



ITEEA 2014 Conference Schedule

Wednesday, March 26th

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

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

Thursday, March 27th

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

- 1) *Design Cognition: Comparing Pre-Engineering and Engineering Students*
John Wells and Michael Grubbs
Presented are findings from a recent NSF-funded study investigating differences in students' design cognition between 11th grade pre-engineering and non-engineering students, and undergraduate engineering students.
CTETE Paper/Research Presentation

- 2) *An Analysis of American T&E Teacher Preparation Programs*
Len Litowitz
Results of an investigation of curricula for technology & engineering teacher preparation programs offered at colleges/universities throughout the US that enroll 20 or more majors.
CTETE Paper/Research Presentation

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

- 1) *Factors That Impact K-12 Integrative STEM Implementation*
Knut (Pete) Gjovik
A presentation on results of factor analysis regarding integrative STEM implementation barriers in schools from the perspective of K-12 educators.
CTETE Paper/Research Presentation

- 2) *Cognitive Change and the Technological Design Process*
Kelly Schurr
This study examined student-constructed concept maps collected throughout the technological design process. The data demonstrated cognitive growth in science, technology, and integrative concepts and connections

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

- 1) *When Science Introduces Engineering Design*
Todd Kelley and Kevin Kaluf

Findings from NSF project Science Learning Through Engineering Design (SLED) provide insight into teaching engineering design in elementary classrooms with implications for secondary technology education.

2) *Technology Education Master's Programs and Advisors' Recommendations*

Jim Flowers

Information from twenty Technology Education master's program advisors on the nature of their degree programs and their advice for those considering or in master's study.

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

1) *STEM for Elementary Education: What to Teach*

Roger Hill

Results of research to examine science, technology, engineering, and mathematics content to be included in a course for pre-service elementary teachers.

CTETE Paper/Research Presentation

2) *Ideal Characteristics of Technology and Engineering Teachers*

Vinson Carter, Mary Annette Rose, Steve Shumway, and Josh Brown

The Council on Technology and Engineering Teachers, Teacher Preparation Committee presents the ideal characteristics of technology and engineering teachers striving for excellence.

6:15-7:45 CTETE Yearbook and Awards Dinner

Friday, March 28th

1:00-1:50 CTETE Special Session

1) *Toward Integrated STEM Education" Developing A Research Agenda*

Mark Sanders and Greg Pearson

NAE Project Update-Project goals include developing/proposing an Integrated STEM Education taxonomy/framework and research agenda informed by a robust literature review and extensive data collection/synthesis/analysis. This session is open to all ITEEA conference attendees.

2:00-2:30 CTETE Business Meeting

2:30-3:50 Committee Work Sessions

3:15-4:00 JTE Editorial Board

4:00-4:50 CTETE Research Roundtable

4:00-5:00 JTE Management Board

4:00-4:50 1 CTETE Session

1) *Outcomes of Participation in VEX Robotics Competitions*

Gary Stewardson and Trevor P. Robinson

Research will be presented that explores the outcomes of middle and high school student participation in VEX Robotics Competitions.

5:00-6:00 CTETE Executive Committee Meeting

Saturday, March 29th

8:00am – 10:00am (CTETE Poster Sessions)

1) *Managing Instruction: Teacher Demonstrations of Competency*

Laura Segedin and Jeremy Ernst

Is a teacher able to skillfully manage a learning environment and support student learning in STEM with the support of an online professional development curriculum?

2) *Exposing Math and Science Teachers to What Technology Education Teachers Do*

Raymond Dixon

This presentation will highlight how exposing math and science teachers to solid modeling tools for drafting and designing is being achieved through collaborative efforts of a university, economic development agency, a technical college, and manufacturers.

3) *When Design Enters the Science Classroom*

Kevin Kaluf and Todd Kelley

Findings from NSF project Science Learning Through Engineering Design (SLED) can inform teachers with students who have already been exposed to engineering design in elementary science

4) *Teaching STEM to Mathematics and Science Teachers*

Moshe Barak

Teaching STEM to mathematics and science teacher, for example control systems, communication systems and robotics. Students achievement and reflection on the course.

5) *Safety and Health Education in Technology Education*

Hidetoshi Miyakawa

We show the program and contents of “Safety and Health Education in Technology Education” which we have developed for classrooms and students.

6) *Teachers College Students Information Ethics*

Yasushi Ichihara, Youichi Miyagawa, and Kazunori Shimada

This presentation will focus on the relationship between metacognition and information ethics among teacher college students.

7) *Mobile Lab Lending Program Partnership Supporting K-12*

Charles Hentges

This poster will be about how St. Cloud State University's mobile lab program became a reality. It will focus on the partnerships with business and K-12.

8:00-8:50 (2 CTETE Sessions – Separate Rooms)

1) *Design Based Biotechnology: Evidencing Cognitive Demands*

John Wells

Discussed are Design Based Biotechnology strategies for intentionally teaching STEM content and practices. Evidence is presented connecting strategies with student abilities to respond to cognitive demands.

CTETE Paper/Research Presentation

2) *Overcoming STEM Implementation Barriers: Case Studies of Success*

David Rouch, Richard Miller, Ben Freer, Brandon Ike, Ian Trau, Ben Heskett

A report on identifying the barriers to STEM implementation as perceived by school Administrators. Also, detailed success stories of schools that have overcome these barriers.

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

1) *Teaching Life Science Concepts Using Engineering Problems*

Brian McAlister and Kevin Mason

Discover how elementary teachers are using engineering problems to deepen their students' understanding of science and technology concepts and science, technology and engineering practices.

CTETE Paper/Research Presentation

2) *A Qualitative Look at Students' Modeling Strategies Program Students Created 3D Virtual Models*

Ted Branoff and Joe Busby

A Qualitative Look at Students' Modeling Strategies Program Students created 3D virtual models from a given 2D assembly drawing. The modeling strategies of both successful and unsuccessful students will be examined.