



## ITEEA 2013 Conference Schedule

### Wednesday, March 6<sup>th</sup>

4:00pm-6:00pm: CTETE Executive Committee Meeting

8:00pm-11:00pm: CTETE Yearbook Committee Meeting

### Thursday, March 7<sup>th</sup>

1:00-1:50 (2 CTETE Sessions – Separate Rooms)

1) *Innovative Elementary STEM Teacher Education Program*

Michael Daugherty, Vinson Carter

Participants will examine a new four-course STEM concentration implemented in the Elementary Teacher Education program at the University of Arkansas in 2012. Participants will be provided with course materials.

2) *Infusing Engineering Concepts into Instruction*

Jenny Daugherty, Rodney Custer

Based upon a focus group study, this presentation offers recommendations for infusing engineering, as well as implications for teachers, curriculum developers, and professional development providers.

*CTETE Paper/Research Presentation*

2:00-2:50 (2 CTETE Sessions – Separate Rooms)

1) *Implications of Hybrid Secondary Technology Education Programs*

Patrick Foster

Hybrid technology education programs offer two sets of courses; e.g., one track for engineering and another for traditional technology courses. What are the theoretical implications?

2) *STEM Education: MS Degree Program Findings*

Chris Merrill, Joshua Brown, Ryan Brown

Presenters will share research-based findings from a four-year STEM education, practitioner-based, funded MSP project.

*CTETE Paper/Research Presentation*

3:00-3:50 (2 CTETE Sessions – Separate Rooms)

1) *Toward Integrated STEM Education: Developing a Research Agenda*

Greg Pearson, Mark Sanders

Integrated STEM Education—Update on National Academies study that is developing a research agenda re iSTEM’s potential to improve student learning, interest, and motivation.

2) *Judgments of Mathematics Grade Level in Technology*

Jim Flowers, Mary Annette Rose

Learn about the results of a survey that gauged the preparedness of technology educators to horizontally align technology education content with mathematics standards.

*CTETE Paper/Research Presentation*

4:00-4:50 (2 CTETE Sessions – Separate Rooms)

1) *Science Learning Through Engineering Design: Impacts and Insight for Technology Education*

Todd Kelley, Kevin Kaluf

The NSF Science Learning through Engineering Design (SLED) research findings can inform technology education regarding impacts of early exposure (grade 3-6) of design on student learning.

2) *Transforming Teaching through Implementing Inquiry (T212)*

Jeremy Ernst, Aaron C. Clark, V. Bill DeLuca

T212 is a NSF funded project that offers professional development training to help give teachers a greater ability to manage, monitor, and contribute to learning environments.

*CTETE Paper/Research Presentation*

**Friday, March 8<sup>th</sup>**

1:00-2:30 CTETE Business Meeting

2:30-5:00 CTETE Committee Work Sessions

3:30-4:15 JTE Editorial Board Meeting

4:15-5:00 JTE Management Board

5:00-6:00 CTETE Executive Committee Meeting

**Saturday, March 9<sup>th</sup>**

9:00am – 11:00am (CTETE Poster Sessions)

1) *Student Utilization of Modeling During Design*

Tanner Huffman, Nathan Mentzer, Hilde Thayer

Engineering modeling is lacking in technology curricula, yet students are engaging in modeling practices. This study investigates the types of modeling students are engaging in.

2) *Human Centered Design Thinking in High School*

Lisa Beckwith, Cameron Nunan, Nathan Mentzer

This observational study investigated high school student design work and analyzed student use of human centered design thinking.

3) *Technology and Engineering Education through the Cloud*

Phillip Cardon

Description of how technology education content and methods can be delivered through the Cloud using documents, video, and simulation.

4) *Team Design Thinking Performance in High School*

Jessica Dewar, Zachary McKeever, Nathan Mentzer

This observational study investigated how teams of high school student negotiate the design thinking process.

5) *Ideation in High School Team Design*

Shawn Farrington, Nathan Mentzer

This observational study measured ideation and identified evidence of functional brainstorming sessions among high school designers.

6) *Transforming Teaching through Implementing Inquiry (T212)*

Andrew Hughes, V. Bill DeLuca, Jeremy Ernst, and Aaron Clark

The poster will explain the projects focus on developing research-proven professional development resources that integrate professional development with assessment practice.

7) *Science Learning Through Engineering Design: Impacts & Insights*

Kevin Kaluf, Todd Kelley

The NSF Science Learning through Engineering Design (SLED) research findings can inform technology education regarding impacts of early exposure (grade 3-6) of design on student learning.

8) *Expert and Novice Design Thinking Comparison*

Nathan Mentzer, Kurt Becker, and Craig Locker

This observational study investigated differences in expert and high school student design thinking performance.

9) *Information Literacy in Engineering Design*

Nathan Mentzer, Micheal Fosmire, Kyle Marsh, Alex Conklin

This observational study measured high school student use of information during design. Each piece of information gathered was considered for source, content, quality and relevance.

10) *High School Student Transition through Design Stages*

Paul Zakaria, Nathan Mentzer

This observational study identified conceptual, preliminary and detailed design stages as a continuum in the design process.

9:00-9:50 (2 CTETE Sessions – Separate Rooms)

1) *An International Perspective: Issues Confronting Technology Education*

John Ritz, Amanda Roberts

A four-year analysis of major issues confronting technology and engineering education in 16 different countries.

2) *Understanding TSA Students' Perceptions related to Engineering*

Jerianne Taylor

This session highlights research related to TSA students' perceptions, self-efficacy and understandings related to engineering as compared to those enrolled in traditional technology education programs.

*CTETE Paper/Research Presentation*

10:00-10:50 (3 CTETE Sessions – Separate Rooms)

1) *College Freshmen Explore "Learning by Doing"*

Sharon Brusic

A new freshmen inquiry course engages future teachers in exploring how people learn through doing in many contexts, including technology & engineering education.

2) *A Critical Pedagogy Approach to Technology Education*

Jenny Daugherty, Joshua Brown

This general presentation will provide an overview of critical pedagogy and a discussion of applications to technology education both in the classroom and in research.

3) *Solving Technological/Engineering Design Problems Using STEM Content*

Fred Figliano

This study is an investigation into the types of STEM content knowledge used to solve complex technological/engineering design problems.

*CTETE Paper/Research Presentation*

11:00-11:50 (3 CTETE Sessions – Separate Rooms)

1) *Survival Master: Blending Physical Modeling and Gaming*

Michael Hacker, Jim Kiggins, Deborah Hecht

Survival Master is an NSF-funded 3D game that explicitly teaches STEM concepts. Research compares learning and engagement in gaming and traditional physical modeling modes.

2) *Occupational Safety and Health Education in Technology Education*

Hidetoshi Miyakawa

The presentation will show the program and contents of “Occupational Safety and Health Education in Technology Education” which we developed for school and student.

3) *Collaboration and STEM Integration: Who and What?*

David Rouch, Richard Miller, Zachary Freer, and Levi Brown

Develop a better understanding of the organizations and groups involved in STEM implementation to impact strategic and positive collaborations for active learning.

*CTETE Paper/Research Presentation*

