compare pre and post intervention student evaluation data and analyze structured student reflections regarding GPT- assisted learning interactions. Quantitative findings indicated that students perceived the custom GPT as highly effective for procedural clarification, troubleshooting, and reinforcement of drafting standards. Findings align with emerging literature suggesting that bounded, discipline specific AI systems may improve learner support while reinforcing faculty guided instruction.

Q: How does a custom GPT improve learning compared to standard AutoCAD tutorials?

A: Unlike static tutorials, the GPT adapts to each student’s context and queries in real time, offering tailored explanations aligned with industry standards and course outcomes.

Author/Presenter:



Prof. Ricardo Uribe
UC Berkeley Extension
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Jackson, Texas



Wednesday - June 10, 2026

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Time: 11:00am - 12:30pm

Session: Posters

3. The Efficacy of a Virtual and In-person Mindfulness-Based Intervention Course on University Students During COVID-19 Pandemic

Objective: The purpose of this research was to evaluate the impact of a mindfulness-based intervention (MBI) on university students during the COVID-19 pandemic.

Results:

Results revealed that the in-person group showed significantly higher mindfulness, life satisfaction, and resilience over the course of the semester. The virtual group showed increases across all three variables as well, but only significantly improved on resilience.

Q: *Which mindfulness-based interventions did students seem to benefit from the most?*

A: *Mindful movement techniques (including breath meditation), reflective and expressive writing*

Author/Presenter:



Dr. Melissa Cheese

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Commonwealth University of Pennsylvania
Bloomsburg, Pennsylvania



Wednesday - June 10, 2026

Room: Naio Room

Time: 11:00am - 12:30pm

Session: Posters

4. Personal Branding in STEM/STEAM: A Virtuous Business Perspective

This article examines the importance of personal branding for STEM/STEAM professionals. It stresses the need to strategically showcase one's unique skills, experiences, and values to create a strong professional identity. It explains how building an authentic brand can benefit communities and groups. The article highlights how virtuous branding can increase visibility, credibility, and career opportunities, helping individuals stand out in competitive fields by offering strategic actions.

Q: How can STEM/STEAM professionals authentically integrate their unique skills, experiences, and values into their online presence?

A: Start with your values and design an authentic picture of who you are and what your unique gifts are. Then decide what type of content to put out or channels to use. Get started

Author/Presenter:



Dr. Erica Garcia-Thomas
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Wednesday - June 10, 2026

Room: Naio Room

Time: 11:00am - 12:30pm

Session: Posters

5. Integrating Visual Mnemonics and Serious Game Design into Acid–Base Education

The Medimon Algorithm addresses the high cognitive load that medical students experience when learning acid–base analysis. Traditional flowcharts are dense and text-heavy, making it difficult for learners to integrate and recall complex relationships. The Medimon Algorithm introduces visual mnemonics and serious game-inspired imagery to simplify reasoning and improve long-term retention.

Q: What problem does the Medimon Algorithm aim to solve in medical education?

A: The Medimon Algorithm addresses the high cognitive load that medical students experience when learning acid–base analysis. Traditional flowcharts are dense and text-heavy, making it difficult for learners to integrate and recall complex relationships. The Medimon Algorithm introduces visual mnemonics and serious game-inspired imagery to simplify reasoning and improve long-term retention.

Author/Presenter:

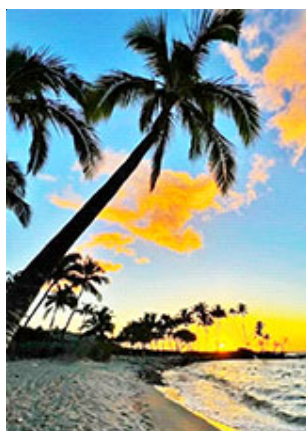


Dr. Tyler Bland

School of Health and Medical Professions

University of Idaho

Moscow, Idaho



Wednesday - June 10, 2026

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Session: Posters

6. Analyzing Teachers' Reflections on Culturally Responsive Pedagogies and Errors in a Computer Science Summer Bootcamp

In Summer 2025, we implemented a Computer Science (CS) teacher bootcamp to develop instructional confidence for teachers serving low-income, underrepresented, and rural students with limited computing exposure. Findings indicate that teachers seek solutions to address students' maladaptive responses to programming errors despite repeated efforts to implement collaborative strategies, and our bootcamp enhanced their skills in group learning and mastery-oriented approaches.

Q: What do teachers really think about using errors as learning opportunities (Metcalf, 2017) in CS?

A: Teachers in our study indicated that mistakes serve as valuable learning opportunities in computer science. Our results further suggest that CRP (Ialuna et al., 2024) may be a pathway for strengthening students' motivation and collaborative learning in CS by fostering stronger teacher-student relationships.

Authors/Presenters: **Dr. Xingfeiyue Liu**

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Dr. Alex Fegely

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7. Transformative Leadership for American Indian Education: Outcomes of a Principal Leadership Training Program

The First Americans' Educational Leadership (FAEL) Program addresses the critical need to recruit and retain American Indian school administrators. Participants were supported with financial assistance, mentorship, and comprehensive professional development emphasizing transformative leadership practices and STEM education. This poster highlights program design, participant outcomes, and overall impact. Actionable strategies for replicating leadership training models will be shared.

Q: How does a comprehensive training program for American Indian administrators affect retention and student outcomes?

A: The First Americans' Educational Leadership (FAEL) Program demonstrates that a comprehensive training program for American Indian administrators can significantly increase retention and improve student outcomes. The program's approach, resulted in a 95% completion rate among participants, with 85% securing administrative roles in American Indian schools, and notable improvements in student achievement data in schools that FAEL participants served.

Author/Presenter:



Dr. Camille Goins
Department of Educational Leadership
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Session: Posters

8. Assessing Parenting Styles in a Native American Community: Implications for Student Learning Outcomes

This poster will present findings from a quantitative, cross-sectional study that examined the relationship between parenting styles and student learning outcomes among Native American families. By examining how Native American parents support their children's academic development, this research aims to inform educators and policymakers on implementing culturally responsive practices that foster collaboration between schools and Native American families, leading to improved student outcomes.

Q: Do parenting styles in Native American communities influence student learning outcomes?

A: The parenting styles in Native American communities play a significant role in their child's academic development and student learning, influencing educational outcomes.

Author/Presenter:



Prof. Emily Goins
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Session: Posters

9. Transforming Principal Preparation: Building Leadership Pipelines Through Accelerated Online Programs

This poster session examines an online accelerated School Administration program that has grown by 168% since 2021. Using a mixed-methods approach, we analyze participant data and K–12 partner feedback to assess leadership readiness and program effectiveness. Findings highlight best practices for designing a rigorous online leadership program that strengthens principal pipelines and fosters collaboration between university-school partnerships.

Q: What are the elements that make up an effective online accelerated school administration program that strengthens principal pipelines?

A: A rigorous and relevant curriculum that includes authentic field-based experiences, while ensuring flexibility and accessibility, strengthens principal pipelines, specifically when emphasis is placed on developing strong, sustained partnerships between universities and K–12 schools and is responsive to participants' needs.

Author/Presenter:



Dr. Camille Goins

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10. Design and Validation of a Survey Instrument for Assessing Self-Efficacy in Laboratory Scientific Practices

This study reports the design and validation of a survey instrument measuring undergraduate students' self-efficacy in laboratory scientific practices. Using exploratory and confirmatory factor analyses with General Chemistry II students, the instrument was refined to 20 items across four constructs, demonstrating strong model fit and high reliability. Ongoing validation aims to support instructional improvement and assessment of laboratory skill development.

Q: How can a validated self-efficacy instrument help instructors improve students' laboratory learning experiences in undergraduate chemistry courses?

A: By identifying specific areas where students feel less confident such as experimental design or data analysis, the instrument provides actionable feedback that instructors can use to target instruction, redesign lab activities, and monitor growth in essential scientific practices over time.

Authors/Presenters:



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Wednesday - June 10, 2026

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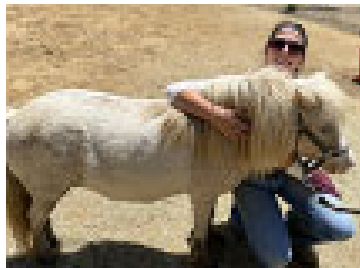
11. On-campus Equine-assisted Intervention Program: Student Wellness Benefits Assessed using Emotional State Biomarkers

Due to the mental health crisis, campuses are exploring alternative solutions to promote student emotional well-being, including the use of horses. While equine-assisted intervention (EAI) has proven to be a useful tool in supporting student emotional wellness, most reported impacts of EAI focus on self-reporting assessments, neglecting the potential physiological impact of EAI. Understanding the benefits of EAI will assist in determining implementation of on-campus emotional wellness programs.

Q: Does on-campus EAI impact dopamine (DA) and serotonin (5-HT) levels within college students and do these biomarkers reflect the student's perceived emotional state?

A: College students ($n = 14$) participated in a one-hour on-campus EAI program. Pre- and post-EAI self-reporting surveys on emotional state were collected along with saliva samples for measuring DA and 5-HT concentrations. Results show that perceived stress and mood were significantly improved post-EAI ($P = 0.0001$ and $P = 0.003$, respectively). However, the concentrations of DA and 5-HT were not significantly impacted ($P = 0.23$ and $P = 0.27$, respectively). A correlation between DA and perceived stress levels was only observed pre-EAI ($r = 0.72$, $P = 0.02$). While students perceived improved emotional state, DA and 5-HT concentrations did not reflect the perceived benefits of on-campus EAI.

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12. Barriers to Implementing MAT and MOUD in Community Supervision Settings Across Rural Alabama

Project Possibilities is a five-year Alabama initiative that aims to reduce recidivism by linking justice-involved individuals with substance use disorders to MOUD/MAT through community supervision. This presentation highlights rural implementation barriers and key information for improving equitable treatment access.

Q: What challenges are unique to rural areas when implementing MAT/MOUD in the community supervision system?

A: Limited access to providers of MAT/MOUD, limited access to transportation and other systemic difficulties are some of the challenges that rural areas face when providing treatment services to supervised individuals.

Authors/Presenters: **Ms. Wendi Hogue**
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Mrs. Shanna McIntosh
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Session: Posters

13. Evaluating the Impact of Mental Health First Aid Training for Alabama First Responders: A Mixed Methods Study

This mixed methods study evaluated the impact of Mental Health First Aid training delivered to 2,592 Alabama first responders using pre-, post-, and six-month follow-up surveys. Quantitative results showed substantial and sustained improvements in knowledge, attitudes and beliefs, and confidence in responding to mental health. Qualitative findings of survey results using thematic analysis demonstrated real-world application of de-escalation, communication, and crisis recognition skills.

Q: Did Mental Health First Aid Training for First Responders improve outcomes in areas including knowledge around mental health, attitudes and beliefs related to mental health and substance use, and confidence in responding to a mental health-related issue?

A: Yes, substantial improvements were noted in all 3 areas from pre-test to post-test, with results largely being sustained at 6 month follow-up.

Authors/Presenters:



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Session: Posters

14. Orchestrating Generative AI in Mathematics Education: Fostering Instrumental Genesis through Task Design for Pre-service Teachers

This study explores how task design can foster instrumental genesis when orchestrating generative AI in mathematics teacher education. Using Artigue's instrumental approach, it treats AI as an artefact that becomes an instrument as pre-service teachers develop verification/refinement schemes. Logs and oral protocols are mined for verification moves and compared between secondary math and elementary candidates, suggesting tailored orchestration.

Q: Under what conditions do pre-service mathematics teachers shift from using general-purpose generative AI for answer-getting to using it for verification?

A: Teacher educators should impress upon students in mathematics teacher education programs the multifaceted nature of prompts, which enables polysemous and context-dependent interpretations of generative AI outputs.

Author/Presenter:



Prof. Yutaka Ohara
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Tokyo, Japan



Wednesday - June 10, 2026

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Session: Posters

15. Project FREEDOM's Impact on Opioid Overdose Mortality in Alabama

From 2023 through 2025, SAMHSA funding supported Project FREEDOM's distribution of more than 12,000 Narcan kits (overdose reversal medication) to first responder agencies. Additionally, the project team administered nearly 600 overdose prevention training courses to first responders, healthcare professionals, and community members, while also establishing peer-to-treatment pathways for overdose survivors. The interventions contributed to an 18.2% reduction in opioid overdose deaths.

Q: How did Project FREEDOM (First Responder Expansion of Education and Distribution of Overdose Medication) help achieve an 18.2% reduction in opioid overdose deaths in Alabama?

A: Project FREEDOM helped to reduce opioid overdose deaths by distributing Narcan (opioid overdose reversal medication), providing education and training to first responders, healthcare professionals, and community members, and establishing peer-to-treatment pathways. The strategies implemented by Project FREEDOM supported overdose survivors' transition into sustained care.

Authors/Presenters: **Mrs. Whitney Johnson**
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Dr. Tamekia Wilkins
Dr. Samantha Barfield Morris
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Dr. Samantha Barfield Morris



Dr. Tamekia Wilkins

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16. From Outreach to Care: Project FREEDOM’s Role in Treatment Referrals and Recovery Services

Fentanyl remains a major cause of overdose deaths, and many avoid seeking help due to stigma or past negative experiences. Project FREEDOM reduces these barriers by training responders, providers, and community members in overdose response and naloxone use, while expanding access to treatment through digital tools, printed referral materials, and a 24/7 peer-support hotline to create clear pathways to care.

Q: How has Project FREEDOM contributed to connecting individuals to treatment and recovery services across the State of Alabama?

A: Analysis of 267 referrals received through the peer support call center from September 2024 through January 2026 showed that individuals reached were predominantly male (63%) and most commonly ages 25–54. Referral patterns reflected high clinical need: 82% were referred to inpatient treatment services, 15% to outpatient care, and 3% to early intervention services. 98.5% received confidential support and information that connected them to treatment and recovery services. This level of engagement highlights the impact of Project FREEDOM’s collaboration with first responders, healthcare providers, and community members, supported by statewide peer-support coordination, printed referral materials, and digital outreach tools.

Authors/Presenters: **Dr. Samantha Barfield Morris**

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Dr. Samantha Barfield Morris



Dr. Tamekia Wilkins

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Session: Posters

17. Redesigned Laboratory Manual Increases Student Learning and Engagement in Non-Science Majors

This study assessed the effectiveness of newly designed and implemented active-learning labs in a Human Biology course at a small liberal arts college. We found significant learning gains when comparing pre- and post-test results across seven different laboratory sections. Students also reported high engagement, skill development, and improved conceptual understanding, offering a scalable model for strengthening general education STEM instruction.

Q: Can redesigning lab activities transform how non-science majors learn biology?

A: Yes! Attend the poster presentation to learn more.

Author/Presenter:



Dr. Marcus Norman
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Wednesday - June 10, 2026

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Time: 11:00am - 12:30pm

Session: Posters

18. The Role of Criteria in an Authoring-Support System for Situated Programming Learning Materials that Elicit Interaction with Computers

In examining a programming learning environment grounded in the Free Energy Principle, this study investigated a framework for instructional material design and an authoring-support system that enables designers to effectively orchestrate active inference. The results show that sharing explicit criteria and integrating formative feedback are essential supports for developing materials that continuously elicit active inference.

Q: What roles do shared criteria and formative feedback play in an authoring-support system for instructional material design?

A: The sharing of explicit criteria and the provision of formative feedback based on those criteria contributed to quality enhancement within the instructional material authoring-support system.

Author/Presenter:



Prof. Shigeki Kitajima
School of Education
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Japan



Wednesday - June 10, 2026

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Time: 11:00am - 12:30pm

Session: Posters

19. Designing a Sound Ball for Visually Impaired Players: A Middle School Engineering Design Project

This poster presents a middle school STEM project where students designed a sound-producing ball to improve accessibility for visually impaired players. Using the engineering design process, students created and tested 3D-printed prototypes with different internal sound mechanisms. A bead-based design produced the most consistent sound. The project demonstrates how hands-on STEM activities can develop problem-solving skills while promoting awareness of inclusive design.

Q: How can middle school students meaningfully contribute to solving real-world accessibility challenges through engineering?

A: In this project, students identified a real challenge—how visually impaired players locate a moving ball—and developed a sound-producing solution using 3D design and prototyping. By working through the engineering design process, students not only built functional prototypes but also gained a deeper understanding of accessibility and inclusive design. This demonstrates that even at the middle school level, students can engage in impactful, real-world problem-solving.

Authors/Presenters: **Prof. Hyung Sok (Nathan) Choe**
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Ms. Celine Cho
Yongsan International School of Seoul
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Republic of Korea

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20. Using 360-Degree Feedback as a Strategy for Effective Summative Assessment

Providing feedback on student assignments can be difficult. If you point out every error, students often reflexively recoil and stop processing the feedback. If you point out a few, you might not overwhelm them, but they might get a false sense of success. This poster will focus on using 360-degree feedback to mitigate the frustration and tension that can arise when students are unaccustomed to the detailed, specific feedback professors often provide on summative assessments.

Q: What strategies do you use in providing feedback to make it most effective in helping students to accept, understand, and improve their work?

A: Come share your ideas!

Author/Presenter: **Prof. Amanda Harmon Cooley**
Constitutional Law, Constitutional Law Seminar,
Deposition Skills, Education Law Seminar,
First Amendment Seminar, Legal Research and Writing
South Texas College of Law Houston
Houston, Texas



Wednesday - June 10, 2026

Room: Palolo 1

Time: 12:45 - 2:15pm

Session: STEAM; Land and Place-based Education; Field Studies;
School-University Partnerships; Indigenizing Science Education;
Agriculture, Food Systems, Experiential Learning, Education

Session Chair: Dr. Kevin O'Connor

I. A Curriculum of Place Established through School-university Partnerships: Teacher Candidates' Experiences in STEAM Field Studies with Community Partners

Our research investigates how educators' experiences in field studies with community partners can inform an interdisciplinary educational program (STEAM) based on a curriculum of place. Results of our self-study demonstrated the intimate relationship that Indigenous people have with the land and emphasizes relational ways of knowing were impactful.

Q: What are your experiences with a 'curriculum of place'?...How have you leveraged partnerships in your work?

A: The participants responses will guide further discussion.

Author/Presenter:



Dr. Kevin O'Connor
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Calgary, Alberta
Canada



Wednesday - June 10, 2026

Room: Palolo 1
Time: 12:45 - 2:15pm
Session: STEAM; Land and Place-based Education; Field Studies;
School-University Partnerships; Indigenizing Science Education;
Agriculture, Food Systems, Experiential Learning, Education

Session Chair: Dr. Kevin O'Connor

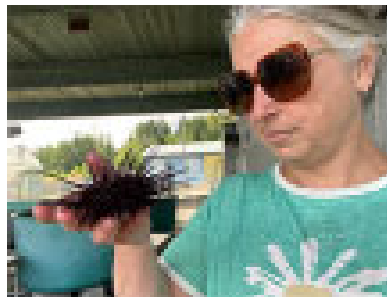
II. From a Line to a Circle - Indigenizing Science Education

What is a lecture? Is it a one-way downloading of information – a direct method to impart information? Or is it a conversation in a slightly asymmetric format? As a university student, it was very clear to me that information was a one-way flow. With the student acting as a patient receiver waiting for the holder of all pertinent knowledge – the Professor – to talk. However, does this method of knowledge transfer work? Here I will discuss lessons learned from Coast Salish Elders.

Q: Can important work be done alone?

A: According to Coast Salish customs - important work should never be done alone.

Author/Presenter: **Dr. Stefanie Zaklan Duff**
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Wednesday - June 10, 2026

Room: Palolo 1

Time: 12:45 - 2:15pm

Session: STEAM; Land and Place-based Education; Field Studies;
School-University Partnerships; Indigenizing Science Education;
Agriculture, Food Systems, Experiential Learning, Education

Session Chair: Dr. Kevin O'Connor

III. Linking Agricultural Literacy from K-12 to College Students – A Multidisciplinary Experiential Learning Approach

We as educators need to teach our students to adapt to the changing scenarios in the economy and society. This presentation will use one of the most effective ways to stimulate an interdisciplinary education experience linking K-12 to college level to enhance learning/thinking capacity and ability by combining knowledge with practical experience.

Q: How would you incorporate experiential learning into your classes?

A: Attend my presentation for one of the most effective ways.

Author/Presenter:



Dr. Chyi-Lyi Liang

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Wednesday - June 10, 2026

Room: Palolo 2

Time: 12:45 - 2:15pm

Session: African Studies; African Politics; Inter-disciplinary and other areas of Education

Session Chair: Dr. Clemente Abrokwa

I. Conflict, Refugee Resettlement, and the Flight of Human Capital from Africa: The Case of the Lost Boys of Sudan

This paper discusses the flight of human capital from Africa through forced migration and resettlement of African refugees outside Africa due to wars and conflicts which have plagued the continent since independence in the 1960s. It references the case of the Lost Boys of Sudan, resettled in the US in 2001 – specifically, those resettled in Philadelphia from the Kakuma refugee camp in Kenya – and who later studied at The Pennsylvania State University, where the author taught and interviewed 16 of them in 2006 and 2016, respectively, about their refugee experiences, and academic and career accomplishments, as an example of the loss of human capital both to South Sudan and the African continent.

Author/Presenter: **Dr. Clemente K. Abrokwa**
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II. The Public Administration Impasse and Illegal Mining, Galamsey, in Ghana: The Role of Traditional and Political Leaders

This paper argues that the current system where government grants permission for small-scale mining within the jurisdiction of a traditional chiefs without their knowledge has giving rise to illegal mining, galamsey, in the regions, especially in the forest reserves. The growth of any economy depends on several factors including effective government policies and administrative leadership.

Author/Presenter:



Prof. Kwame Badu Antwi-Boasiako
Government and Sociology
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Continued on next page

Wednesday - June 10, 2026

Room: Palolo 2

Time: 12:45 - 2:15pm

Session: African Studies; African Politics; Inter-disciplinary and other areas of Education

Session Chair: Dr. Clemente Abrokwa

III. Humanistic STEM at Embry-Riddle Aeronautical University: Innovative Education to Prepare Global Citizens

The Humanistic STEM (H-STEM) program at Embry-Riddle Aeronautical University bridges STEM and the humanities to expose students to the ethical, cultural, and global aspects of science and innovation. Through a new minor, infused courses, and events, H-STEM cultivates insightful global citizens. With a diverse worldwide student body, 23,000 learners across 100+ countries, the program highlights interdisciplinary collaborations to demonstrate the power of humanistic approaches to STEM fields.

Q: Can you share an example of how H-STEM fosters interdisciplinary collaboration?

A: One recent example is the program's presentation of The MiG-21 Project from the Seattle Museum of Flight. A Cold War-era aircraft was transformed into an art installation symbolizing peace and resilience. Other events have featured collaborations in music, dance, and space science, illustrating how diverse disciplines can enrich science and engineering.

Author/Presenter:

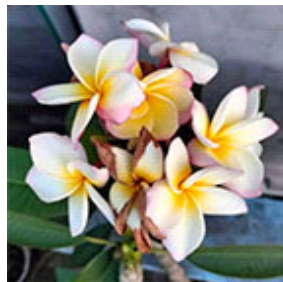


Dr. Christina Reynolds

Humanistic STEM

Embry-Riddle Aeronautical University Worldwide

Daytona Beach, Florida



Wednesday - June 10, 2026

Room: Palolo 3
Time: 12:45 - 2:15pm
Session: Higher Education

WORKSHOP

Strengthening STEAM Partnerships to Advance Youth Learning and Engagement at a New College of Medicine

This presentation explores how strengthening STEAM partnerships supports youth learning and engagement at a new College of Medicine. By aligning resources across schools, higher education, community groups, and industry, these collaborations expand access to culturally responsive, real-world STEAM experiences that foster creativity, problem-solving, and pathways into health and science careers.

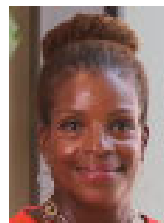
Q: Why is it important for a new College of Medicine to have strong STEAM partnerships to support youth learning and engagement?

A: Strong STEAM partnerships expand youth access to meaningful, equitable, real-world STEAM learning.

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Wednesday - June 10, 2026

Room: Palolo 1

Time: 2:30 - 4:00pm

**Session: Interdisciplinary International Cross Collaboration STEAM Education;
Higher Education; CAD/CAM/CAE/FMS/CIMS/CFT/RPT;
Inter-disciplinary Technology/Engineering; Art/Design & Music**

Session Chair: Dr. Susan Rauchwerk

I. Designing Across Cultures: A COIL-Based Case Study Integrating Design Thinking and STEAM Education

This qualitative case study examines a multi-year Collaborative Online International Learning (COIL) project connecting U.S. pre-service teachers studying STEAM education with Japanese university students studying design thinking. Findings indicate that COIL can function as a longitudinal learning ecosystem in which ideas accumulate across cohorts, and that playground design serves as an effective shared problem space for examining inclusion, accessibility, and cultural perspectives.

Q: How does Multiple Intelligences Theory and Critical Exploration Shape your Study?

A: The complementary theories enable students from different countries, different disciplines, different degrees, different time zones and different school years to have common, collaborative learning experiences.

Authors/Presenters: **Dr. Susan Rauchwerk**
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Wednesday - June 10, 2026

Room: Palolo 1

Time: 2:30 - 4:00pm

Session: Interdisciplinary International Cross Collaboration STEAM Education; Higher Education; CAD/CAM/CAE/FMS/CIMS/CFT/RPT; Inter-disciplinary Technology/Engineering; Art/Design & Music

Session Chair: Dr. Susan Rauchwerk

II. Adaptive Leadership Beyond Borders: Lessons from HBCUs for a Post-Pandemic World

The COVID-19 pandemic reshaped higher education globally, forcing institutions to rethink operations, student support, and funding priorities. While many universities struggled, Historically Black Colleges and Universities (HBCUs) faced the added challenge of systemic underfunding and inequitable resource distribution. Yet, HBCUs adapted with creativity and resilience, offering valuable lessons for higher education institutions worldwide.

Q: How do you support first-generation or under resourced students when your institution itself is under resourced?

A: HBCUs have built student centered models that balance limited funding with deep commitment to equity and belonging, offering a blueprint for higher education globally.

Author/Presenter:



Dr. Brittney Brooks

Student Success

Lincoln University of Pennsylvania

Lincoln University, Pennsylvania



Wednesday - June 10, 2026

Room: Palolo 1

Time: 2:30 - 4:00pm

Session: **Interdisciplinary International Cross Collaboration STEAM Education; Higher Education; CAD/CAM/CAE/FMS/CIMS/CFT/RPT; Inter-disciplinary Technology/Engineering; Art/Design & Music**

Session Chair: Dr. Susan Rauchwerk

III. Edges and Beauty and CADD, Oh My!: Increasing STEM Engagement Via Electric Guitar Design

ETSU's Guitar Building Project is allied with the NSF-funded STEM Guitar Project, a nation-wide K-18 teacher education initiative. Incorporating guitar-related content into the curriculum increases student engagement in the STEM disciplines. Integrating electric guitar design into the curriculum enhances the development of knowledge and CADD/CNC and other skills. Examples of sinuous edge creation, design refinement & evolution, and opportunities for advanced customization will be covered.

Q: What is a proven and affordable way of increasing engagement in the STEM disciplines and offering a true and welcoming STEAM pathway for non-traditional CTE students?

A: Incorporate the design and fabrication of electric guitars into your curriculum.

Author/Presenter: **Prof. William Hemphill**
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Wednesday - June 10, 2026

Room: Palolo 2
Time: 2:30 - 4:00pm
Session: Arts, Humanities, & Social Sciences: Social Science; Scholastic Esports; STEM Education through Project-based Learning (PBL); Health and Human Services

Session Chair: Dr. Tamekia Wilkins

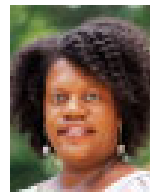
I. Setting the Stage for Zero Suicide: Preparation, Readiness, and Culture

In response to Alabama’s high suicide rate, VitAL at the University of Alabama is partnering with healthcare organizations across the state to implement the Zero Suicide framework. This presentation highlights findings from one organization’s Organizational Self-Study, which offers a leadership-level view of current suicide prevention practices, along with results from a Workforce Survey, which captures staff experiences, confidence, and preparedness when working with individuals at risk.

Q: What are some necessary steps that should be taken prior to implementing an evidence-based suicide prevention program in a healthcare organization?

A: It is important for the implementation team to understand how the organization’s policies and practices, if any, are in alignment with the framework to be implemented as well as to identify opportunities for improvement within the organization. This way, the organization can see that the implementation team recognizes their current efforts and want to help them improve rather than simply coming into their organization and telling them what to do. This can be done through administering pre-assessments to hear from leadership and staff at the organization.

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Wednesday - June 10, 2026

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Time: 2:30 - 4:00pm

Session: Arts, Humanities, & Social Sciences: Social Science; Scholastic Esports; STEM Education through Project-based Learning (PBL); Health and Human Services

Session Chair: Dr. Tamekia Wilkins

II. Inclusive STEM Education through Esports-Based Project-Based Learning in Japanese Upper Secondary Specialized Schools

This study presents a project-based learning (PBL) curriculum using esports as a core theme in Japanese upper secondary specialized training schools.

The program aims to support diverse learners by fostering career awareness, resilience, and transferable skills through inclusive STEM/STEAM education practices. The paper discusses curriculum design, implementation, and its potential as a scalable and reproducible educational model.

Q: Why ESPORTS as a platform for PBL and STEM learning?

A: Unlike conventional sports or purely academic subjects, esports encompasses planning, strategy, data analysis, digital media production, communication, and event management, making it inherently interdisciplinary.

Author/Presenter: **Mrs. Satomi Itagaki**
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Wednesday - June 10, 2026

Room: Palolo 2
Time: 2:30 - 4:00pm
Session: Arts, Humanities, & Social Sciences: Social Science; Scholastic Esports; STEM Education through Project-based Learning (PBL); Health and Human Services

Session Chair: Dr. Tamekia Wilkins

III. Field Notes and Fidelity Reviews

Field Notes & Fidelity Reviews examines how leadership drives implementation quality and outcomes in adult behavioral health programs. Using two years of IPS data from Alabama’s pilot sites, the work explores how high-level, research-based leadership traits have aligned with higher program fidelity scores and patient outcomes.

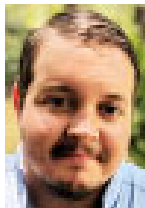
Q: Why do some teams succeed while others struggle?

A: While talent, resources, and environment all matter, leadership is the driver and foundation of them all.

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ACKNOWLEDGEMENTS

Thank you to all who presented and attended for your participation in this conference. We thank you for your support of the conference and hope to see you again in Honolulu.

Aloha and safe journeys home to everyone.

SPONSORS

We would like to extend our heartfelt appreciation to our sponsor the **Pacific Fleet Submarine Museum, 11 Arizona Memorial Drive, Honolulu**. With their support we are able to improve the the conferences to better serve our attendees and presenters allowing us to provide a platform for their academic pursuit and discovery.

KEYNOTE SPEAKERS

We would like to thank **Stefanie Zaklan Duff, BSc, MSc, PhD** for sharing her knowledge and skills with us.

Dr. Stefanie Zaklan Duff is a Professor of Ecology in the Department of Fisheries and Aquaculture at Vancouver Island University on Vancouver Island, in so-called Canada. Her academic background includes degrees from Simon Fraser University and the University of Alberta, as well as educational stays at Duke University, Bamfield Marine Sciences Centre, Friday Harbor Marine Labs, American Museum of Natural History, and the Smithsonian Museum of Natural History.

We would like to thank **Dr. Garry Roy** for sharing his knowledge and skills with us.

Dr. Garry E. Roy is an Assistant Professor of Health Information Management at the University of Hawaii–West Oahu and a leader in expanding STEM and STEAM educational pathways across Hawaii’s health and technology sectors. His work bridges medicine, data science, behavioral health, and educational innovation, with a special focus on advancing equitable access to STEM opportunities for students throughout the state.

REVIEWERS

We thank the dedicated professionals who reviewed the papers submitted by our presenters to be included in our programs, for the conference proceedings. Your work is of utmost importance to make sure those accepted meet the highest academic standards of presentation.

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THE SESSIONS CHAIRS

Thanks to all the Session Chairs for your guidance of the participants and presenters in each session to maximize the experiences of the session attendees, to convey the thoughts and new ideas each brings to our conference. All timely presentations are important to expand the overall knowledge offered from many perspectives.

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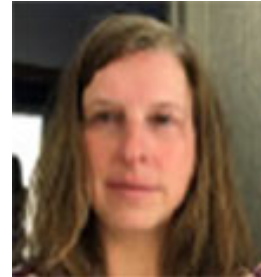
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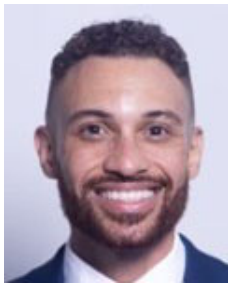


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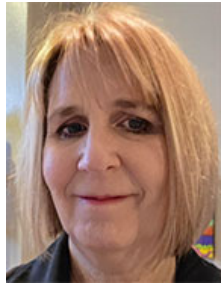
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We also want to thank each and every one who attended our conference for their contributions to the knowledge bases presented and the interactions of the attendees who generously shared their knowledge and expertise to enhance the conference experience for all who attended. We hope to see all of you back in Hawaii again one day in our continuing effort to bring those together in conferencing here in this magnificent environment as we look to the future of educational efforts in all parts of the world!

Mahalo!



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