2019 HI-TEC

Evaluation, Learning, and Research Presentations

Wednesday

10:15 - 11 am | Balancing Technology in a 1 to 1 Career Tech School

Ryan Gilbert, Ohio Hi-Point, Bellefontaine, OH

What is the appropriate balance between technology and face-to-face and pen-and-paper instruction in the 21st century? What do research, best practices, and experts tell us about the changing face of learning? The presenter has eleven years of CTE experience in a 1-to-1 district using LMS such as Schoology and Blackboard.

10:15 - 11 am | How to Develop a Coordination Network Concept in Preparation for Submitting a Proposal

Mel Cossette, National Resource Center for Materials Technology Education (MatEdU), Lynnwood, WA; V. Celeste Carter, National Science Foundation (NSF), Arlington, VA; Terryll Bailey, The Allison Group, Seattle, WA

A CN supports the development of new collaborations to build on existing networks to advance science and technician education through communication and sharing of ideas. The compelling argument for a CN is unique, and the standard project and center proposal claims are neither applicable nor successful for CN proposals. This highly interactive session will provide the foundation for a concept paper on a proposed CN. Topics will include the definition of a CN, how to build on current activities and networks, how to determine the core team for the CN, types of membership structures, and evaluation outcomes for a CN.

1:15 - 2 pm | Active Learning Recitation Hours in Engineering Improving Self Efficiency Retention and Success

Lisa Macon, Mohua Kar, Valencia College, Orlando, FL

We will share Year-2 student success results from our NSF-funded work in adding near-peer-led recitation hours in engineering courses at Valencia. Participants will see examples of active learning exercises for engineering coursework and will participate in active learning exercises.

2:15 - 3 pm | Growing Employability Skills in High-Tech Fields

Louise Yarnall, SRI Education, Menlo Park, CA; Ann Beheler, National Convergence Technology Center (CTC), Frisco, TX

Through a two-year case study and review of research, SRI Education has compiled a collection of practices that high-tech educators can use to develop employability skills such as collaboration, communication, lifelong learning, and reliability. In this session, you will learn about new instructional

approaches and deepen your understanding of the important role that technical educators play in developing such skills: People are hired based on technical skills but fired based on employability skills. You will hear cases of how the development of employability skills risks getting sidetracked or stalled through lack of support or persistent life stress. You will review and discuss systematic approaches to developing employability skills from secondary school through adulthood. The goal of this session is to empower high-tech educators to take an intentional approach to developing employability skills to help ensure their students' future success and social mobility.

3:45-4:30 pm | Enter the Matrix: Building a Rubric for measuring Industry Partnerships and Their Impacts

Mary Slowinski, Working Partners Research Project, Bellevue, WA; Rachael Bower, Working Partners Research Project; Madison, WI; Lana Rucks, The Rucks Group, Dayton, OH

Building and maintaining productive industry partnerships is key to the success of many programs, projects, and centers, yet recording and measuring the impact of these relationships can be challenging. Recognizing that few tools exist to capture such data, the NSF ATE Working Partners Research Project and The Rucks Group are working together to develop a partnership rubric for measuring these complex connections. This interactive session will introduce the rubric, facilitate audience feedback and input regarding its design and use, and provide information on how to stay involved as the matrix evolves.

Thursday

8:15 – 9 am | Educational technologies for Student Success

Mike Sauter, Saddleback Community College, Mission Viejo, CA

Educational technologies are very effective in helping students understand their learning styles and bridge the gap from struggle to success. They assist students battling with learning issues, poor memory, hearing loss, and physical disabilities. Come learn how you can partner with your student disability services office to increase your students' success by connecting them with educational technologies and valuable support services that will increase their learning potential. This presentation will also include a demonstration of the newest educational technologies used to address multiple learning styles, poor attention and memory, difficulty in reading textbooks, and hearing loss.

9:15 – 10 am | Collaboration Delivers Third Party Certification for Entry Level Electronics / Instrumentation Careers

Mike Taylor, ETA International, Greencastle, IN; Joe Poelma, Aaron Cleveland, Mississippi Gulf Coast Community College, Gautier, MS

This session will provide an overview of the joint efforts of Mississippi Gulf Coast Community College (MGCCC) and the Electronics Technicians Association International (ETA) to develop a technical skills assessment (TSA) for the college's Systems Based Electronics/Instrumentation curriculum standards, which are mandated by the state of Mississippi. The intent is to lay a foundation of the skills (in a wide variety of electronics industries) needed by technical personnel to advance their career competency and

efficiency. Interaction with companies demonstrating a demand for certified technical professionals and the elements of ETA credentials that make MGCCC graduates competitive in the marketplace will be discussed.

9:15 – 10 am | Integrated Efforts for Promoting Broader impacts in the NSF ATE Community through the National Center

Thomas Tubon, Madison Area Technical College, Madison, WI

The NSF Center for Advancing Research Impact in Society (ARIS) will advance the rigor, relevance, and practice of broader impacts (BI) by (a) cultivating and strengthening the existing and emerging BI expert community; (b) building the capacity of researchers and educators to enhance and articulate the BI of their work; and (c) creating a socio-technical infrastructure that is adaptable to stakeholder needs. ARIS will provide opportunities to integrate BI efforts into NSF ATE projects to increase public understanding and meet the demand for innovative BI training. The center emphasizes support for serving historically underserved populations while providing inclusive public engagement to ensure a diverse STEM workforce.

10:30 – 11:15 am | Evaluation: The Secret Sauce in your ATE Proposal

Emma Perk, Lyssa Wilson Becho, EvaluATE, Kalamazoo, MI

Planning to submit a proposal to the ATE program? Then don't miss this presentation! We will cover the essential elements of an effective evaluation plan and show you how to integrate them into an ATE proposal. We will also provide guidance on how to budget for an evaluation, locate a qualified evaluator, and use evaluative evidence to describe the results from prior NSF funding. To help integrate evaluation into their ATE proposals, participants will receive the Evaluation Planning Checklist for ATE Proposals and other resources.

10:30 – 11:15 am | Recruiting and Retaining Students: How Flexible Scheduling Meets Student Needs

Christie Linger-Hunt, BridgeValley Community and Technical College, South Charleston, WV

Curious about innovative ways to help students complete coursework while maintaining their outside commitments? Discover the institutional and student benefits of flexible scheduling. A professor from Bridge Valley Community and Technical College will discuss a pilot program at her college that is designed to recruit and retain students enrolled in technology majors who have time constraints that make attending college in the traditional fashion difficult. Learn how the program came to be, how flexible scheduling is laid out and can be recreated at any institution, and lessons learned while developing the program.

10:30 – 11:15 am | **Building a bridge to STEM education and employment by prioritizing diversity and inclusion**

Feather Ives, Gisele Giorgi, Merritt College, Oakland, CA

Now in its tenth year, the Merritt College Bioscience program has established itself as a Bay Area leader in diversity and inclusion in STEM education and career training by creating a departmental culture that supports both men and women students from all races, ages, and stages in their education and careers. This interactive session will include lessons learned and practical tools that have brought us continued success in the areas of diversity and inclusion.

11:30 – 12:15 pm | **PathTech LIFE and LISTEN: Annual report of Research on Technical Education Students**

Will Tyson, Lakshmi Jayaram, University of South Florida, Tampa, FL

This session will present new findings from analyses of the PathTech LIFE survey of 3,216 students from 96 community colleges from around the county. These analyses examine student program satisfaction, campus resource knowledge and utilization, motivation to enroll, career and educational aspirations, and school-worklife balance issues among a diverse population of students. This session will also include information about PathTech LISTEN, a recently funded longitudinal investigation of students in technician education that will include two follow-up interviews with 150–200 PathTech LIFE survey participants. Attendees will develop strategies for applying research findings to impact student recruitment, retention, and completion.

1:45 – 2:30 pm | **Implementing a Backwards Design Process to Invigorate your Project Curriculum and Delivery**

Karen Wegner, Michael Guericke, Lyndsie Gibbs, Metropolitan Community College, Omaha, NE

Have you ever been tasked with developing curriculum from scratch? Does your curriculum need to meet the needs of multiple audiences? If so, where did you start? Building curriculum is never easy and can be very time consuming. This session will explore the benefits of using a backward design approach and aligning curriculum with external standards. Learn more about the tools, techniques and lessons learned through implementation of the NEXUS NSF project.

2:45 – 3:30 pm | **Building Partnerships with Industry: Providing Students with Industry Consulting Experience**

Michael Lund, Bemidji State University, Bemidji, MN

The presenter will report a case study of a successful partnership between Lund Boats and Bemidji State University. Topics will include strategies for establishing positive relationships between industry and academic programs, and how to leverage these relationships to provide real-world consulting experiences for students.