On-Site Program

TRY OUR MOBILE APP!
See page 12 for details.

Building Technology and Engineering STEM Partnerships

March 26-28
2015

Milwaukee
International Technology and Engineering Educators Association
“Mastercam allows my students to go farther and learn faster. The intuitive nature of the software gives students the confidence to succeed and the tools to prosper. Most of my students do more with Mastercam than the curriculum dictates. One student went as far as to take a CT scan mesh of their own skull and turn it into an actual machined part. Intuitive software, an easy to learn interface, and amazing customer service make Mastercam my software of choice.”

– Instructor Brian Nelsen, Dunwoody College of Technology, Minneapolis, Minnesota
PTC Academic Program

- Industry-class software donations
- Interdisciplinary STEM curriculum
- Teacher professional development
- FIRST robotics sponsorships

Empowering Innovation

The PTC K-12 Academic Program is a science, technology, engineering, and mathematics (STEM) education program that supports student and teacher innovation through donations of industry class software, sponsorship of FIRST, online curriculum materials, and teacher professional development.

www.ptcschools.com
STEM SOLUTIONS for Middle School, High School & Post-Secondary

MOBILE ROBOTICS • AUTOMATION • ADVANCED ENGINEERING • MECHATRONICS

Programs leading to industry certification!
Summer 2015

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Classes fill up quickly. Register early to get your first choice session.
E-mail training@rec.ri.cmu.edu

Here’s what teachers say:

“The instruction was top notch. Well paced and logically sequenced. I got much more than I thought I would out of the class.”

“I thought the class was very well done. It left me wanting more, so that is a good thing.”

“Everyone was awesome. This training was well run, well organized and one of the best professional development programs that I’ve been to.”

LEGO® MINDSTORMS®
June 22-26 EV3
June 29-July 3 ROBOTC for LEGO
July 13-17 EV3
July 20-24 ROBOTC for LEGO
August 3-7 EV3

VEX® ROBOTICS
June 22-26 VEX IQ
July 6-10 ROBOTC for Cortex
July 13-17 VEX IQ
July 27-31 ROBOTC for Cortex
August 3-7 VEX IQ

Can’t make these dates? We offer Online Training!

Mention the ITEEA Conference and receive a 10% discount!

5 days of hands-on training • Learn programming & sensors • Learn the pedagogy of using robots to teach STEM
The Wisconsin Technology Education Association thanks the many business, education and community partners that helped to bring the ITEEA Annual Conference to Milwaukee, WI.

THANK YOU!

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Milwaukee Public Schools
Milwaukee School of Engineering
Minnesota Technology and Engineering Education Association
Moraine Park Technical College
National Coalition of Advanced Technology Centers
National Coalition of Certification Centers (NC3)
National Occupational Competency Testing Institute
The N.E.W. Manufacturing Alliance
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University of Wisconsin–Milwaukee
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University of Wisconsin–Stout
The Water Council
Watertown High School
Waukesha County Technical College
Waupaca Foundry
Western Technical College
Wisconsin Association of School Boards
Wisconsin Automobile and Truck Dealers Association
Wisconsin Built
Wisconsin Department of Public Instruction
Wisconsin Energy Efficient Vehicle Association
Wisconsin Indianhead Technical College
Wisconsin Manufacturers and Commerce
Wisconsin Regional Training Partnership
Wisconsin SkillsUSA
Wisconsin Technical College
District Boards Association
Wisconsin Technical College System
Wisconsin Technology and Engineering Education Association
WTEA Foundation
Thank You to Our Sponsors!

ITEEA and its membership extend a special THANK YOU to the sponsors who generously support this conference.

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Snap-on, Incorporated

**SILVER SPONSORS**
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**BRONZE SPONSORS**
PTC
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Complete exhibitor information can be found on the CrowdCompass mobile app.

**TEECA COMPETITION SPONSORS**
Educational Display Contest – CTETE
Manufacturing Contest – Silverstone Systems
Problem-Solving Contest – D.R. Horton, Inc.

**TECHNOLOGY AND ENGINEERING EDUCATION COLLEGIATE ASSOCIATION**
Robotics Contest – US Synthetic
Teaching Contest – ITEEA
Technology Challenge – Epsilon Pi Tau

Thank You to Our Corporate Members!

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*ITEEA EbD™ Curriculum Partner

Try the CrowdCompass Mobile App
Welcome From ITEEA’s President

The ITEEA Board of Directors, the Milwaukee Planning team, and the Wisconsin Technology Education Association would like to welcome you to the 77th Annual Conference in Milwaukee, Wisconsin.

Contrary to what you might hear, the conference theme this year is not “Beer and Motorcycles,” it is Building Technology and Engineering STEM Partnerships. Partnerships and collaboration are important as we position Technology and Engineering Education as a leader in STEM. Technology Education professionals from across the country will be sharing their ideas, activities, experiences, and research. We also have some great general session speakers, local tours, and professional development sessions.

We received positive feedback from our members on the following activities, so we are holding them again in Milwaukee:

- **The ITEEA STEM Showcase** – a Thursday afternoon event featuring teachers, teacher educators, and others who want to share their best technology and engineering (or STEM-related) practices and successful programs with one another.
- **Administrator Strand** – a special professional development program JUST for administrators. Complimentary registration is also provided to this group.
- **ITEEA Teaching Technology and Engineering Education Collegiate Association (TEECA) student competitions** – TEECA hosts various competitions during the conference.
- **ITEEA Attendee Reception** on Thursday evening and the Exhibitor Raffle.
- **Exhibitor-sponsored events** and the STEM Educational Theater will also be held in the exhibit hall.

We are committed to recognizing your commitment to students and the profession through a variety of awards and special distinctions during this conference such as Teacher and Program Excellence, Emerging Leaders, Distinguished Technology and Engineering Educators, Scholarships, and Recognition of Service awards.

ITEEA provides a wide variety of services and opportunities for its members, and the annual conference is a great place to start. I have been to 18 conferences since I started teaching, and the 2015 conference is shaping up to be an outstanding event. So, make the most of your time and see what this conference has to offer. Even if the official theme for the conference isn’t “Beer and Motorcycles,” it’s in Milwaukee, and I’m sure you will be able to find a little of both!

Enjoy your time at the 2015 ITEEA Conference here in Milwaukee!

James Boe, Ph.D., DTE
ITEEA President

www.iteea.org
General Conference Information and Services

**On-Site Registration, Badge Pickup, and ITEEA Resource Center Hours**

<table>
<thead>
<tr>
<th>Day</th>
<th>Hours</th>
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<tbody>
<tr>
<td>Wednesday, March 25</td>
<td>11:00am–5:00pm</td>
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<tr>
<td>Thursday, March 26</td>
<td>8:00am–5:00pm</td>
</tr>
<tr>
<td>Friday, March 27</td>
<td>8:00am–5:00pm</td>
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*ITEEA Preregistration pickup only:*
   Wednesday, March 25, 8:00am–11:00am

Visit the ITEEA Resource Center to purchase new ITEEA logo apparel and choose from a selection of publications, gift items, and classic favorites. The Resource Center is located next to the Registration Area in the Convention Center. Cash, check, MasterCard, Visa, and Discover cards are accepted.

**WTEA Registration and sessions** will take place at the Hilton. WTEA registration opens Wednesday, March 25, at 8:00am, Convention Registration, 4th floor.

**Exhibit Hours**

<table>
<thead>
<tr>
<th>Day</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>Thursday, March 26</td>
<td>11:00am–6:00pm</td>
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<tr>
<td>Friday, March 27</td>
<td>11:00am–3:00pm</td>
</tr>
<tr>
<td>Dedicated exhibit hours both days:</td>
<td>11:00am–1:00pm</td>
</tr>
</tbody>
</table>

* Everyone is encouraged to support the ITEEA exhibitors by spending time in the Exhibit Hall.

**A complimentary lunch** for all registered attendees will be provided on Friday from 11:30am to 1:00pm in the Exhibit Hall, sponsored by Pitsco. Conference attendees will receive a ticket for the complimentary lunch.

**We Have a Mobile App...**

Our quest to enhance the event experience for our attendees, exhibitors, and speakers is never-ending. This year will be better than ever, which is why we created a mobile app through CrowdCompass for ITEEA’s 2015 conference in Milwaukee. CrowdCompass will allow attendees to:

- Access the event schedule anytime and customize their agenda.
- See all the speakers, read their bios, and view their presentations.
- Check out the exhibitors and locate their booths more easily.
- Get important updates and exciting offers through the app.
- See who’s attending and share contact information.

See complete information on page 12.

**Limitations and Liability**

The International Technology and Engineering Educators Association, its directors, employees, contractors, consultants, committees, and hosting organizations are not responsible for any personal injury, loss, or damages resulting from travel to, from, during, or as a result of attendance at the 77th Annual ITEEA Conference, nor for any expenses incurred as result of travel arrangement changes for any reason, including strikes, illness, weather, acts of God, national security breaches, or other causes.

Try the CrowdCompass Mobile App
General Conference Information and Services

Conference Badges
Conference badges must be worn at all times. There will be no admittance to sessions, exhibits, etc. without a conference badge.

Session Presenters
Session presenters may pick up their preregistration packets (badges included) at the ITEEA registration counter. Presenter profile information is available via CrowdCompass, ITEEA’s mobile conference app.

ITEEA Workshops
Most workshops held on Wednesday, March 25 and Saturday, March 28 carry a $95 registration fee. You must be registered for the conference and pay the workshop fee in order to attend. The Elementary workshop on Wednesday afternoon is $35. Descriptions are on pages 13-15.

Professional Development Learning Sessions (PDLSs)
Sessions are scheduled at regular times throughout the conference and generally last 50 minutes. ITEEA Professional Development Learning Sessions will take place in the Wisconsin Center on Thursday and Friday. Saturday sessions will take place at the Hilton. Please refer to CrowdCompass for complete details.

ITEEA TEECA Professional Development Session Passport
In an effort to fully engage our collegiate students and immerse them into the conference, we have created the ITEEA TEECA Professional Development Session Passport. In order to be entered into a drawing to win a $100 Amazon Gift Card (three chances to win), TEECA students will have two days (Thursday and Friday) to attend at least four professional development sessions (two each day).

Note: TEECA students – please place your completed passport in the jar/box outside of the Hilton Crystal Ballroom on Friday no later than 6 PM (prior to the Awards Banquet).

Educational Tours
Wednesday, March 25, Thursday, March 26, and Friday, March 27
Tours will leave from the 4th and Wells corner exit of the Wisconsin Center. Participation is limited on each tour, first-come, first-served, so check the ITEEA Registration desk ASAP for availability. Due to the limited availability of these educational tours, you must be a fully registered conference attendee in order to participate. Tours are described on page 16. All tours require a separate ticket purchase.

PATT/International
PATT is an international series of technological literacy conferences held within the framework of the ITEEA conference. PATT sessions are open to all those who are interested in learning about international developments. The PATT registration fee includes: ITEEA conference registration, International Luncheon, PATT Reception, and electronic proceedings. Sign up on the ITEEA registration form.

www.iteea.org
General Conference Information and Services

**Wisconsin Center**
400 W. Wisconsin Avenue, Milwaukee, WI 53203
www.wisconsincenter.org
Phone: 414-908-6001

**Hilton Milwaukee City Center**
509 W. Wisconsin Ave, Milwaukee, WI 53203
www.hiltonmilwaukee.com/
Phone: 414-271-7250

**Audiovisual Equipment at the Wisconsin Center**
An upgraded audiovisual setup is provided in each meeting room. This includes an LCD projector and screen. On-site requests for additional equipment are the responsibility of the presenters. Any questions pertaining to audiovisual orders should be directed to Huview Productions at 404-808-3795. Sponsored by Snap-on, Incorporated.

**Audiovisual Equipment at the Hilton**
An upgraded audiovisual setup is provided in each meeting room. This includes an LCD projector and screen. On-site requests for additional equipment are the responsibility of the presenters. Any questions pertaining to audiovisual orders should be directed to Huview Productions at 404-808-3795. Sponsored by Snap-on, Incorporated.

**Wireless Internet Access at the Wisconsin Center**
For connection to Wi-Fi at the Wisconsin Center, select ITEEA and enter password iteea2015. Wi-Fi is complimentary in the Exhibit Hall and all meeting rooms. Sponsored by Cray, Incorporated.

**Wireless Internet Access at the Hilton**
For connection to Wi-Fi in the Hilton meeting space, select Hilton Honors or Hilton Honors conference, click on agree to terms, and you will be connected. Wi-Fi is complimentary on the meeting room floors and in the public areas. Sponsored by Cray, Incorporated.

**Business Center at the Wisconsin Center**
The Business Center is located on the 4th floor of the Hotel by the main elevator bank and is open 24 hours. Guests may use their guest-room key to access the Business Center. The Business Center does not have a copy machine, but copies can be made at the Front Desk for 10 cents a page. Sponsored by Cray, Incorporated.

**Business Center at the Hilton**
The Business Center is located on the 4th floor of the Hotel by the main elevator bank and is open 24 hours. Guests may use their guest-room key to access the Business Center. The Business Center does not have a copy machine, but copies can be made at the Front Desk for 10 cents a page. Sponsored by Snap-on, Incorporated.

**In Case of Emergency at the Wisconsin Center**
To reach immediate medical, security, or safety assistance, you can dial 6165 from any house phone and provide the information to the dispatcher who answers the call. The dispatcher will obtain all necessary information and forward that information to the appropriate response agency. DO NOT HANG UP THE PHONE UNTIL THE DISPATCHER INSTRUCTS YOU TO.

**In Case of Emergency at the Hilton**
Please dial "0" from any house phone to contact the front desk. When the operator answers, please start with either "We need emergency attention" or "We need an ambulance" followed by your location within the hotel. The operator will obtain all necessary information and forward that information to the appropriate response agency.
PREREGISTERED ATTENDEES: Access the ITEEA Conference App in three easy steps!

1. Download the App

   **Keywords:** CrowdCompass Directory

   **App Download Link:** https://crowd.cc/s/3vXK

   (Blackberry, and Windows phone/tablet users can use this link to access the event: https://crowd.cc/iteea-77)

   **What’s easier? – Scan this QR Code**

2. Search/Download The Event: “ITEEA 77th Annual Conference”

   Event Code: iteeamw2015

3. Log In

   Enter the following to login
   • Registration Code, and
   • Registration Email, OR
   • First Name
   • Last Name

   Your registration code was emailed to you previously. Your registration code is your ITEEA member number. If you don’t have it, click on “retrieve it here” to retrieve the registration code details. An email to retrieve your registration code will be sent to the email you registered for the event with.

ON-SITE REGISTRANTS: How do I log in to the app if haven’t preregistered or received my registration details?

1. Create a CrowdCompass account
   https://accounts.crowdcompass.com/users/sign_up

2. Enter required fields and “Register Account.”

3. Check your email for a confirmation

4. Click the confirmation link

5. From the app, select the Login button and enter your email and password

**Tips**
- Use the Social Login to sign in with the same username and password as your favorite social media site
- If signing up by email, make sure the email you sign up with is accessible on your device
- Make your profile PUBLIC for easier networking abilities

**Why Create an Account?**
- Share photos
- Take and save notes
- Join the attendee list
- Exchange contact details with other attendees
- Create and manage a personalized agenda

---

**Still Need Help?**
Contact the CrowdCompass Support Team
Available 24 hours M-F, and 9am–9pm EST Saturday and Sunday
Phone: 888-889-3069, option 1
Email: support@crowdcompass.com

www.iteea.org
Specialized Preconference Workshop

Choose from three specialized preconference workshops available this year. Two of the preconference workshops on Wednesday, March 25, 1:00pm-4:00pm have a $95 registration fee, while the Elementary STEM Workshop has a $35 registration fee.

Scratch, Sensors, and Homemade Devices Working Together

Wednesday, March 25
1:00pm–4:00pm
Wisconsin Center, 101C

In this three-hour, Standards for Technological Literacy-based preconference session, participants will use the “free” software, Scratch (visual programming environment), sensors, and homemade devices to incorporate interactivity into programs. The key goal of this session is to demonstrate how each area—Science, Technology, Engineering, Art, and Mathematics—has applications using sensors with Scratch. The projects provide self-directed learning by experimenting with different sensors and homemade devices. The integration of electronics enhances tactile experiences along with visual learning, therefore addressing diverse learning styles.

1. Science—light sensing—bright or dim, how does the eye work?
2. Technology—tilt sensing—balancing the ball or into the hole it goes.
3. Engineering—force or pressure—designing a dance pad.
4. Art—sounds—musical bottle caps and other devices.
5. Mathematics—calculating resistance can change that character.

Equipment needed for this session:
- Laptops with Scratch software loaded (free) http://scratch.mit.edu/scratch_1.4/
- Flash drives
- Digital cameras
- Power strips

Presenters: Phillip L. Cardon, David Gore, Pam Speelman, and Alex Price

$95 – ticket required
Limited to 25 participants.

STL Standards Addressed:
Standard 8 – Students will develop an understanding of the attributes of design.
Benchmark E – Design is a creative planning process that leads to useful products and systems.

Standard 11 – Students will develop the abilities to apply the design process.
Benchmark J – Make two-dimensional and three-dimensional representations of the designed solution.

Standard 17 – Students will develop an understanding of and be able to select and use information and communication technologies.
Benchmark H – Information and communication systems allow information to be transferred from human to human, human to machine, and machine to human.
Specialized Preconference Workshops

**Examining Laboratory Safety Through an Integrative STEM Education Activity**

*Wednesday, March 25*

*1:00pm–4:00pm*

*Wisconsin Center, 103D*

Dive into this content-rich engineering design challenge used to intentionally integrate multiple disciplines and discuss safer methods for teaching Integrative STEM Education activities. Participants will be immersed in The Ocean Platform Engineering Design Challenge, which was used this past summer as professional development for teachers attending the Virginia Initiative for Science Teaching and Achievement (VISTA) program at Virginia Tech. The Ocean Platform Engineering Design Challenge can be used to intentionally teach STEM, history, language arts, and other content areas concurrently, while providing students with an authentic hands-on learning experience. Participants will work in groups to safely design a solution to this engineering design challenge, which is suitable for upper elementary to high school students.

Additionally, this activity will provide the foundation to examine safer practices for Integrative STEM Education laboratories and also showcase ITEEA’s revised publication, *Designing Safer Learning Environments for Integrative STEM Education*. Publication coauthor, Tyler Love, who will be presenting on this topic at the 2015 National Science Teachers Association (NSTA) conference with coauthor, Dr. Ken Roy (chief safety compliance consultant for NSTA), will provide a preview of the publication and its supplemental materials. Items to be shown include the classroom-ready tool and machine-safety PowerPoint presentations, posters, tests, forms, and self-graded safety tests hosted on ITEEA’s website. Additional topics to be discussed include the systems approach for teaching safety, liability, court rulings from STEM education laboratory accidents, how to safely modify instruction for students with disabilities, and methods to collaborate with science educators for safer delivery of science and engineering practices.

*Presenters: Tyler S. Love and Anita Deck*

$95 – ticket required

**Elementary STEM Literacy Workshop**

*Wednesday, March 25*

*1:00pm–4:00pm*

*Wisconsin Center, 101A*

Participants in the ITEEA Children’s Council preconference workshop will investigate why STEM literacy is essential for students in Grades K-6. It ultimately affects the United States’ economic success and the elementary child’s present and future success in an increasingly technologically dependent world.

The engineering design process will be modeled as a problem-solving tool for students and as a teaching guide for teachers. The relationship between scientific inquiry and engineering design will be discussed. Participants will also engage in standards-based, hands-on activities that correlate to national science standards and the K-6 curriculum and will include paper engineering (pop-ups, linkages, geometric nets), pizza-box solar cookers, and sail cars.

A list of online elementary STEM resources (free and commercial) will be provided. Time will also be provided for discussion of elementary STEM topics and issues by the participants themselves.

*Presenter: Laura Hummell*

$35 – ticket required

www.iteea.org
Post-Conference Workshop

Saturday, March 28
8:30am-4:00pm
Juneau (Hilton)

High School EbDLab™:
PathwayExtension™ – Robotics, Engineering, and Automation

This High School EbDLab™ provides hands-on instruction for teachers and administrators on the new EbD Pathway Extension in Robotics, Engineering, and Automation. During the full-day session, participants build, program, and compete with robots using the same blended-learning curriculum featured in EbD’s Robotics PathwayExtension.

Participants will also learn how the Robotics PathwayExtension provides a comprehensive study of engineering concepts, including physics, programming, mechanical systems, electrical, and electronics systems. The Robotics, Engineering, and Automation hybrid curriculum provides a step-by-step format and includes everything needed for success in an engineering program without any prior knowledge or experience. The Robotics, Engineering, and Automation curriculum is aligned to STEM standards recognized nationwide, including those of Atlas of Science Literacy, ITEEA, and NCTM. Each workshop participant will receive one seat of easyC Robotic programming software to kick off his or her Robotics Program.

Laptops are required.
Limited to the first 25 participants.
$95 – ticket required
Lunch included.
Educational Tours

Tour programs depart from and return to the 4th and Wells corner exit of the Wisconsin Center. Participation is limited on each tour, first-come, first-served. Due to the limited availability of these educational tours, you must be a fully registered conference attendee in order to qualify for participation. Most tours have a maximum of 45 participants. The Harley Davidson “Steel-Toe Tour” limit is 20. Please register early to secure your place on the tours. All tours are $35.

Wednesday

Harley Davidson “Steel-Toe Tour”
Wednesday, March 25, 2015
12:00pm–4:00pm
Tour of Harley’s powertrain operations. A true Wisconsin original. See where the Legend was born! Tour begins at the Harley Museum. A shuttle takes visitors to the assembly plant. Following the tour, visitors can tour the museum.

Thursday

Harley Davidson “Museum Tour”
Thursday, March 26, 2015
12:30pm–4:00pm
Tour the Harley Davidson Museum. The Museum offers a glimpse of American history and culture like you’ve never seen before—through the success and trials of an iconic American company. Interactive, eye-catching exhibits present an unparalleled collection of legendary stories of our nation’s past.

Miller Park “MVP Tour”
Thursday, March 26, 2015
1:30pm–5:00pm
Tour Miller Park and view areas of the ballpark that typical tours do not get to visit, such as party suites, the media interview room, batting cages, and more! Listen to a 30-minute presentation on Miller Park’s unique roof system (90-minute tour and 30-minute roof presentation).

Friday

GE Healthcare
Friday, March 27, 2015
1:00pm–4:00pm
GE Healthcare provides transformational medical technologies and services that are shaping a new age of patient care. Tour the Global Design Center where aesthetics, design, and ergonomics are applied to medical technologies. Learn about “remanufacturing” in the CT/PET CT “Gold Seal” manufacturing facility. See how GE Healthcare remanufactures used equipment into certified pre-owned GE medical equipment.

Joy Global
Friday, March 27, 2015
1:00pm–4:00pm
Tour goers will learn more about Joy Global overall, meet with members of the electrical engineering team and visit the electrical lab, meet with the advanced automation team, tour the manufacturing facility, and hear from Human Resources professionals about the STEM skills and expertise that are needed now and in the future.
**EbD Labs™**

EbDLabs™ are an excellent opportunity for teachers and other educators to experience one of the Engineering byDesign™ (EbD™) courses in a workshop environment. Comprehensive professional development is provided for each course or instructional component. Whether or not you are in a Consortium state, whether you are currently teaching an EbD™ course or just want to find out more—these workshops are not to be missed. All EbDLabs™ will be hands-on, minds-on, preparing teachers with the fundamentals necessary to implement the materials.

**Thursday, March 26, 1:00pm–4:50pm**
- **Elementary School EbDLab™**
  - EbD-TEEMS™: Grades K-2
- **Middle School EbDLab™**
  - Exploring Technology, Third Edition
- **High School EbDLab™**
  - Foundations of Technology, Third Edition
- **High School EbDLab™**
  - Technological Design, Third Edition

**Friday, March 27, 1:00pm–4:50pm**
- **Elementary School EbDLab™**
  - EbD-TEEMS™: Grades 3-5
- **Middle School EbDLab™**
  - Technological Systems, Third Edition
- **High School EbDLab™**
  - Engineering Design, Third Edition
- **High School EbDLab™**
  - Advanced Design Applications

Laptops are required.

$45 each – ticket required

All sessions will be held at the Wisconsin Center. Sessions are limited to 30 participants each.

---

**Competitive Events**

**TEECA (Technology and Engineering Education Collegiate Association) Competitive Events**

TEECA is the single largest body of preservice technology and engineering teachers in the nation. TEECA is well represented at the ITEEA Annual Conference, with over 20 universities participating annually, as well as over 300 preservice teachers, faculty advisors, and other state education officers from around the nation in attendance. TEECA hosts a number of competitions at the ITEEA Annual Conference and holds an awards banquet on Friday evening to celebrate and award the winners.

**Wednesday, 8:30pm-10:00pm**
- Wisconsin Center, 101AB
  - **Technology Challenge**
    - Sponsor: Epsilon Pi Tau

**Thursday, 1:00pm-2:45pm**
- TEECA Room, Exhibit Hall A
  - **VEX Robotics Contest**
    - Sponsor: US Synthetic

**Thursday, 3:30pm-5:00pm**
- Exhibit Hall A
  - **Educational Display Contest**
    - Sponsor: CTETE

**Thursday, 4:00pm-7:00pm**
- Wright Ballroom B (Hilton)
  - **Teaching Lesson Contest**
    - Sponsor: ITEEA

**Thursday, 3:30pm-5:00pm**
- TEECA Room, Exhibit Hall A
  - **Problem Solving Contest**
    - Sponsor: D.R. Horton

**Thursday, 6:00pm-9:00pm**
- Wisconsin Center, 101AB
  - **Manufacturing Contest**
    - Sponsor: Silverstone Systems

**Friday, 10:00am-10:15am**
- Wisconsin Center, Ballroom A/B
  - **Communication Contest Turn-In**

See CrowdCompass for full descriptions.
Join Us in the Exhibit Hall for Competition, Learning, and FUN!

Exhibits Open:
Thursday, March 26
11:00am-6:00pm
Friday, March 27
11:00am-3:00pm

Dedicated Exhibit Hours
Thursday, March 26 and Friday, March 27
11:00am-1:00pm

Feeling Lucky?
Here’s your chance to win prizes valued at more than $75!
Vendors have provided spectacular prizes for a series of raffle drawings that will occur during the Reception on Thursday, beginning at 5pm in the Exhibit Hall. Items raffled off in the past have included tablets, an iPad mini, robotics kits, $100 gift cards, subscriptions, tool kits, software, and much more (on-site registrants will receive one ticket with their registration).

ITEEA’s STEM Showcase:
Bringing Teachers and Ideas Together!
Thursday, 3:30pm-5:00pm
The ITEEA STEM Showcase, an exhibition of best practices in the teaching of technology and engineering education, will take place in the Exhibit Hall. The Showcase provides a forum for teachers and others to feature an idea, technique, or best practice related to learning activities, marketing materials, career guidance, facility design, program design, assessment methods, equity, or classroom and laboratory management techniques.
Don’t miss out on this unique learning and networking opportunity! See pages 39-40.

On-Floor STEM Educational Theater
NEW in Milwaukee
Exhibitors will be conducting these FREE sessions right in the center of the Exhibit Hall. Come and learn about the latest products, services, and technologies that can help you in the classroom!

Something’s Brewing in Milwaukee
Wisconsin Tailgate Events
Thursday, March 26, 11:00am-3:00pm
Friday, March 27, 1:00pm-3:00pm
Visit the Wisconsin “Tailgate” area in the Exhibit Hall where WTEA will bring to life the cultural experience of attending a Wisconsin sporting event. The entire experience will include games, prizes (including the $33,500 Snap-on toolkit raffle), refreshments, unique Wisconsin sports memorabilia, and more. And be sure to check out the new Harley Davidson motorcycles on display!

Snap-on Raffle
Enter to win a Snap-on Master Metric Mechanic Tool Set VALUED AT $33,500! Raffle tickets will be sold throughout the conference. Final drawing will be held on Friday, March 27th in the Exhibit Hall as part of the WTEA Tailgate Event.

Wisconsin STEM Partnership Displays
Thursday/Friday, during Exhibit Hall Displays
There will be over 30 Wisconsin STEM Partnership displays showcasing the innovative model of STEM education throughout the state of Wisconsin. These interactive, student-focused partnership exhibits will be on display in the Exhibit Hall to highlight the benefits of building collaborative relationships.

TEECA Competitive Events
If you enjoy a little friendly competition, you’ll want to pop in to the front area in the Exhibit Hall on Thursday (throughout the day) to see the TEECA students as they vie to win the top spots in the robotics, transportation, and problem-solving competitions.

Complete information is available on the CrowdCompass mobile app.

www.iteea.org
Exhibitor Showcases

Thursday, 1:00pm–1:50pm
203B
BIRDBRAIN TECHNOLOGIES
Hummingbird Duo: A Robotics Kit Used in Engineering, English, and Everywhere in Between

Thursday, 1:00pm–1:50pm
203D
GOODHEART-WILLCOX PUBLISHER
Architectural-Engineering Design, Drafting, STEM, and Common Core

Thursday, 2:00pm–2:50pm
203D
IN-HOUSE SOLUTIONS
Fun and Exciting Ways to Implement True STEM Activities Into Your Engineering or Tech Ed Classroom

Friday, 11:00am-11:50am
203D
NATIONAL GEOGRAPHIC/CENGAGE LEARNING/DELMAR
Engage, Inspire, and Captivate Today’s Learners With Robotics

Friday, 1:00pm-1:50pm
203B
GOODHEART-WILLCOX PUBLISHER
Integrating National Standards Into Your Woodworking Curriculum With the Newly Revised Modern Cabinetmaking

Thursday AND Friday, 11:00am-11:50am
203B
DS SOLIDWORKS
SolidWorks: Project-Based Learning and Q&A

Thursday AND Friday, 2:00pm–2:50pm
203B
WHITEBOX LEARNING
The “E” in STEM

STEM Educational Theater

On-Floor STEM Educational Theater
NEW in Milwaukee
Exhibitors will be conducting these FREE sessions right in the center of the Exhibit Hall. Come and learn about the latest products, services, and technologies that can help you in the classroom!

Thursday, 11:15am-12:00pm
THE STEM ACADEMY
Entertaining STEM

Thursday, 12:15pm–1:00pm
zSPACE
Teaching in Depth: Introducing Virtual STEM Labs to the Classroom

Thursday, 1:15pm–2:00pm
STRATASYS
Advancing the STEM Curriculum Through 3D Printing Technology

Thursday, 2:15pm-3:00pm
CONNECTED CLASSROOMS
3D Modeling Software Made Easy
Council and Other Specialized Programming

Wednesday, March 25
9:00am-4:00pm
• EbD Elementary School Workshop: EbD TEEMS – Grade 6: Our World and Me
• EbD Middle School Workshop: Invention and Innovation
• EbD High School Workshop: Advanced Technological Applications, 2nd Edition
*These events are by invitation only.

Thursday, March 26
1:00pm-1:50pm
• ITEEA/STEM CTL’s Engineering byDesign – What is it? The Primary Source for STEM
1:00pm-4:50pm
• Elementary School EbDLab: EbD TEEMS: Grades K-2
• Middle School EbDLab: Exploring Technology, 3rd Edition
• High School EbDLab: Foundations of Technology, 3rd Edition
• High School EbDLab: Technological Design, 3rd Edition
2:00pm-2:50pm
• Learning byDesign – ITEEA’s New 6E Engineering Framework
2:00pm-3:50pm
• EbD and Engineering Projects in Community Service (EPICS)

Friday, March 27
1:00pm-1:50pm
• Engineering Infusion: Integrative STEM (iSTEM) through Inquiry, Design, and Modeling
1:00pm-4:50pm
• Elementary School EbDLab: EbD TEEMS: Grades 3-5
• Middle School EbDLab: Technological Systems, 3rd Edition
• High School EbDLab: Advanced Design Applications, 2nd Edition
• High School EbDLab: Engineering Design, 3rd Edition
2:00pm-2:50pm
• EbD™ and Elementary Robotics
2:00pm-4:30pm
• EbD Consortium State Directors’ Meeting – By invitation only

Saturday, March 28
8:30am-4:00pm
• Intelitek/EbD Post-Conference Workshop: High School EbDLab™: PathwayExtension™ – Robotics, Engineering, and Automation

Epsilon Pi Tau
Thursday, March 26
1:00pm-4:50pm
EPT Board of Directors Meeting

Friday, March 27
8:00am-11:50am
EPT Board of Directors Meeting
4:00pm-4:30pm
EPT Reception
5:00pm-6:00pm
EPT Exemplary Initiation and Reception

Saturday, March 28
7:00am-8:45am
EPT Breakfast

Wednesday, March 25
1:00pm-5:00pm
TEECA VEX Robotics Contest Setup
6:00pm-6:45pm
TEECA Management Board Meeting
7:00pm-7:45pm
TEECA Advisors’ Meeting
8:00pm
Welcome Session
8:30pm-10:00pm
TEECA Technology Challenge
10:00pm-11:59pm
TEECA Transportation Contest Practice

Thursday, March 26
1:00pm-2:45pm
• TEECA VEX Robotics Contest
• TEECA Transportation Contest
3:00pm-5:00pm
• TEECA Educational Display Contest
• TEECA Problem Solving Contest
4:00pm-6:30pm
CSL/TEECA Employability Strategies
4:00pm-7:00pm
TEECA Teaching Lesson Contest
6:00pm-9:00pm
TEECA Manufacturing Contest

Friday, March 27
10:00am-10:15am
Communication Contest – Turn-In
2:00pm-2:50pm
First Year Teacher and Pass it on, Pay it Forward (Lesson Plan Cookbook)
3:00pm-3:50pm
Graduate Student Presentations
4:00pm-4:50pm
Teaching Technology and Engineering Workshop
6:00pm-8:00pm
Annual Awards Dinner and Closing Ceremony

Saturday, March 28
9:00am-11:00am
TEECA International Officer Team Work Session

www.iteea.org
Council and Other Specialized Programming

**Wednesday, March 25**
1:00pm-6:00pm  
CTETE Executive Committee Meeting  
8:00pm-11:00pm  
CTETE Yearbook Committee Meeting

**Thursday, March 26**
1:00pm-2:50pm  
• Transforming Teaching Through Implementing Inquiry: Pilot Results  
• STEM Education in Thailand  
• Inquiry, Design, and Technology to Integrate STEM
2:00pm-2:50pm  
• Research-Based Outcomes of STEM Content Coaching  
• The Project Kaleidoscope Summer Leadership Institute Experience
8:00pm-11:00pm  
CTETE Yearbook and Awards Dinner

**Friday, March 27**
1:00pm-1:50pm  
Graduate Student Forum  
2:00pm-2:30pm  
CTETE Business Meeting  
3:15pm – 4:00pm  
JTE Executive Board  
4:00pm-4:50pm  
• STEM Education Models and Students With At-Risk Indicators  
• STEM Integration Into the Curricula  
4:00pm-5:00pm  
JTE Management Board  
5:00pm-6:00pm  
CTETE Executive Committee Meeting

**Saturday, March 28**
8:00am-8:50am  
• Ebd Curriculum and Instruction in Higher Education  
• Leveraging Industry Experiences to Transform Classroom Practices
9:00am-9:50am  
• Safety and Health Education as ESD in Technology Education  
• Exemplary Teaching Practices in T&E Education  
9:00am-11:00am  
CTETE Poster Sessions  
• International Communication Technology and Culture Exchange Project  
• What Happens When Design and Science Intersect?  
• Design Successes and Academic Realization in an Elementary STEM Lab

**Wednesday, March 25**
1:00pm-4:00pm  
Elementary STEM Literacy Workshop  
3:00pm-4:50pm  
CC Executive Meeting

**Thursday, March 26**
2:00pm-3:30pm  
Children's Technology and Engineering Editorial Meeting

**Friday, March 27**
1:00pm-1:50pm  
STEM for Out of Your Seat and On Your Feet Learning K-5  
3:00pm-3:50pm  
Problem-Based Learning for K-6 STEM

**Thursday, March 26**
12:00pm-1:30pm  
International Luncheon  
2:00pm-2:50pm  
Assessing Elementary Students’ Attitudes  
3:00pm-3:50pm  
iTunes U: A Sharing Opportunity is STEM  
4:00pm-4:50pm  
Concept Learning by Design Challenges

**Friday, March 27**
1:00pm-1:50pm  
Teaching on Sustainability in Technology Education  
2:00pm-2:50pm  
Critical Issues and Strategies of Technology Education  
5:30pm-6:30pm  
PATT Reception

**Saturday, March 28**
3:30pm-5:00pm  
Steering Committee Meeting  
6:00pm-7:00pm  
President’s Reception  
7:00pm-9:00pm  
State Supervisors’ Meeting

**Thursday, March 26**
7:30am-8:45am  
CSL Breakfast Meeting and Awards  
1:00pm-1:50pm  
Implementation of NGSS and Best Practices for Engineering Design 2015
2:00pm-2:50pm  
“So Much to Do and So Few to Do It”  
3:00pm-3:50pm  
STEM for ALL  
4:00pm-5:30pm  
TEECA Employability Strategies Roundtable

**Friday, March 27**
6:00pm-9:00pm  
Steering Committee Meeting

Try the CrowdCompass Mobile App
Wednesday, March 25, 2015

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<tr>
<th>Time</th>
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<th>Presenter</th>
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<tbody>
<tr>
<td>6:00pm</td>
<td>103D</td>
<td>CSL President’s Reception - (Sponsored by the Council for Supervision and Leadership and WhiteBox Learning). Join the Council for Supervision and Leadership for light hors d’oeuvres and network with STEM administrators from around the country.</td>
<td>Mark Crenshaw, Program Specialist, Engineering and Technology, Georgia Department of Education</td>
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Thursday, March 26, 2015

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<tr>
<td>9:00am</td>
<td>Ballroom A/B</td>
<td>Program Excellence General Session</td>
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<tr>
<td>11:00am</td>
<td>Exhibit Hall</td>
<td>Exhibits Open</td>
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<tr>
<td>12:00pm</td>
<td></td>
<td>Lunch on your own. Concessions available in Exhibit Hall.</td>
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<td>1:00pm</td>
<td>101B</td>
<td>WELCOME&lt;br&gt;Introductions, Goals, Anticipated Outcomes&lt;br&gt;What are the Big 3 Barriers for STEM Integration and Implementation?</td>
<td>Barry Burke, DTE, Director STEM² Center for Teaching and Learning, ITEEA</td>
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<td>1:15pm</td>
<td>101B</td>
<td>STEM Integration in K-12 Education&lt;br&gt;The National Academy of Engineering recently released a study that addresses the status, prospects, and an agenda for research around STEM Integration. Additionally the NAE is developing an interactive website for teachers of engineering with extensive resources.</td>
<td>Greg Pearson, Senior Program Officer National Academy of Engineering</td>
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<td>2:00pm</td>
<td>101B</td>
<td>How to Address the T&amp;E in STEM. Who’s on First? (CTETE)&lt;br&gt;What exactly is Integrative STEM? What does it look like, and what types of professional development are necessary? What impact do the Next Generation Science Standards have on STEM classrooms – in particular, Technology and Engineering classrooms?</td>
<td>Phil Reed, Professor Old Dominion University</td>
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<td>3:00pm</td>
<td>101B</td>
<td>STEM for ALL – How to Build a STEM Culture (CSL Forum)&lt;br&gt;How can building administrators develop and lead a STEM culture in their school building? Dr. Lopez will discuss how he orchestrated an award-winning STEM culture among the community, staff, parents, and students by developing value in the community for types of opportunities for students, and how to create leadership that empowers the staff to meet the direction of their school/program advisory committee.</td>
<td>Lazaro Lopez, Associate Superintendent for Teaching and Learning Township High School District 214</td>
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<td>3:45pm</td>
<td>101B</td>
<td>Focal Points – 9 Defining Features of Effective STEM Programs&lt;br&gt;This presentation presents participants with an understanding of nine key components that define successful STEM programs. Learn about Focal-Points™ and how they can inform STEM learning.</td>
<td>Barry Burke, DTE, Director STEM² Center for Teaching and Learning, ITEEA</td>
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<tr>
<td>4:00pm</td>
<td>Exhibit Hall</td>
<td>ITEEA STEM Showcase&lt;br&gt;Visit with teachers and professionals in the field who are implementing innovative concepts in STEM education and discover samples of lessons to bring back to your school or district!</td>
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GOALS:
1. Define Integrative STEM – What is it?
2. Technology and Engineering Bring STEM to Life
3. Showcase examples of Integrative STEM – EbD™

Friday, March 27, 2015

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<tr>
<td>12:00pm</td>
<td>Exhibit Hall</td>
<td>Lunch in the Exhibit Hall (free to all registered attendees) sponsored by Pitsco Education.</td>
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<td>1:00pm</td>
<td>101B</td>
<td>The Nitty Gritty! Engineering byDesign™—What is it?</td>
<td>Tanner Huffman, Associate Director for Research, Special Projects and Assessment STEM CTL, ITEEA</td>
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<td>Using a standards-based approach, this model provides participants with an overview of how to bring STEM to elementary, middle, and high schools. Using the FAA approach (Flexibility, Affordability, and Accountability) the program is suitable for any school or district that is looking to implement an Integrative STEM system.</td>
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<td>1:30pm</td>
<td>101B</td>
<td>Integrative STEM Opportunities</td>
<td>Nathan Mentzer, Assistant Professor, Department of Technology Leadership and Innovation Purdue University</td>
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<td>The NGSS and CCSS have put intense pressure on educators and administrators. Why should we allocate resources to support the T &amp; E of STEM? How does the T &amp; E of STEM support Science and Mathematics learning? Purdue University is developing an Integrated STEM Education endorsement that centralizes the technology and engineering and situates these disciplines as integrators for mathematics and science learning. This session will identify a motivation for STEM integration, describe models used in the Purdue teacher preparation program, and consider how they may be generalized to your school environments using design-based pedagogy.</td>
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<td>2:15pm</td>
<td>101B</td>
<td>Closure: Opportunities and Next Steps</td>
<td>Roger Skophammer, Associate Director for Curriculum and Instruction Teacher Effectiveness Coaches STEM CTL, ITEEA</td>
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<td>Integrative STEM provides many opportunities for moving forward. During the two-day strand, information has been provided that will help frame how STEM can be implemented. This session will build upon that to offer opportunities that are available to make STEM a reality in any school or district.</td>
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<td>3:00pm</td>
<td>102A</td>
<td>Elementary School EbD-TEEMS – Grades 3-5</td>
<td>Leigh Ann Anderson</td>
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<td>EbDLabs</td>
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<td>103B</td>
<td>Middle School</td>
<td>Curt Funkhouser</td>
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<td>Technological Systems (Grade 6)</td>
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<td>102D</td>
<td>High School</td>
<td>Kevin Webster</td>
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<td>Advanced Design Applications (Grades 11-12)</td>
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<td></td>
<td>102E</td>
<td>Engineering Design</td>
<td>Cory Booth</td>
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<td>(Grades 10-12)</td>
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WTEA Conference Programming
Wednesday, March 25

9:10am-12:00pm  
Walker (Hilton)  
**Project Showcase**  
Student projects such as cribbage boards, VEX Robots, student poster board displays, electronic circuits, graphic arts and printed projects, CO₂ cars, airplanes, 3D CAD drawings, machining projects, welding samples, and digital pictures of projects will be on display.

10:10am-11:00am  
Wright Ballroom A (Hilton)  
**A Successful Combination: Manufacturing, Education, and a Chamber**  
Learn how a local school district, manufacturer, and Chamber collaborated to establish programs that increased engagement and communication between business and education.  
*Presenters: Amy Lange, Mary Baer, and Marikris Coryell*

Wright Ballroom B (Hilton)  
**Apprenticeship: Filling the Skills Gap with Tech Ed Training**  
Addresses the shortage of Skilled Trades workers and the careers available to our students. The focus will be on relationships between industries, apprenticeship programs, DPI, and local schools.  
*Presenters: Joe Weisling, Karen Morgan, Brent Kindred, and Scott Hamilton*

Wright Ballroom C (Hilton)  
**Building an Underwater Robot with Your Students**  
Learn how to design, build, test, and compete with an underwater robot. It is easier than you think to get started.  
*Presenter: Matthew Schultz*

Mitchell (Hilton)  
**Architectural Integration With Drafting and Engineering Courses**  
Explores simple diagram development using architectural precedents along with fragmentary technical investigations to deepen students’ knowledge of the total building design.  
*Presenters: Erica Chappelar and Karl Wallick*

11:10am-12:00pm  
Wright Ballroom A (Hilton)  
**Computational Thinking and Microcontrollers: Adding Inexpensive Sound and Inexpensive Projects to Your Classroom**  
Add inexpensive excitement to your classroom and help students develop extremely important “Computational Thinking Skills.” Learn about Scratch programming, PicoBoards, Arduinos, and all sorts of other neat gadgets that will allow your students to create videogames and controllers, automation projects, and add an aspect of control to every project.  
*Presenter: Steve Meyer*

Wright Ballroom B (Hilton)  
**Middle School Manufacturing and Design Utilizing Plastics**  
See the advantages (time, safety, cost, student engagement, etc.) of incorporating Plastics Manufacturing concepts into the Design and Engineering process.  
*Presenters: Jeff Thielke and Shannon Flaherty*

Wright Ballroom C (Hilton)  
**SkillsUSA is on the Move**  
SkillsUSA Wisconsin is a national leader in middle school programming. Learn how to integrate SkillsUSA into your current curriculum and run the best chapter ever.  
*Presenters: Lauri Domer and Brent Kindred*

Mitchell (Hilton)  
**Code to Completion: Getting the Most Out of Your Diagnostic Scan Tool**  
A review of Diagnostic Case Studies that demonstrate how to approach vehicle diagnostics, ranging from simple problems using a scanner to complex vehicle problems requiring multi-trace lab scopes.  
*Presenter: David May*

12:10pm-2:00pm  
Regency Ballroom (Hilton)  
**Keynote/WTEA Business Meeting**  
**The Value of Skilled Training and STEM Education**  
Currently we face the Wisconsin Paradigm: large numbers of unemployed people despite record numbers of unfilled manufacturing and technical positions. It is projected that this skills gap and talent pipeline will continue to erode at an even faster pace, threatening the economy if unchecked. By 2020 tens of thousands of rewarding career opportunities may be missed unless we focus on STEM Education and Skill-Based training for High School students. Models of immersive, project-based learning, such as GPS Education Partners, provide evocative strategies for the future. This innovative model has been highly praised by the State of WI Dept Workforce Development for offering solutions to student employability in high-tech, high-value careers.  
*Presenter: Dawn Tabat, GPS Education Partners, Founder and Chairman of the Board and former Chief Operations Officer, Generac Power Systems*
2:10pm-5:00pm  
Walker (Hilton)  
Project Showcase, continued

2:10pm-3:00pm  
Wright Ballroom A (Hilton)  
Project-Based Learning: Engineering Controlled Chaos  
Developing a successful learning experience by using project-based learning in an engineering class: everything I learned by doing it twice.  
Presenter: Mike Phillips

Wright Ballroom B (Hilton)  
STREAM-STEM Education: Spring Valley Style  
A year-long required 7th grade class delivered as a team-taught, collaborative effort between Tech Ed, Science, and Art. STREAM incorporates the aspects of STEM plus Reading and Art using an engaging project-based approach.  
Presenters: Nick Gilles, Michele Huppert, and Jim Herold

Wright Ballroom C (Hilton)  
An Array of Bio-Related Activities Integrating STEM  
Biotechnology is not just one technology. See how a small rural school enables students to work with their hands and minds in a field with endless career opportunities.  
Presenter: Duane Effering

Mitchell (Hilton)  
Integrating Electrathon and Supermileage into CTE Curriculum  
Explore using project-based learning to promote and develop a program by taking an overview look at the Supermileage and Electrathon competitions, along with tips to make them a reality.  
Presenters: Mike Paquette, Timothy Ploeger, and Joseph Mink

3:10pm-4:00pm  
Wright Ballroom A (Hilton)  
Formula High School Coordinator  
Formula High School is a competition that aligns engineering and manufacturing skills to the creation of a prototype race vehicle.  
Presenters: Jeremie Meyer, Mike Besel, and Tom Barnhart

Wright Ballroom B (Hilton)  
Manage Teaching a Wide Range of Courses With Little Space  
Teaching many students in a small space with a small budget? Trying to figure out how to organize your classroom, curriculum, and materials so your teaching is effective and efficient? Join us to discuss strategies.  
Presenter: Nolan Otremba

Wright Ballroom C (Hilton)  
Maker Faires: What Are They and Why Should We Care?  
Maker Faires are recognized by thousands of Americans. Find out what they have in common with your program and why you might care.  
Presenter: Sylvia Tiala, DTE

Mitchell (Hilton)  
Volkswagen Technologies  
Volkswagen technologies, Direct Shift Gearbox (DSG), Diesel systems, Hybrid, Input/Output Systems.  
Presenter: Rodney Koschkee

4:10pm-5:00pm  
Wright Ballroom A (Hilton)  
Grading for Learning in Technology and Engineering  
Many school districts are making the shift to Standards- or Proficiency-Based Grading, changing the emphasis to evaluate learning. See how a former teacher transformed his classes to Proficiency-Based Grading models.  
Presenter: Christopher Neff

Wright Ballroom B (Hilton)  
Essential Short- and Long-Term Financial Strategies for Educators  
Discusses the basics of saving and investing strategies to provide financial independence, both short-term and for retirement. The information provided is essential for financial security and independence. Learn useful planning strategies to help you answer questions you may not even know you have!  
Presenter: Mike Roth

Wright Ballroom C (Hilton)  
Telecommunications and Home Entertainment Certification for High School  
Bayfield and Bowler High Schools have been participating in a study of the C-Tech curriculum called Introduction to Telecommunications Wiring: Copper-Based and Home Entertainment. Presenters will cover the curriculum and the benefits of industry certification.  
Presenters: David Doering, Bill McGurgan, and Tim Ploeger

Mitchell (Hilton)  
Scan Tool Test Procedures  
Develop the technician skills of testing components using Data Stream or Special Tests with their scan tool. When the repair information points to test of a component, learn to test it effectively to resolve the drivability issue. MAP Sensor Test, TP Sweep Test, Three-Wire Testing, and Two-Wire Sensor.  
Presenters: Steve Zack, Mike Loth, and Dave Miller

7:00pm-9:00pm  
Harley Davidson Museum  
WTEA Banquet  
(See full details on page 27.)
8:00am .............................
Hilton, Convention Registration,
4th Floor
WTEA Registration Open

8:00am-11:00am ..........
Wisconsin Center, Exhibit Hall A
ITEEA Preregistration pickup

8:00am-11:15am .........
Juneau (Hilton)
Preconference Workshop
21st Century Leadership Fellows
Dr. Suzanne Price is the associate
director of residential life at Clem-
son University. Additionally, Dr.
Price is an adjunct professor in the
College of Health, Education, and
Human Development (HEHD) and
teaches courses in the HEHD and
Division of Student Affairs Leader-
ship Certificate Program. Dr. Price
led the effort several years ago in
creating this program. Workshop is
no cost to 21st Century Academy participants.
Facilitator: Suzanne Price
* By invitation only.

9:00am-4:00pm ............
102E
EbD™ High School Workshop
Advanced Technological Applications, Second Edition
This High School EbDLab™ pro-
vides training on the Advanced
Technological Applications, Second
Edition Course Guide, for Grades
11–12. The session is hands-on,
minds-on, preparing teachers with
the fundamentals necessary to
implement the course.
Laptops are required.
Presenter: Kevin Webster
*Consortium States, by invitation
only.

102A
EbD™ Elementary School
Workshop
EbD-TEEMS™ - Grade 6: Our
World and Me
This Elementary School EbDLab™ pro-
vides training on the EbD-
TEEMS™ sixth grade capstone
course: Our World and Me. The
session is hands-on, minds-on,
preparing teachers with the funda-
mentals necessary to implement the
sixth grade Building Block.
Laptops are required.
Presenters: Lori Maxfield and
Yvonne Ng
*Consortium States, by invitation only.

103B
EbD™ Middle School Workshop
Invention and Innovation
This Middle School EbDLab™ pro-
vides training on the Invention and
Innovation, Fourth Edition Course
Guide, for Grade 7. The session
is hands-on, minds-on, preparing teachers with the fundamen-
tals necessary to implement the
course. Laptops are required.
Presenter: Henry Harms
*Consortium States, by invitation
only.

11:00am-5:00pm ............
Wisconsin Center, Exhibit Hall A
ITEEA Registration and
Resource Booth Open

1:00pm-4:00pm .............
101A
Preconference Workshop:
Elementary STEM Literacy
(See page 14 for full description.)
Ticket required: $35
Presenter: Laura Hummell

12:00pm-4:00pm
TOUR – Harley Davidson
“Steel-Toe” Tour
Tour of Harley’s powertrain
operations. A true Wisconsin
original. See where the Leg-
end was born! Tour begins at
the Harley Museum. A shuttle
takes visitors to the assembly
plant. Following the tour, visi-
tors can tour the museum. Tour
programs depart from and
return to the 4th and Wells
corner exit of the Wisconsin
Center.
Ticket required: $35.

101C
Preconference Workshop:
Scratch, Sensors, and
Homemade Devices Working
Together
Limited to 25 participants.
(See page 13 for full description.)
Ticket required: $95
Presenters: Phillip L. Cardon,
David Gore, Kim Hopper, and
Pamela Speelman

103D
Preconference Workshop:
Examining Laboratory Safety
Through an Integrative STEM
Education Activity
(See page 14 for full description.)
Ticket required: $95
Presenters: Tyler Love and
Anita Deck

1:00pm-4:30pm ..........
Kilbourn (Hilton)
ITEEA Board of Directors
Meeting

1:00pm-5:00pm ..........
TEECA Room, Exhibit Hall A
TEECA VEX Robotics Contest
Setup

www.iteea.org
Wednesday

3:00pm-4:50pm ............
203D
Children’s Council Executive Meeting

3:30pm-5:00pm ............
103E
CSL Steering Committee Meeting

4:00pm-6:00pm ............
202A
CTETE Executive Committee Meeting

6:00pm-6:45pm ............
103E
TEECA Management Board Meeting

6:00pm-7:00pm ............
103D
CSL President’s Reception

7:00pm-7:45pm ............
103E
TEECA Advisor Meeting

7:00pm-9:00pm ............
Juneau (Hilton)
State Supervisors Meeting

8:00pm-10:00pm ............
101AB
TEECA Welcome Session and Technology Challenge
Welcome Session: Students, Advisors, and friends of TEECA will be welcomed to the 76th Annual Conference. A background on innovation will be shared as part of the welcome session – and to help set the stage for the Innovation Contest. Rules and procedures of the other contests will also be described at this point. Finally, TEECA contest information will be distributed to participating teams. (Many of the challenges will be posted online prior to the conference.)

WTEA Banquet
Outstanding Wisconsin Technology Educators and Industry Professionals are recognized for their achievements at the Association’s Annual Awards Banquet. The WTEA Banquet is open to all ITEEA conference attendees.

Cost: $32; advance ticket required; limited availability.
(Tickets must have been purchased prior to February 20, 2015.)

Technology Challenge: A quiz-bowl type of competition between TEECA-affiliated chapters, with questions related to technology and professional education topics.

8:00pm-11:00pm ............
Kilbourn (Hilton)
CTETE Yearbook Committee Meeting

10:00pm-11:59pm ............
101AB
TEECA Transportation Contest Practice Session
• Each team will receive at least five minutes practice time with the actual track and timer directly following the Technology Challenge. The track will be available for approximately two hours.
• Teams must bring their vehicles with them to the Technology Challenge.

ITEEA Needs YOU!
Please take a few minutes to share your feedback on two important surveys. These surveys can be taken in the ITEEA Resource Booth here in Milwaukee, via the url information below, or via the CrowdCompass mobile app.

ITEEA’s Strategic Plan Survey
ITEEA is in the process of creating a strategic plan for 2015 and invites ITEEA members and current stakeholders to contribute to the process by providing feedback at: www.surveymonkey.com/s/2015ITEEASP

A Research Study of Doing-Based Learning
Phase two of a four-part study to determine to what extent students in U.S. public schools use a tactile “hands-on” process of problem solving involving “doing” in their schools. Educator input is sought at the elementary, middle, and high school levels at: www.iteea.org/DoingProject.pdf

Try the CrowdCompass Mobile App
Nick Pinchuk is chairman and chief executive officer of Snap-on, Incorporated, and serves on its board of directors. Mr. Pinchuk was named president and COO in April 2007, when he was also appointed to Snap-on’s board. He was elected CEO in December 2007 and subsequently chairman in April 2009. He joined Snap-on in 2002 as Senior Vice President and President of Snap-on’s Worldwide Commercial and Industrial Group.

Before Snap-on, Mr. Pinchuk was President, Global Refrigeration Operations, a multi-billion dollar business unit of Carrier Corporation, a subsidiary of United Technologies Corporation. Prior to that, he served in executive, operational, planning, and financial capacities within Carrier and United Technologies, including: President, Asia-Pacific Air Conditioning Operations; Global Vice President, Strategic Planning; and Chief Financial Officer, Carrier International Corporation. Before joining United Technologies, he was with the Ford Motor Company, where he held various financial and engineering positions. He also served in Vietnam as an officer in the United States Army.

Mr. Pinchuk received an M.B.A. from Harvard, and master and bachelor of science degrees in engineering from Rensselaer Polytechnic Institute. He currently serves on the board of directors of Columbus McKinnon Corporation; on the Defense Business Board of the U.S. Department of Defense; on the board of directors for the National Association of Manufacturers; on the Board of Trustees of the Manufacturer’s Alliance for Productivity and Innovation; on the Senior Advisory Board of the Syracuse University School of Management; on the Board of Trustees of Carthage College; and Chair for Skills for America’s Future Advisory Board at The Aspen Institute.

Snap-on Incorporated is a leading global innovator, manufacturer, and marketer of tools, equipment, diagnostics, repair information, and systems solutions for professional users performing critical tasks. Products and services include hand and power tools, tool storage, diagnostics software, information and management systems, shop equipment and other solutions for vehicle dealerships and repair centers, as well as for customers in industries, including aviation and aerospace, agriculture, construction, government and military, mining, natural resources, power generation, and technical education. Founded in 1920, Snap-on is a $3.1 billion, S&P 500 company headquartered in Kenosha, Wisconsin.
Thursday

7:00am-8:30am  .............
Regency Ballroom (Hilton)
ITEEA President’s Roundtable
Breakfast

7:30am-8:45am  .............
102B
CSL Breakfast Meeting and
Awards

7:30am-8:45am  .............
TEECA Room
Wisconsin Center
Exhibit Hall A

VEX Robotics Contest
• 8:00am-9:30am
  Registration and inspection
  of robots
• 11:00am-12:00pm
  Qualifying rounds
• 1:00pm-2:45pm
  Competitions
• 3:00pm-3:30pm
  Conclusions

8:00am–9:00am  .............
Wisconsin Center, Ballroom A/B Foyer
Tech Talk Café
Stop by for a complimentary cup
of coffee prior to the General
Session.
Sponsored by
Stratasys.

8:00am-5:00pm  .............
Wisconsin Center, Exhibit Hall A
ITEEA Registration and
Resource Booth Open

11:00am-11:50am  ...........
203B
Exhibitor Showcase:
DS Solidworks Corporation
SolidWorks: Project-Based
Learning and Q&A
* See details in CrowdCompass.

11:00am-2:00pm  ............
Wisconsin Center, Exhibit Hall A
Concession Area Open –
located in the back of the Exhibit
Hall.

11:00am-3:00pm  .............
Exhibit Hall A
Wisconsin PreTailgate Event
Visit the Wisconsin “Tailgate” area in the Exhibit Hall where WTEA
will bring to life the cultural experience of attending a Wisconsin
sporting event. The entire experience will include games, prizes
(including the $33,500 Snap-on toolkit raffle), refreshments, unique
Wisconsin sports memorabilia, and more. Snap-on raffle tickets will
be sold throughout the conference. Final drawing will be held on
Friday, March 27th in the Exhibit Hall. And be sure to check out the
new Harley Davidson motorcycles on display!

International Luncheon
Thursday, March 26
12:00pm–1:30pm
Wright Ballroom B (Hilton)

Featured Speaker: Lena Gumaelius
Deputy Dean of School, Education and
Communication in Engineering Science
KTH Royal Institute of Technology

Introduction: Marc DeVries

A Thursday meal function and networking opportunity for attendees
with an interest in international topics.
Cost: $35; ticket required. (Ticket included in PATT registration
package.)

How to Build a Research Environment in Technology
and Engineering Education: The Swedish Experience

Lena Gumaelius has been Deputy Dean of School of ECE school at
KTH since 2013. She serves as head of the Department of Learn-
ing, which has worked to build a research environment in learning,
with a focus on technology education in the education system at
all levels. Ms. Gumaelius has a M.Sc. in Chemical Engineering and
has done research in water treatment, both in Swedish and African
waters. From 2006 until 2012, she was director of the House of Sci-
ence, a very interesting and exciting project that sparked her interest
in teaching and research in this field.

11:00am-6:00pm  .............
Wisconsin Center, Exhibit Hall A
EXHIBITS OPEN
Dedicated exhibit hours
11:00am-1:00pm

11:15am-12:00pm  ...........
Exhibit Hall Center A
STEM Educational Theater:
The STEM Academy –
Entertaining STEM
* See details in CrowdCompass.

Try the CrowdCompass Mobile App
Thursday 1:00pm

12:30pm-4:00pm . . . . . . . .
TOUR - Harley Davidson “Museum Tour”
Tour the Harley Davidson Museum. The Museum offers a glimpse of American history and culture like you’ve never seen before—through the success and trials of an iconic American company. Interactive, eye-catching exhibits present an unparalleled collection of legendary stories of our nation’s past. Tour begins at the Harley Museum. A shuttle takes visitors to the assembly plant. Following the tour, visitors can tour the museum. Tour programs depart from and return to the 4th and Wells corner exit of the Wisconsin Center.
Ticket required: $35.

12:15pm-1:00pm . . . . . . .
Exhibit Hall Center A
STEM Educational Theater: zSpace – Teaching in Depth: Introducing Virtual STEM Labs to the Classroom
* See details in CrowdCompass.

1:00pm-1:15pm
101B
Administrator Session
Welcome

1:00pm-1:50pm
Kilbourn (Hilton)
TSA Session
Student STEM Competitions and Programs
Competitions equal student engagement. The Technology Student Association (TSA) offers middle and high school students just such an opportunity. Learn about TSA’s STEM competitions and programs, including 60-plus TSA contests; the Junior Solar Sprint Competition; the TSA VEX Robotics challenge; the TEAMs competition; the Verizon App Challenge; and UNITE.
Presenters: Rosanne White and Megan Honour

Wright Ballroom A (Hilton)
CTETE Session
Transforming Teaching Through Implementing Inquiry:
Pilot Results
This paper will present the preliminary results of an online professional development system created by teachers in our field that is modeled after National Board Certification.
Presenters: Aaron Clark, Jeremy Ernst, and William DeLuca

Juneau (Hilton)
CTETE Session
STEM Education in Thailand: A National Imperative
This presentation will discuss how STEM Education can be used to improve the quality, practice, and relevance of Science and Technology Education in Thailand.
Presenter: Montri Chulavatnatol

Wright Ballroom C (Hilton)
CTETE Session
Inquiry, Design, and Technology to Integrate STEM
This presentation will propose the use of scientific inquiry and engineering design to teach the science of entomology and innovative technology to promote STEM learning.
Presenter: Todd Kelley

1:00pm-1:15pm
101A
WTEA Session
Engineers Write
Ace your teacher eval while preparing students for real-world writing. Teach your students the skills they will actually use. It’s no accident that Ford Motor Company sent its engineers to tech writing class. Traditional English does not prepare for writing in a STEM world. Your project-based curriculum is the best writing opportunity in education.
Presenter: Nels Lawrence

101C
Robotics for Elementary STEM Education
Practical advice and discussion of low-cost options for robotics components and programming and research on effectiveness of robotics in elementary STEM instruction.
Presenter: Roger Hill

101D
Experiments With Laser Cutters and Rapid Prototypes
Laser cutters and 3D printers can be used to make prototypes, but also for exciting student experimentation and process engineering.
Presenter: Jim Flowers

102B
CSL Session
Implementation of NGSS and Best Practices for Engineering Design 2015
The Next Generation Science Standards (NGSS) will drive how science education is taught and assessed in the United States. This session will discuss the new engineering “practice” requirements in the science classroom. Engineering education is new to many science teachers, and those teachers may not realize that technology and engineering education teachers are an excellent resource to meet the new NGSS requirements. Hear
some of the “best practices” found in technology and engineering education classrooms and see how they directly support science, technology and engineering, and mathematics (STEM) education. 

Session Lead: RJ Dake

103A

Enough With the Modules and Activities: Developing a STEM Curriculum
Providing a full s”TE”m experience with full "TE" integration. Why inserting modules and workshops isn’t enough, and how to provide a STEM classroom backbone.

Presenter: Adam Jerozolim

103D

How Mobile Devices Increase Self-Directed Learning
Self-directed learning is a key trait of 21st Century learners. By utilizing the mobile devices students already carry, teachers can promote and enhance this skill in students.

Presenter: Scott Bartholomew

103E

Changing Culture in Robotics Classrooms Research Project
This session will showcase a Carnegie Mellon research project using virtual games and simulations to teach kids Computer Science and STEM through robotics.

Presenter: Robin Shoop

201C

Junior High Students’ Collaborative Problem-Solving Performance in Taiwan
Results of a study focused on developing a STEM-based collaborative problem-solving system, and exploring junior high school students' collaborative problem-solving performance in Taiwan.

Presenter: Kuen-Yi Lin

Thursday, March 26, 1:00pm–4:50pm

Ebd Labs™
Ticket required: $45 each

Wisconsin Center, 102A
Elementary School EbdLab™
Ebd-TEEMS™: Grades K-2
Provides training on Ebd-TEEMS™: Grades K-2. The session is hands-on, minds-on, preparing teachers with the fundamentals necessary to implement the K-2 Building Blocks. Participants will leave with a CD containing lessons from the course/curriculum.

Presenter: Kirsten Perry

Wisconsin Center, 103B
Middle School EbdLab™
Exploring Technology, Third Edition
Provides training on the Exploring Technology, Third Edition course guide for Grade 6. The session is hands-on, minds-on, preparing teachers with the fundamentals necessary to implement the course. Participants will leave with a CD containing lessons from the course/curriculum.

Presenter: Curt Funkhouser

Wisconsin Center, 102D
High School EbdLab™
Foundations of Technology, Third Edition
Provides training for teachers and administrators on the Foundations of Technology, Third Edition course guide and Student Online Version for Grade 9. The session is hands-on, minds-on, preparing teachers with the fundamentals necessary to implement the course. Participants will leave with a CD containing lessons from the course/curriculum.

Presenter: Sandy Cavanaugh

Wisconsin Center, 102E
High School EbdLab™
Technological Design, Third Edition
Provides training for teachers and administrators on the Technological Design, Third Edition course guide for Grades 10-12. The session is hands-on, minds-on, preparing teachers with the fundamentals necessary to implement the course. Participants will leave with a CD containing lessons from the course/curriculum.

Laptops are required.

Presenter: Henry Harms

Miller Park “MVP Tour”

Thursday, March 26, 2015
1:30pm–5:00pm

Tour Miller Park and view areas of the ballpark that typical tours do not get to visit, such as party suites, the media interview room, batting cages, and more! Listen to a 30-minute presentation on Miller Park’s unique roof system (90-minute tour and 30-minute roof presentation). Tour programs depart from and return to the 4th and Wells corner exit of the Wisconsin Center.

Ticket required: $35
Thursday 1:00pm

201D Technology and Engineering Education (2014-2015) Study Results
Reporting information received from state supervisors, the researchers will report the status of technology and engineering education in the United States in 2014-2015.
Presenters: Johnny J Moye, DTE, Virginia Jones, and William E. Dugger, Jr., DTE

202A How to Put sTEm into Every Classroom
The presenters will explain how they integrate technology and engineering in all subjects, including details of activities, teacher training, partnerships, and academic and career choice impacts.
Presenter: Melvin Goodwin

202B ITEEA/STEM CTL’s Engineering byDesign™ – What is It? The Primary Source for STEM
This session provides an overview of the EbD™ Program, EbDLabs™, and how teachers can help students to be successful on the NAEP 2014 Technology and Engineering Literacy Assessment.
Presenters: Barry Burke, DTE and Tanner Huffman

202E Changing Student Dispositional Attitudes With Engaging STEM
Recent research shows student attitudes toward STEM are solidified in elementary school. Engaging STEM lessons/strategies designed to influence student dispositions will be shared.
Presenters: Lindsey Swagerty, Michael Daugherty, and Vinson Carter

203A Think Like an Engineer With Flight
Students will be challenged to think like engineers as they use math and science to design and fly gliders incorporating TSA specifications.
Presenter: Alisa Rushing

203B Exhibitor Showcase: Birdbrain Technologies Hummingbird Duo: A robotics kit used in Engineering, English, and everywhere in between.
* See details in CrowdCompass.

203D Exhibitor Showcase: Goodheart Willcox Publisher Architectural-Engineering Design, Drafting, STEM, and Common Core
* See details in CrowdCompass.

203E Enriching Math and Science Through Engineering Challenges
Find ways to enrich elementary students' math and science through engineering challenges. Focus on developing engineering challenges to support and enrich math and science curricula.
Presenter: Julie Sicks-Panus

1:00pm-2:45pm TEECA Room, Exhibit Hall A TEECA Competition Transportation Contest
The TEECA Transportation Contest is about conceptualizing, designing, and constructing a transportation device or craft for optimal efficiency. The contest has several variations and involves concepts associated with air, land, sea, space, and/or intermodal transportation. Participants will present their vehicles at this time.
• Teams will have performance tests and submit documentation at this time.

1:00pm-4:50pm Walker (Hilton) EPT Board of Directors Meeting

1:15pm-2:00pm Exhibit Hall Center A STEM Educational Theater: Stratasys – Advancing the STEM Curriculum Through 3D Printing Technology
* See details in CrowdCompass.

101B Administrator Session STEM Integration in K-12 Education
The National Academy of Engineering recently released a study that addresses the status, prospects, and an agenda for research around STEM Integration. Additionally the NAE is developing an interactive website for teachers of engineering with extensive resources.
Presenter: Greg Pearson

1:30pm-2:30pm Regency Ballroom (Hilton) International Advisory Meeting
2:00pm-2:50pm
Juneau (Hilton)
PATT/International Session
Assessing Elementary Students’ Attitudes
Developing elementary curriculum that enhances technological literacy necessitates investigation of attitudes. This study evaluates whether the PATT instrument can be used with fifth-grade students.
Presenter: Charlotte Holter

Kilbourn (Hilton)
TSA Session
TSA Teams: A Proven Recruitment Tool for College Technology and Engineering Programs
Looking for a way to attract qualified technology and engineering school applicants? Learn how to serve as a host for a one-day STEM competition held on your campus for highly motivated students. The TEAMS (Tests of Engineering Aptitude, Mathematics, and Science) event—a TSA program—is the answer for increasing student enrollment!
Presenter: Sandy Honour

Wright Ballroom A (Hilton)
CTETE Session
Research-Based Outcomes of STEM Content Coaching
Research outcomes of a one-year content-coaching professional development approach for middle and high school STEM teachers will be discussed.
Presenters: Chris Merrill, DTE and Joshua Brown

Wright Ballroom C (Hilton)
CTETE Session
The Project Kaleidoscope (PKAL) Summer Leadership Institute (SLI) Experience
Shares the PKAL experience and discusses how well the summer program prepares new STEM leaders to act as agents of change while broadening and strengthening the profession.
Presenter: Mark Mahoney

101A
WTEA Session
New Teacher Seminar
Beginning a new career requires a lot of time, patience, resources, and planning. This journey can be challenging for any educator. We intend to provide a safe and enriching environment to provide assistance for new teachers. Topics may include: seeking employment, elements of a new job, developing solutions, methodologies, facility management, vendors, professional organizations, teacher licensing, financial stuff, and more. There will also be information regarding future teacher training opportunities for the new educator as well as the seasoned vet. Seasoned vets are encouraged to stop by to be of assistance to the participants in the future.
Presenter: Pete McConnell

101B
Administrator Session
How to Address the T&E in STEM - Who’s on First?
What exactly is Integrative STEM? What does it look like, and what types of professional development are necessary? What impact do the Next Generation Science Standards have on STEM classrooms - in particular, Technology and Engineering classrooms?
Presenter: Phil Reed

101C
Comparing Teachers’ and Engineering Educators’ Perceptual Differences
This research study compares perceptions of technology teachers and engineering educators relative to engineering/technology content that all students should know upon graduation from high school.
Presenter: Michael Hacker, DTE

101D
Women Are Sexists, Too!
Interactive session: effects of sexism on girls’ decisions to pursue careers in engineering and technology from the psychosocial perspective of the people who influence them.
Presenter: Mary Isaac

102B
CSL Session
So Much to Do and So Few to Do It
There is an increasing demand for technology and engineering education teachers, and at the same time the number of new teachers is shrinking. While, in the past, it was up to the teacher preparation institutions to ensure an ample supply, this has now become a profession-wide responsibility. A panel of both current teachers and teacher educators will discuss how they have assumed responsibility for recruitment of students into the pipeline and what higher education is doing to ensure they remain in the programs and are prepared to meet districts’ future needs. Learn how you can answer the question, “Who will replace you when your time comes?”
Session Lead: Mark Crenshaw
103A
STEM Through Games and Hands-On Activities
Learn how video and traditional games are being combined with exciting and engaging hands-on activities to present STEM concepts in science and math courses.
Presenter: Karl Kapp

103D
Engineering and Manufacturing Build Creative Careers
The importance of getting students in middle/high school interested in engineering/manufacturing careers by early introduction and providing hands-on problem-solving activities.
Presenter: Lynn Beyer

201A
STEM with Character
Use Children’s Engineering to foster inclusion! Follow a design brief for inclusive classrooms to create scenery and puppets based on literature to show character change.
Presenters: Lisa Jacobsmeyer, Merle LeDuc, Molly Oria, and Suzanne Bevans

201C
Electric Guitar: Design, Production, and Testing
The integration of STEM through design and production of an electric guitar. History, design, testing, and the production of an electric guitar will be presented.
Presenter: Gary Mahoney

201D
Trout and Salmon in the Classroom
Trout and Salmon In the Classroom (TIC/SIC) is an interdisciplinary program in which students in Grades 3-12 learn about cold-water conservation while raising fish.
Presenter: Mark Nowak

202B
Learning byDeSIGN—ITEEA’s New 6E Engineering Framework
Next Generation Science Standards has provided an opportunity to infuse engineering into classrooms throughout the country. How do we integrate inquiry and design? Find out about ITEEA’s new Learning byDeSIGN™ lesson planning framework that makes eNGINEERING explicit for classroom teachers.
Presenter: Roger Skophammer

202E
Zoonotic Disease: A STEM Exploration
Using STEM to examine zoonotic disease, technology content standards, NGSS, and “habits of mind” is incorporated into a science lesson addressing this public health threat.
Presenter: Denise Stewardson

203A
Innovation Portal: Connecting Design Projects With Opportunities
The Innovation Portal is a free online portfolio-building and connection tool available to all K-16 students participating in problem-solving and design projects.
Presenter: Mark Schroll

203B
Exhibitor Showcase: Whitebox Learning
The “E” in STEM
* See details in CrowdCompass.

203D
Exhibitor Showcase: In-House Solutions
Fun and Exciting Ways to Implement True STEM Activities Into Your Engineering or Tech Ed Classroom
* See details in CrowdCompass.
3:00pm-3:50pm

Juneau (Hilton)
PATT/International Session
iTunes U: A Sharing Opportunity is STEM
iTunes U is a digitally driven educational platform used to design, distribute, and acquire education.
Presenter: Brandt Ward

Wright Ballroom A (Hilton)
CTETE Session
Appropriate Technology in the T&E Curriculum
A report on the findings of recent studies outlining the concepts, topics, and skills that an appropriate technology-oriented high school curriculum should include as well as teacher beliefs and attitudes about the importance of including these topics in the T&E education curriculum.
Presenter: Marie Hoepfl

Wright Ballroom C (Hilton)
CTETE Session
STEM Education Interdisciplinary Materials
Interdisciplinary materials were generated by a team of university educators from engineering, mathematics education, and science education. Materials will be discussed and distributed to attendees.
Presenters: Aaron Clark, Jeremy Ernst, and William DeLuca

3:00pm-3:50pm

101B
CSL/Administrator Session
STEM for ALL – How to Build a STEM Culture
How can building administrators develop and lead a STEM culture in their school building? Dr. Lopez will discuss how he orchestrated an award-winning STEM culture among the community, staff, parents, and students by developing value in the community for types of opportunities for students and how to create leadership that empowers the staff to meet the direction of their school/program advisory committee.
Presenter: Lazaro Lopez

101C
Students Resolving Conflicts, Making Choices, and Collaborating
These practical, logical, and powerful tools will prepare your students to collaborate, resolve their own conflicts, and make critical choices in the 21st Century economy.
Presenters: Cal Halliburton and Joanne M. Trombley, DTE

101D
Leveraging Technology Education and Engineering Classrooms to Drive Change in Public Education
Albemarle, VA’s Technology and Engineering Education teachers and curriculum pioneer an innovative interdisciplinary learning experience. “We Make Makers” connects technology education and engineering firmly with core content areas. “Making” and engineering programs are now essential to their entire middle and high school experiences and provide elementary a place to explore creativity.
Presenters: Eric Bredder and Chad Ratliff

103A
Finding Our Way: Connecting STEM and Culture
Teachers in Hawai’i breathe life into NGSS, CCSS, and STL using Polynesian Navigation. Teachers and students employ engineering design to investigate mathematics and science.
Presenter: Toni Marie Kaui

103D
Assessing Activities: Ensuring Intentional Instruction
Participants will learn a suggested assessment for Technology, Engineering, and Design activities for curriculum appropriateness, quality, and meaning for the transfer of knowledge.
Presenters: Joe R. Busby, DTE and Kevin Sutton

103E
Establishing International Technology and Engineering STEM Partnerships
For those in T&E education who are interested in establishing international partnerships with STEM professionals abroad.
Presenter: Edward Reeve, DTE

3:00pm Thursday
203A  
**Rigor in Engineering and Technology Education Classrooms**  
This session will define what rigor looks like and how to ensure that every child is successful in a rigorous environment.  
*Presenters: Alexia Couch and Sharon Kramer*

203B  
**Engineering Infusion: Integrative STEM (iSTEM) Through Inquiry, Design**  
The iSTEM framework leverages the primary problem-solving methods of Inquiry, Design, and Modeling to bridge STEM competencies and provide an opportunity-rich, problem-based learning (PBL) environment. Designed to integrate engineering habits of mind, NGSS and CCSS, teachers will leave this workshop with research-based strategies designed to enhance current course offerings.  
*Presenters: Nathan Mentzer and Tanner Huffman*

203E  
**Engineering’s Grand Challenges: Priorities and Integration**  
Recommendations made by STEM educators for addressing the Grand Challenges for Engineering in the K-12 Technology and Engineering Education curriculum.  
*Presenter: Jennifer Buelin-Biesecker*

3:30pm-5:00pm  
**Exhibit Hall A**  
**TEEEA Educational Display Contest**  
Requires an individual or small team to complete research on a topic of technological significance selected annually by TEECA and then present the research by designing an educational display.  
- Team members must be available for questions during this time.

3:45pm-4:00pm  
**101B**  
**Administrator Session**  
**Focal Points – 9 Defining Features of Effective STEM Programs**  
This presentation presents participants with an understanding of nine key components that define successful STEM programs. Learn about FocalPoints™ and how they can inform STEM learning.  
*Presenter: Barry Burke, DTE*

4:00pm-4:50pm  
**Juneau (Hilton)**  
**PATT/International Session**  
**Concept Learning by Design Challenges**  
Using the context of design challenges seems to be a suitable approach for concept learning. This session discusses the learning by design approach and presents new research.  
*Presenter: Frank A. Schure*

Characteristics of PLTW and EbD Contributing to Integrative STEM  
A comparison of PLTW and EbD as to professional development, costs/sustainability, curriculum accessibility, administrative support,
103A
Reinforcing Engineering/Technology Using Hands-On Activities
This hands-on session will introduce participants to free, low-cost, design-based TryEngineering.org activities that can help integrate engineering and technology into the classroom.
Presenters: Elizabeth Kurzawa and Yvonne Pelham

103D
A Comprehensive STEM Plan for K-12 STEM Instruction
This session will focus on how Georgia is implementing STEM instruction within the state. The presenters will provide insight as to the GA DOE perspective with regard to STEM. In addition, they will explain and describe how one large district implemented a comprehensive K-12 integrated STEM model within a large urban school district.
Presenters: Paul Camick, Mark Crenshaw, and Hannah Maharaj

103E
School of Innovation: University Elementary School STEM Collaboration
The results of a unique STEM professional development and curricular collaboration between a university and a local elementary school. Participants will be provided professional development materials, curriculum materials, tools, etc.
Presenters: Lindsey Swagerty and Michael Daugherty

201A
ITEEA’s National Automated Design Challenge
Eleven teachers used the AFRL Discovery Lab’s Deep Horizons virtual reality setting to facilitate learning, share ideas during project development, and evaluate results. The goal of this pilot program was to explore how to engage students in combined physical and virtual world projects. Participants will share this learning experience as well as their unique projects. There will be a short presentation from each of the participants followed by time to examine the projects and ask the participants questions.
Presenters: Angela Davis, Brian Lien, Ezra Thompson, Kim Forbes, and Pamela Glass

201C
Strategies for Engaging Poverty-Level Students
Presenters will share approaches with STEM-based teachers for working with students who are low-income and/or live in poverty.
Presenters: Chris Merrill and Joshua Brown

201D
Cutting Edge: Becoming a STEM-Integration School
Steps and resources for developing an integrated STEM curriculum for elementary schools.
Presenters: Cheryl Putnam and Joe McClung

202B
Engineering byDesign™ - “Connecting Students and Counselors to STEM”
The Community College of Baltimore County (CCBC), has partnered with ITEEA and others to customize two EbD advanced technology education courses to create an articulation with CCBC’s Introduction to Engineering Technology class. CCBC is working to make counselors aware of options available and steering more students, especially underrepresented students, into STEM fields, and by earning college credit while still in high school.
Presenter: Laura LeMire
Thursday 4:00pm-6:00pm

5:00pm-6:00pm
Wisconsin Center, Exhibit Hall A

ITEEA Celebration Reception
Open to all registered attendees, spouses, students, and exhibitors. The STEM Showcase ends at 5:00pm, but don’t leave the Exhibit Floor just yet! Join your colleagues to network and enjoy complimentary hors d’oeuvres. A cash bar will be available.

Exhibits will remain open, and the exhibitor raffle will take place during the reception.

202E
Manufacturing Classes Are Great STEM Classes!
This session will cover classroom projects and ideas that will ensure your manufacturing classes really demonstrate STEM Education and are more gender-friendly.
Presenter: John Donley

203A
Teachers’ Perceptions of Learning by Doing
The researchers will report the results and implications of the first round of this four-year study and discuss future rounds of the study.
Presenters: Johnny J Moya, DTE and William E. Dugger, Jr., DTE

4:00pm-5:30pm
102B
CSL Session
TEECA Employability Strategies Roundtable
Local and State Supervisors will be conducting mock interviews for TEECA students interested in honing their job interview skills. Any school district currently looking to hire technology and engineering students is welcome to join this session and interview potential candidates. TEECA students are requested to bring their resumes.

4:00pm-7:00pm
Wright Ballroom B (Hilton)
TEECA Competitive Event
TEECA Teaching Lesson Contest
The TEECA Teaching Lesson Contest evaluates how well an individual or pair of students teach others about a technological topic.

6:00pm-9:00pm
101AB
TEECA Competitive Event
Manufacturing Contest
The teams design, document, fabricate, and implement a continuous manufacturing system to produce an assigned product.

6:00pm-9:00pm
101AB
CTETE Awards Reception and Dinner
Thursday, March 26, 2015
6:15pm–7:45pm
Regency Ballroom (Hilton)
Host: Marie Hoepfl, CTETE President
Cost: $45; ticket required

This CTETE dinner recognizes those involved in the CTETE Yearbook and honors individuals and initiatives that represent the best of the technology and engineering teacher education profession.
Thursday

### STEM Showcase Presenters and Table Locations

<table>
<thead>
<tr>
<th>Time</th>
<th>Location</th>
<th>Event Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3:30pm-5:00pm</td>
<td>Wisconsin Center, Exhibit Hall</td>
<td>Followed by Celebration Reception.</td>
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<tr>
<td></td>
<td>Sponsored by PTC</td>
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</tr>
</tbody>
</table>

Don't miss this one-of-a-kind event! Dozens of STEM educators sharing their best practices with YOU!

1. Walter Smith (Texas Tech University): Students Doing Global STEM Education
2. Aletha Williams (Jane Long Futures Academy): Students Doing Global STEM Education
3. Elizabeth Klammer (Texas Tech University): Successful Elementary Global Collaboration
4. Dan Carpenter (Texas Tech University): Project-Based Learning in a Global Context
5. Gary Wynn, DTE (Greenfield Central Community Schools): Teaching Beginning Transportation on a $500 Budget
7. Victor Stefan, DTE (AASBD Soap Box Derby OTEEA): STEM Summer Camp Soap Box Derby
8. Jared Bitting, DTE (Fleetwood Middle School): Racing Mini Cars in the Classroom
9. Jocelyn Long (Downington STEM Academy): Design, Build, and Test F1 Matchbox Cars
10. Todd Faulhaber and Bruce Wallbaum (La Follette High School/Occupy Madison, Inc.): Tiny Home, Big Impact
11. Antoinette Richter, Jeff Rosen, Amber Smith (Carver Road Middle School): Experimentation and Data Analysis Driving Engineering Design
12. Roxanne Moore and Jeff Rosen (Griffin High School): Advanced Manufacturing Through STEM
15. Gary Mahoney (Berea College): Electric Guitar: Design, Production, and Testing
16. Benjamin Mitchell (Garden State Robotics): Competitive Robotics: Engaging Students With Applied STEM
17. Justin Papariello, Richard Palucis (Fox Chapel Area High School): Drone Technology With High School Students
18. Joe Ramos (United States Super STEM Competition): United States Super STEM Competition
19. Paul Post, Andrew Parkhurst, Peter Lund, Dan Sansuchat (The Ohio State University): TEK8 – Engineering Design Challenges for Middle School
21. Bill Badders (SEPA; NSTA): Soundsational—Fun Activities with Sound
22. Conni Crittenden (SEPA; Williamson Community Schools): STEM Units at the Upper Elementary Level
23. Timothy Dalby (SEPA; Wilmington Friends School): Look Out Below! Engineering Parachutes
24. Kathleen Horstmeyer (SEPA): STEM Builds Bridges to Learning
25. Linda Froshauer (SEPA; NSTA): Model-Eliciting Activity: Water Filtration
26. Natalie Harr (SEPA; Crestwood Primary School): Cyberlearning: The Educators’ Corner
27. Steve Rich (SEPA; West Georgia Youth & Technology Center): Books, Bees, and Butterflies
28. Catherine Valentino (SEPA; University of Rhode Island): Model it! Discovering STEM in Common Objects
30. Cathy Kindem (SEPA; Rosemount-Apple Valley-Eagan): Inspiring Minds: Supporting Students in STEM
31. Alma S. Miller (SEPA; Langdon EC/DCPS): The Better Boat Challenge

Full descriptions, maps, materials, and presenter contact information are available in the CrowdCompass mobile app.
Thursday

32. Karen J. Nesbit (SEPA; Franklin Public Schools): Playgrounds, Towers, and Bridges, Oh My!
33. Sharon Ryan (SEPA; Dream Flight USA Foundation): STEM: Hands-on Learning
34. Linda Lee Smith (SEPA; NASA EPO): Keeping Things in Motion with Newton and NASA
35. Juliana Texley (SEPA; NSTA): From Mendel to Modern Genetics with Technology
36. Cathy Barthelemy (SEPA; Fort Worth Museum of Science): 21st Century Learning Academy: Integrating STEM in the Classroom
37. Donna Jagielski (Higley Unified School District): Developing and Sustaining an Effective STEM Night
38. Judy Wright (Canton Elementary STEM Academy): How Does Your Learning Garden Grow? An Adventure in Aquaponic Gardening and SPLASH Classroom
39. Rich Seymour (Ball State University): Mapping with STEM
40. Liz Gallo (The Churchill School and Center): Helping LD and ADHD Kids in Your Technology Education Classes
41. Matthew Schultz (Lakeview Technology Academy): Underwater Robots
42. Craig Clark, DTE (Batchelder Elementary School): Bringing Technology Subjects to PreK-8 Grades
43. Kevin Sutton (North Carolina State University): Teaching Informed Design with Quadcopters
44. Joanne Trombley (J.R. Fugett Middle School): Additive Manufacturing Design Challenge
45. Bill Van Loo (A2 STEAM at Northside): Affordable, Mobile 3D Printing in K-8 Schools
46. Lynn Beyer (National Fluid Power Association): Engineering and Manufacturing Build Creative Careers
47. Simon Yalams and Tanisha Lewis (University of Technology Jamaica): STEM Learning Resource for Jamaica Primary Schools
48. Karl Kapp (Bloomsburg University of Pennsylvania): STEM through Games and Hands-On Activities
49. Jean Trusedell (EPICS at Purdue University): Engineering Design Integrated in Service-Learning
50. Jim Flowers (Ball State University): Intersecting Silhouettes
51. Roger Hill (The University of Georgia): Robotics for Elementary STEM Education
52. Gail DeClark (Franklin High School): Teaching Video, Communication, and Technical Literacy Skills
53. Dennis Stocker (NASA Glenn Research Center): ISS Design Research Challenge
54. Laura Hummell and Cal U TEAC Students (California University of PA): Using Health and Physical Fitness Technologies to Enhance STEM Curriculum
55. Tenaya Hurst (dog hunter, LLC): Making Microcontroller Programmers with Drive to Invent
57. Natoshia Anderson (Georgia Piedmont Technical College): Attracting Women to STEM: Engineering to Computers
58. Wm. Scott Thomas (Shadow Ridge High School): Common Core and STEM Integration with Architecture
59. Patrick Kelly and Angela Miceli (Holy Trinity High School): Combining Entrepreneurship and STEM
60. Mel Goodwin (Laing Middle School of Science and Technology): Electronics and Microcontrollers Across the Curriculum
61. Sofia Vaksman (Middlesex County Academy): Math Game Projects For Students by Students
62. Terrie Rust, DTE (BLUECUBE Aerospace): Build, Launch, Utilize, and Educate Using CUBESATS
63. Andy Stephenson, DTE (former classroom teacher) D Doodler 2.0: A Crowd-Sourced Product
64. EdB Teacher Effectiveness Coaches (STEM Center for Teaching and Learning/Engineering by Design℠): Standards-based Program Model

Stop by the TEECA Educational Displays as part of the STEM Showcase, located in the center area.

Full descriptions, maps, materials, and presenter contact information are available in the CrowdCompass mobile app.

www.iteea.org
MARK YOUR CALENDARS!

The ITEEA Board of Directors, along with PITSCO Education, would like to invite all registered conference attendees to a complimentary lunch.

Friday, March 27, 2015
11:30am – 1:00pm
Exhibit Hall
Friday, March 27

FTEE “Spirit of Excellence” Breakfast
Friday, March 27
7:00am–8:45am
Regency Ballroom (Hilton)
Featured Speakers:
Michael De Miranda, Ph.D.
Colorado State University
Ron Dougan
Engineering Manager
Northrup Grumman Corporation

University host:
Illinois State University
Department of Technology
Ted Branoff, Chair

Cost: $30; ticket required

Strong Partnerships
“We can adapt by changing our organization’s relationships with other organizations through corporate partnering.” Curtis E. Sahakian

This Spirit of Excellence breakfast will highlight a power partnership between Northrop Grumman Corporation and Colorado State University impacting STEM education by expanding the engineering and technology opportunity pathway for all students. Breakfast attendees will learn of the nationwide strategic initiatives within Northrop Grumman focused on STEM education and specifically how to become involved.

Introduction, University Host.............................. Ted Branoff
FTEE Undergraduate Scholarship.......................... James Boe, DTE
Litherland/FTEE Undergraduate Scholarship............. Joey Rider-Bertrand
Maley/FTEE Technology Teacher Scholarship.......... Steve Price, DTE
Claussen/FTEE Scholarship.................................. Jerianne Taylor, DTE
Recognition of 21st Century Fellows ....................... William Havice, DTE
Roger Hill

Maley Spirit of Excellence Outstanding
Graduate Student Citations.................................. James Boe, DTE
Maley Spirit of Excellence Outstanding
Undergraduate Student Citations.......................... James Boe, DTE
Speakers.......................................................... Michael De Miranda
Ron Dougan
Announcements/Adjournment............................... Ted Branoff

11:00am-11:50am . . . . . . . . .
203B
Exhibitor Showcase:
DS Solidworks
SolidWorks: Project-Based
Learning and Q&A
* See details in CrowdCompass.

203D
Exhibitor Showcase:
National Geographic/Cengage
Learning/Delmar
Engage, Inspire, and Captivate
Today’s Learners With Robotics
* See details in CrowdCompass.

11:00am-3:00pm . . . . . . . .
Wisconsin Center, Exhibit Hall A
EXHIBITS OPEN
Dedicated exhibit hours
11:00am-1:00pm

11:30am-1:00pm . . . . . . . .
Wisconsin Center, Exhibit Hall
Complimentary Lunch for Registered Attendees
Conference attendees will receive a ticket for the complimentary lunch.
Sponsored by Pitsco Education.

1:00pm-1:30pm . . . . . . . .
101B
Administrator Session
The Nitty Gritty! Engineering byDesign™ - What is it?
Using a standards-based approach, this model provides participants with an overview of how to bring STEM to elementary, middle, and high schools. Using the FAA approach (Flexibility, Affordability and Accountability) the program is suitable for any school or district that is looking to implement an Integrative STEM system.
Presenter: Tanner Huffman

8:00am-11:50am . . . . . . .
Mitchell (Hilton)
EPT Board of Directors Meeting

8:00am-5:00pm . . . . . . . .
Wisconsin Center, Exhibit Hall A
ITEEA Registration and Resource Booth Open

10:00am-10:15am . . . . . .
Wisconsin Center, Ballroom A/B
ITEEA Competitive Event
ITEEA Communication Contest
Turn-In
Teams plan and produce a short video on a topic related to the conference. The videos will be shared during the Awards Dinner.
Teacher Excellence General Session

Friday, March 27
9:00am–10:50am
Wisconsin Center, Ballroom A/B

Featured Speaker:
Peg Williams
Senior Vice President, Research and Development
Cray, Inc.

Cray, Inc., a world-leading supercomputing organization founded on innovation and design, continues to revolutionize the computer industry. Through research and product development, Cray is recognized as a global leader in science and technology, transforming the way the world works. Cray has been a partner with education for over 30 years and a pioneer in STEM education. In the 1980s the Cray Academies for Science, Technology, and Math teachers impacted thousands of teachers in the importance of interdisciplinary teaching. This session will challenge us again in the need and importance to focus our education systems on the science, technology, engineering, and mathematics to shape the next frontier.

Peg Williams serves as Senior Vice President, Research and Development, responsible for software and hardware engineering efforts for all of Cray’s research and development projects. Dr. Williams has more than 20 years of experience in the high-performance computing industry. Prior to joining Cray in 2005, she was Vice President of Database Technology for IBM, where she managed HPC software and AIX development and held various additional positions in HPC software development. Her extensive HPC experience also includes leading the user support team at the Maui High Performance Computing Center (MHPCC). Dr. Williams received a B.S. in mathematics and physics from Ursinus College and an M.S. in mathematics and a Ph.D. in applied mathematics from Lehigh University.

Welcome, Introduction .................................................................Joey Rider-Bertrand
Wisconsin Planning Team Welcome ...........................................Pete McConnell
Academy of Fellows Award ..........................................................Joey Rider-Bertrand
Distinguished Technology and Engineering Educators ...............Joey Rider-Bertrand
Teacher Excellence Awards .........................................................Joey Rider-Bertrand
Cosponsors ..................John Flanagan and Todd Scheffers, Goodheart-Willcox
Award Co-Chairs ................Lana Fornes and Knut (Pete) Gjovik
Speaker Introduction .................................................................Dan Banach, Autodesk
Speaker .................................................................Peg Williams
Preview of National Harbor, DC 2016 ............................................Tom Loveland
Special Invitation .................................................................Harvey Dean
Closing Comments and Attendance Drawings .............................Diana Carmenates

*Don’t miss the preregistration prize drawing for a $100 Amazon gift card and other attendance prize drawings.
1:00pm-1:50pm  
Juneau (Hilton)  
PATT/International Session  
Teaching on Sustainability in Technology Education  
In this presentation, the philosophy of sustainability will be used to highlight some challenges for teaching about sustainability in technology education.  
Presenter: Marc J. de Vries

Walker (Hilton)  
Children’s Council Session  
STEM for Out-of-Your-Seat and On-Your-Feet Learning K-6  
Learn about a unique combination of kinesthetic learning and STEM Concepts in an exciting hands-on environment. These programs incorporate simple machines, phonics, math, and science in a kinesthetic approach to maximize comprehension of learning STEM concepts on their feet. Students love learning STEM in Motion and parents love it also!  
Presenter: Cindy Jones

Wright Ballroom A (Hilton)  
CTETE Session  
Graduate Student Forum  
Graduate students and early career researchers describe their Technology and Engineering Education research efforts in a roundtable setting. Presentations are made concurrently and will rotate at 20 minutes.

101A  
3D Printers: New Tools in the Classroom  
3D printers are the latest rage in a technologically equipped classroom. Getting the most accurate output requires several process considerations before the product is produced.  
Presenters: David Gore, Pamela Speelman, and Phillip Cardon

101C  
Two First-Year Teachers Collaborating with STEM  
This session describes the lessons learned by two first-year teachers creating an environment for students to learn systems thinking and foster creativity, optimism, and teamwork to build a positive attitude about all STEM subjects.  
Presenters: Levi Brown and Zach Freer

101D  
Partnering to Implement a STEM Master’s Degree  
Presentation of CCSU’s MS in STEM Education, developed from the ground up and administered jointly by the science education and technology/engineering education faculty.  
Presenters: James DeLaura and Patrick Foster

102B  
Engaging K-12 Students in Global STEM Education  
Learn about our experience engaging students across international borders in collaborative engineering problem solving, science inquiry, and STEM-based issues such as climate change.  
Presenters: Aletha Williams, Daniel (Dan) Carpenter, Elizabeth Klammer, and Walter Smith

103A  
Closing the Access and Achievement Gap in STEM  
Practical strategies for improving access and opportunities for underrepresented groups in STEM education will be addressed. The goal is to empower participants to be change agents.  
Presenter: Yvonne Spicer, DTE

103D  
ITEEA/AFRL Collaboration on Automated Design Challenge  
Do you want to learn about Raspberry Pi? Join this presentation to see how 20 ITEEA members, in partnership with the Air Force Research Lab/Discovery Lab, produced an automated device prototype using both the virtual and real world; developed a model for working together that uses the Deep Horizons Virtual Reality Research Campus; and documented lessons learned in order to expand this program to other teachers and students in the future. Learn about this fascinating project and how you can get involved.  
Presenter: Brian Lien

103E  
Leveraging 1:1 Technology in the STEM Classroom  
This session will focus on transforming your STEM classroom into a student-centered learning environment where technology shapes and enhances learning.  
Presenter: Frank Holthouse

201A  
Generating Interest in STEM Through Underwater Robotics  
We will discuss underwater robotics projects as vehicles for teaching and connecting physical science and engineering principles, along with the unique challenges involved.  
Presenter: Jean Trusedell

201C  
Incorporating Disciplinary Literacy in Technology Education  
CCSS has shifted the focus of reading in the content to disciplinary literacy. Learn how to increase complex STEM reading skills in technology education.  
Presenter: Thomas Loveland
1:00pm-3:00pm    Exhibit Hall A
Wisconsin Tailgate Event
Visit the Wisconsin “Tailgate” area in the Exhibit Hall where WTEA will bring to life the cultural experience of attending a Wisconsin sporting event. The entire experience will include games, prizes, refreshments, unique Wisconsin sports memorabilia, beer tasting, and more. And be sure to check out the new Harley Davidson motorcycles on display! The $33,500 Snap-on toolkit raffle will take place during this event.

GE Healthcare Tour
Friday, March 27, 2015
1:00pm–4:00pm
GE Healthcare provides transformational medical technologies and services that are shaping a new age of patient care. Tour the Global Design Center where aesthetics, design, and ergonomics are applied to medical technologies. Learn about “remanufacturing” in the CT/PET CT “Gold Seal” manufacturing facility. See how GE Healthcare remanufactures used equipment into certified pre-owned GE medical equipment. Tour programs depart from and return to the 4th and Wells corner exit of the Wisconsin Center.
Ticket required: $35

Joy Global Tour
Friday, March 27, 2015
1:00pm–4:00pm
Joy Global is a leading global supplier of advanced surface and underground mining equipment, systems, and direct services. With its worldwide headquarters in Milwaukee, WI, Joy Global is focused on solving mining’s toughest challenges through world-class products and direct services. Joy Global employs over 12,000 people worldwide, hiring engineers, machinists, technicians, welders, and IT professionals as well as sales staff, customer service, marketing, accounting, and more.

Joy Global can trace its roots back to 1884 at the National Avenue site in Milwaukee when Alonzo Pawling and Henry Harnischfeger started a company that eventually manufactured the best surface mining shovels in the world. This plant is home to Joy Global surface mining where employees design and manufacture mining shovels used at surface mines around the world to secure essential resources including coal, copper, iron ore, oil sands, potash, gold, and silver.

Tour goers will learn more about Joy Global overall, meet with members of the electrical engineering team and visit the electrical lab, meet with the advanced automation team, tour the manufacturing facility, and hear from Human Resources professionals about the STEM skills and expertise that are needed now and in the future.

Tour programs depart from and return to the 4th and Wells corner exit of the Wisconsin Center.
Ticket required: $35

201D
Brillion School District STEM Education Partnerships
The Brillion School District has received international attention for its K-12 STEM education. This presentation will showcase its industry support and innovative STEM education centers.
Presenter: Steve Meyer

203A
How Female Students Engage in Engineering Design
What motivates female students? Findings from the NSF project “Science Learning through Engineering Design (SLED)” informs teachers on how female students engage in engineering design.
Presenters: Rachel Smith and Todd Kelley

203B
Exhibitor Showcase:
Goodheart-Willcox Publisher
Integrating National Standards Into Your Woodworking Curriculum With the Newly Revised Modern Cabinetmaking
* See details in CrowdCompass.

Try the CrowdCompass Mobile App
Friday, March 27, 1:00pm–4:50pm
Ebd Labs™
Ticket required: $45

102A
Elementary School EbdLab™
Ebd-TEEMS™: Grades 3-5
Provides training on Ebd-TEEMS™: Grades 3-5. The session is hands-on, minds-on, preparing teachers with the fundamentals necessary to implement the 3-5 Building Blocks. Participants will leave with a CD containing lessons from the course/curriculum.
Presenter: Leigh Ann Anderson

102B
Middle School EbdLab™
Technological Systems, Third Edition
Introduces the concepts and teaching strategies for implementing Technological Systems, Third Edition; enrollment in EbDonline™; and the Ebd online Student Assessment and Design Challenge™. Participants will leave with a CD containing lessons from the course/curriculum.
Presenter: Curt Funkhouser.

102D
High School EbdLab™
Advanced Design Applications
Provides training on the Advanced Design Applications course for Grades 11–12. The session is hands-on, minds-on, preparing teachers with the fundamentals necessary to implement the course. Laptops are required. Participants will leave with a CD containing lessons from the course/curriculum.
Laptops are required.
Presenter: Cory Booth

202A
Engineering byDesign™ - Building a Consortium “From the Ground Up”!
This session will share the presenter’s experience locally to help grow some initial district interest in Ebd. She will explain how she worked with her state department of education in order to bring affordable, quality STEM education through Ebd Consortium agreements.
Presenter: Clelia McCrory

1:30pm-2:15pm ............
101B
Administrator Session
Integrative STEM Opportunities
The NGSS and CCSS have put intense pressure on educators and administrators. Why should we allocate resources to support the T & E of STEM? How does the T & E of STEM support Science and Mathematics learning? Purdue University is developing an Integrated STEM Education endorsement that centralizes the technology and engineering and situates these disciplines as integrators for mathematics and science learning. This session will identify a motivation for STEM integration, describe models used in the Purdue teacher preparation program, and consider how they may be generalized to your school environments using design-based pedagogy.
Presenter: Nathan Mentzer

1:30pm-2:30pm ............
102E
High School EbdLab™
Engineering Design, Third Edition
Provides training on the concepts and teaching strategies for implementing Engineering Design, Third Edition; enrollment in EbDonline™; and the Ebd online Student Assessment and Design Challenge™. Participants will leave with a CD containing lessons from the course.
Laptops are required.
Presenter: Cory Booth

203E
Partnering to Design STEAM Internships
Participants will learn how one district established partnerships for STEAM internships with area businesses. Will share successful internship models that emerged and a "how to" guide for creating internship partnerships.
Presenter: Lon Stettler

202E
WTEA Session
Technology and Partnerships: Enhancing Education and Workforce Education
Enhancing education and workforce education is key to national growth. Four topics critical to enhancing education include data-driven instructional improvement, college credit acquisition, industry credentials, and digital badges.
Presenter: John Foster

1:30pm-2:30pm ............
Wright Ballroom B (Hilton)
International Advisory Meeting
Juneau (Hilton)
PATT/International Session
Critical Issues and Strategies of Technology Education:
Technology Teachers’ Voices in South Korea
Investigates the critical issues and practical strategies that Korean technology teachers perceived. A qualitative study was conducted to identify critical issues and practical strategies of Korean technology teachers.
Presenters: Hyuksoo Kwon and Euisuk Sung

Regency Ballroom (Hilton)
TEECA Session
First Year Teacher and Pass it On, Pay it Forward (Lesson Plan Cookbook)
1: A panel presentation and group discussion highlighting what to expect during the first year(s) of teaching.
2: Designed specifically for TEECA students near graduation and new teachers, this session presents lessons and materials from veteran teachers to ensure that new instructors are prepared in the classroom.

Wright Ballroom A (Hilton)
CTE TE Business Meeting

101A Amazing Possibilities in K-12 Integrative STEM Education
Participate in this interactive session about current best practices and future possibilities in K-12 Integrative STEM Education!
Presenter: Laura Hummell, DTE

101C Practical Implementation of Manufacturing-Based STEM Concepts
Project-based curriculum with clear validated connections to Common Core, Next Generation Science Standards, and State Learning Standards, posted on a free searchable website.
Presenter: Scott Calahan

102B Data Collection Through a Statewide Survey
Through statewide middle and high school student surveys, learn how to determine program strength and the level of STEM integration occurring within technology and engineering courses.
Presenter: Chuck Goodwin, DTE

103A Females and STEM: Tell Us What YOU Want!
Females are underrepresented in Technology and Engineering education. Learn research-based information about interests and motivations for STEM opportunities and careers including motivators for female participation.
Presenters: Rachel Talbott and Virginia Jones

103D Measuring the Self-Efficacy of VEX Robotics Participants
A survey instrument to measure the self-efficacy of students participating in competitive VEX robotics will be presented. Presenters welcome partners for a longitudinal research study.
Presenters: Gary A. Stewardson, Trevor P. Robinson, and Joseph Furse

103E 3D Print Cool Stuff!
Add Graphic 3D printer projects that will excite your class. Learn how Mastercam can generate a solid model and STL file with any graphic your students choose.
Presenter: Jim Howie

201A Through My Window: Imaginative, Idea-Centered Engineering Education
A new window on engineering education for children and young teens! Through My Window is engaging, imaginative, idea-centered engineering education within the native digital environment of today’s learners.
Presenters: Beth McGinnis-Cavanaugh and Isabel Huff

201C Using Engineering Design for Transdisciplinary Curriculum
Integrative STEM education continues across K-12 curriculum in Edison Township Public Schools of New Jersey. Discover how the engineering design process provides the cohesive thread.
Presenter: Mary Mavroudas

202A Understanding the DTE and EL Designation
An overview of the Distinguished Technology and Engineering Teacher Professional and the Emerging Leader distinction programs.
Presenters: Lynn Basham, DTE and Mohammad Babarji, DTE

202B EbD™ and Elementary Robotics
Robotics is an exciting way to involve students in learning about technology and engineering. Explore robotics use in a non-competitive activity in the EbD-TEEMS
sixth grade Building Block, Our World and Me. Join STEM CTL and EbD Curriculum Partner, BirdBrain Technologies, for an overview and demonstration of the Hummingbird Duo. The materials are easily programmed and support advanced programming and advanced electronics creation. 
Presenter: Tom Lauwers

202E
WTEA Session
NC3: Connecting Industry With Education Through Certification
Learn how almost 200 schools from across the country have leveraged the NC3 partnership model to connect to cutting-edge companies like Snap-on and Trane.
Presenter: Matt Janisin and James Hammond

203A
Integrate STEM into Existing Laboratory-Based Activities
Educators have favorite lessons they have used successfully for years. This session will focus on enhancing those same activities and projects to highlight STEM concepts.
Presenter: Richard Seymour

203B
Exhibitor Showcase:
WhiteBox Learning
The “E” in STEM
* See details in CrowdCompass.

203E
National Academy of Engineering: PreK-12 Education Website
Join a discussion of the National Academy of Engineering’s new web-based resource—developed in partnership with ITEEA—to support PreK-12 engineering instruction.
Presenter: Greg Pearson

2:00pm-4:30pm .......... 
Mitchell (Hilton)
Ebd Consortium State Directors Meeting

2:15pm-3:00pm ...........
101B
Administrator Strand
Closure: Opportunities and Next Steps
Integrative STEM provides many opportunities for moving forward. During the two-day strand, information has been provided that will help frame how STEM can be implemented. This session will build upon that to offer opportunities that are available to make STEM a reality in any school or district.
Presenter: Roger Skophammer

3:00pm-3:50pm .......... 
Walker (Hilton)
Children’s Council Session
Problem-Based Learning for K-6 STEM
Using active learning strategies like PBL can make your elementary STEM students learn firsthand how to work in teams, solve problems, design new products, and improve existing designs. Learn more about how to effectively implement PBL in your classroom.
Presenter: Laura Hummell, DTE

101A
Develop a STEM Pathway Grades K-12
Learn how to implement a STEM Pathway for Grades K-12 using a national curriculum, transition activities, and methods of promotion and sustainability through a collaboration.
Presenter: Greg Quam

101D
Broadening Participation in Computationally Rigorous Engineering Courses
Learn about a research-based, computationally rigorous high school engineering program with a focus on broadening participation, especially among young women.
Presenter: Cheryl Farmer

102B
Building STEM Partnerships With Local Businesses
Come see how we have fostered a thriving STEM partnership program at our school. Leave with great information on how to do the same.
Presenters: Jocelyn Long and Susan Boardman

103A
Impact of Joint Conferences on Professional Associations
A review of a research study commissioned by the Technology and Engineering Educators Association of Maryland (TTEAM) and the Maryland Association of Science Teachers (MAST) to discuss the impact of a joint 2013 TTEAM and MAST annual conference. Results will be shared about the collaborative benefits and challenges from this joint conference. This session will be of interest to state associations and leaders.
Presenters: Thomas Loveland and Tyler Love
103D
**Instructional Resource for STEM Learning in Jamaica**
A STEM resource for primary schools to be used as stand-alone DVD or online. Features include videos, interactive games, and pictures.
*Presenter: Simon Yalams and Tanisha Lewis*

103E
**STEM Geometry**
Math and technology education coming together to team-teach STEM Geometry using project-based learning to eighth, ninth, and tenth graders.
*Presenters: Brian Berlin and Ed Hughes*

201A
**Overcoming Barriers to Classroom Technology Integration**
Technology and Engineering teachers are often viewed as school leaders in classroom technology integration. This presentation will give an overview of the barriers experienced by teachers and provide solutions to meaningfully integrate technology into the classroom.
*Presenter: Daniel Kelly*

201C
**Delivering Integrative STEM Education through Digital Fabrication**
This program will explore the integration of digital fabrication core competencies into transdisciplinary STEM curriculum and the alignment of digital fabrication learning outcomes to standards.
*Presenter: Caroline McEnnis*

202A
**IdeaGarden**
IdeaGarden is ITEEA's member listserv for sharing questions and information. This session will provide attendees with a glimpse of the Garden experience. Everyone welcome!
*Presenter: Craig Clark, DTE, Terrie Rust, DTE, and Mike Fitzgerald, DTE*

202B
**Team-Teaching Geometry and Construction**
Participants will hear how two Texas high school teachers (a geometry and CTE teacher) are using geometry and construction to strengthen math scores.
*Presenters: Amber Lee and Bob Behnke*

202E
**WTEA Session**
**Manufacturing Skill Standards Council (MSSC)**
MSSC is the nation’s leading training and certification body for the industry-wide core technical skills needed for front-line work in advanced manufacturing and logistics.
*Presenter: Leo Reddy*

203A
**Framework for Integrated STEM and Digital Fabrication**
Integrate STEM concepts into your classroom using a problem-solving, process-driven framework incorporating digital fabrication. Students solve local problems while using critical-thinking and communication skills.
*Presenters: Scott Simenson and Sylvia Tiala, DTE*

203E
**United States Super STEM Competition**
A new STEM competition for middle school through college students coming in 2016. Learn the who, what, where, when, why, and how about this exciting engineering-focused STEM event.
*Presenter: Joseph Ramos*

3:15pm-4:00pm ..........
Wright Ballroom A (Hilton)
**JTE Editorial Board**

4:00pm-4:30pm
202B
**EPT Reception**

4:00pm-4:50pm ..........
Wisconsin Center, Ballroom A/B
**ITEEA Governance Session**
Be sure to attend this special session designed for all conference attendees to participate and provide input for the new ITEEA Strategic Plan. Plan to attend – be a leader in the profession!

4:00pm-4:50pm ..........
Regency Ballroom (Hilton)
**TEECA Session**
**Teaching Technology and Engineering Workshop**
The Showcase provides an opportunity for TEECA students and/or professors to share tips and tricks related to teaching technology and engineering (i.e., these are 15-minute mini sessions where new and innovative technologies will be shared; e.g., advanced photo-editing processes and techniques, video-editing methods, advanced web/cloud technologies, freeware, etc.).

Wright Ballroom A (Hilton)
**JTE Management Board**
Friday 4:00pm-6:00pm

Awards Dinner and Closing Ceremony

Friday, March 27, 2015
6:00pm-8:00pm
Crystal Ballroom (Hilton)
Cost: $35; ticket required

The Awards Dinner and Closing Ceremony recognizes the winners from the various competitions at the conference, outstanding chapters and members, as well as the accomplishments of TEECA during the 2014-15 year. A buffet dinner (included in student conference registration) will be served before the awards. Teaching professionals and others are welcome to attend this special evening.

(Banquet ticket included in Student Registration Package. Use the ITEEA Registration Form to purchase additional tickets.)

Wright Ballroom B (Hilton)
CTETE Session
STEM Education Models and Students with At-Risk Indicators
This session provides preliminary student performance-based ability findings of the National Science Foundation-funded "Redesigned High Schools for Transformed STEM Learning (TSL)" Project.
Presenter: Jeremy Ernst

Wright Ballroom C (Hilton)
CTETE Session
STEM Integration Into the Curricula
A discussion on STEM integration practices into the curricula, highlighting ways to think about a conceptual framework that facilitates teaching of STEM concepts and integration.
Presenter: Paul Asunda

102B
Out With the Old
Many traditional teaching methods remain in the school systems, but are all traditional teachers keeping up with stEm?
Presenters: Ashlynn Perry and Quanae Cooper

202E
WTEA Session
FAB LAB: Doing It Right
Scott Simenson of UW Stout, FAB ED, and The FAB Foundation will discuss proper implementation of a FAB LAB in your school.
Presenters: Bob Werner, Larry Simons, Mike Seeger, and Scott Simenson

203A
Toys, Tools, and Techniques: Reverse Engineering
This hands-on session engages participants in exploring reverse-engineering and its ability to introduce students to engineering concepts and methodologies in a fun, user-friendly way.
Presenter: Pius Wong

5:00pm-6:00pm

202B
ITEEA - Epsilon Pi Tau Exemplary Initiation and Reception
This function of ITEEA’s official honor society is open to all conference participants to observe. Witness the traditions of Epsilon Pi Tau, which has played a positive historic role in the development of your profession. Congratulate the selected ITEEA members, officers, and past officers who will be inducted and other long-standing Epsilon Pi Tau members who will receive Epsilon Pi Tau Honor citations.
Ritual Team: Leaders in ITEEA and the technology professions.

5:30pm-6:30pm

Juneau (Hilton)
PATT/International/21st Century Leaders Reception
Open to registered PATT/International attendees and invited guests.

6:00pm-9:00pm

Pabst (Hilton)
CSL Steering Committee Meeting
Try the CrowdCompass Mobile App

EPT Breakfast
Saturday, March 28, 2015
7:00am–8:45am
Crystal Ballroom (Hilton)

This gathering of ITEEA’s official honor society is open to all conference participants. Speakers: The EPT Board of Directors
Cost: $30; ticket required

High School EbDLab™: PathwayExtension™ – Robotics, Engineering, and Automation

This High School EbDLab™ provides hands-on instruction for teachers and administrators on the new EbD Pathway Extension in Robotics, Engineering, and Automation. During the full-day session, participants build, program, and compete with robots using the same blended-learning curriculum featured in EbD’s Robotics PathwayExtension.

Participants will also learn how the Robotics PathwayExtension provides a comprehensive study of engineering concepts, including physics, programming, mechanical systems, electrical, and electronics systems. The Robotics, Engineering, and Automation hybrid curriculum provides a step-by-step format and includes everything needed for success in an engineering program without any prior knowledge or experience. The Robotics, Engineering, and Automation curriculum is aligned to STEM standards recognized nationwide, including Atlas of Science Literacy, ITEEA, and NCTM. Each workshop participant will receive one seat of easyC Robotic programming software to kick off his or her Robotics Program.

Ticket required: $95 (includes lunch)

7:45am–8:45am
Empire Ballroom (Hilton)
Program Excellence Breakfast
*By invitation only. Sponsored by Paxton/Patterson.

8:00am–8:50am
Mitchell (Hilton)
Infusing Engineering Concepts Into Technology and Science
This session focuses on design, analysis, modeling, and systems as anchors for an engineering concept-driven approach. Example components, activities, and assessments will be provided.
Presenter: Jenny Daugherty

Wright Ballroom A (Hilton)
CTETE Session
EbD Curriculum and Instruction in Higher Learning
What is the role for Engineering byDesign™ in higher education? Participants will explore and discuss models for articulation, professional development, and teacher education programs.
Presenter: Roger Skophammer

Wright Ballroom C (Hilton)
CTETE Session
Leveraging Industry Experiences to Transform Classroom Practices
Proven to be a valuable contribution to professional development in STEM learning, discover how innovative industry experiences translate into transformative classroom resources for teachers.
Presenter: Bradley Bowen
9:00am – 11:00am
Fourth Floor Foyer (Hilton)
CTETE Poster Sessions:

**International Communication Technology and Culture Exchange Project**
International communication technology and culture exchange project between Saga University, Japan, and Eastern Michigan University, creating multimedia and learning about cultures.
*Presenters: Kazuhiro Sumi and Phillip Cardon*

**What Happens When Design and Science Intersect?**
Findings from NSF project Science Learning Through Engineering Design (SLED) can inform secondary teachers teaching students pre-exposed to engineering design in elementary science.
*Presenters: Rachel Smith and Todd Kelley*

**Design Successes and Academic Realization in an Elementary STEM Lab**
Learn more about the 7E model of learning and its impact on standards-based instruction. Preliminary data supports an increase in student understanding as a result of design-based instruction with two fifth grade classes.
*Presenters: Barry Potter, Jeremy Ernst, and Sharon Bowers*

9:00am-9:50am ............
Miller (Hilton)
**IB Design Technology: Thinking Globally**
IB Design Technology is a curriculum with a truly global perspective. This presentation shares philosophical and pedagogical issues for implementing the IB Design Technology program.
*Presenter: Benjamin Mitchell*

Mitchell (Hilton)
**Teaching Video, Communication, and Technical Literacy Skills**
Engaging boys and girls in technology through what they use the most and understand the least—video communication. Highlights and "how tos" of a successful HS program.
*Presenter: Gail DeClark*

Pabst (Hilton)
**Optimization: Epitome of STEM Integration**
Optimization—a core concept of engineering design—is a "habit of mind" demanding application of science and mathematical principles. In this session, we will explore the methods, strategies, and resources for teaching and learning about optimization in the high school TE curriculum.
*Presenters: Craig Hughes and Mary Annette Rose*

Walker (Hilton)
**Combining Science and Technology Pedagogy**
This presentation provides examples of integrated practices from Technology/Engineering (design) and science (5E learning cycle) in a wind energy lesson plan.
*Presenter: Scott Greenhalgh*

Wright Ballroom A (Hilton)
**CTETE Session**
**Safety and Health Education as ESD in Technology Education**
This study compared the safety and health education as ESD related contents between Japanese and U.S. technology textbooks.
*Presenter: Hidetoshi Miyakawa, DTE*

Wright Ballroom C (Hilton)
**CTETE Session**
**Exemplary Teaching Practices in T&E Education**
A panel of contributors to the 2015 CTETE Yearbook on exemplary teaching practices in T&E education will present highlights from their case studies of excellent teachers.
*Presenters: Chris Merrill, DTE, Jerianne Taylor, DTE, and Scott Warner*

9:00am-11:00am ............
MacArthur (Hilton)
**TEECA Officer Team Work Session**

10:00am-10:50am ............
Miller (Hilton)
**MacGyver Science - NASA Style!**
Combine NASA resources and engineering-based activities to inspire your students. Session includes NASA posters and engineering activities using cheap, readily available materials.
*Presenter: Linda Smith*
ITEEA Awards and Recognition Luncheon
Saturday, March 28
12:00pm–1:15pm
Empire Ballroom (Hilton)

Featured Speaker:
Joey Rider-Bertrand
ITEEA President-Elect
Cost: $40; ticket required

Meet the new ITEEA President. Learn about the new strategic directions for the field. Network with your fellow leaders. Celebrate excellence. Most of all, have a good time!

Mitchell (Hilton)
Writing for ITEEA Publications
Presenters: Thomas Loveland, Chris Merrill, DTE, and Katie de la Paz

Pabst (Hilton)
Teaching Informed Design With Quadcopters
Participants will learn about engaging students in informed design through creating, building, and testing quadcopters by utilizing solid modeling, 3D printing, electronics, and radio control.
Presenters: Joe R. Busby, DTE and Kevin Sutton

Walker (Hilton)
Using Model Railroading in STEM Education
Model railroading offers valuable hands-on opportunities to teach almost all Standards for Technological Literacy (STL). Excellent for student motivation and promoting your program.
Presenter: Daniel Trent

Wright Ballroom A (Hilton)
EbD-TEEMS Overview and Alignment with National Standards
This presentation, including a hands-on sample activity, will provide an Overview of the EbD-TEEMS Building Blocks and their alignment with NGSS and CCSS.
Presenter: Roger Skophammer

11:00am-11:50am

Miller (Hilton)
Science Centers as STEM Resources, Let’s Talk!
In this session you’ll learn how two exemplary museums have partnered to offer engaging Technology and Engineering PD using standards-based and teacher-tested curricula.
Presenter: Yvonne Spicer, DTE and Kellen Nixon

Pabst (Hilton)
Living Through an Avatar: Are Games Real?
While we want to “leave no child inside,” average learners spend the majority of their time watching a screen. Learn how a MUVE fosters skills.
Presenter: Juliana Texley

2:30pm-5:00pm

Mitchell (Hilton)
ITEEA Board of Directors Meeting

6:00pm-9:00pm

Mitchell (Hilton)
ITEEA Executive Committee Meeting
Conference Exhibitors as of February 20, 2015

3D Systems, Inc.
Booth 306

Amatrol
Booth 531

American Institute of Aeronautics and Astronautics (AIAA)
Booth 233

American Society for Engineering Education
Booth 430

Autodesk*
Booth 207

Ball State University/Department of Technology**
Booth 433

Birdbrain Technologies, LLC* (ECP)
Booth 231

Brillion High School
Booth 132

Burlington High School
Booth 232

California University of Pennsylvania**
Booth 408

Carnegie Mellon University Robotics Academy**
Booths 308/309

Connected Classrooms
Booth 131

Delcam
Booth 338

DEPCO, LLC*
Booth 332

dog hunter
Booth 331

Dream Flight
BACK LEFT near Exhibitor Lounge

DS Solidworks*
Booths 513/515

eCYBERMISSION
Booth 624

Electude
Booth 336

Energy Concepts, Inc.
Booth 503

Engineering Education Service Center
Booth 413

Festo Didactic, Inc.
Booth 514

Forest Scientific Corporation
Booth 521

Georgia Engineering and Technology Education Association (GETEA)
Booth 612

Goodheart Willcox Publisher*
Booths 101/200

GPS Education Partners
Booth 509

Haldeman-Homme, Inc.
Booth 519

Iasco
Booth 527

Illinois State University**
Booth 632

In-House Solutions
Booth 500

Intelitek*
Booth 302

Interior Concepts
Booth 614

ITEEA Engineering byDesign™
Booths 312, 314

Kenosha LakeView Advanced Technology Academy
Booth 512

Kelvin*
Booth 501

Madison Metropolitan School District
Booth 142

MakerBot
Booth 431

Manufacturing Skill Standards Council
Booth 608

Mastercam/CNC Software, Inc.*
Booths 401/403

Milwaukee Big STEP
Booth 333

Milwaukee Society of Engineering (MSOE)
Booth 112

Nasco
Booth 525

National Coalition of Advanced Technology Centers
Booth 606

NC State University**
Booth 600

National Geographic/Cengage Learning/Delmar
Booth 530

The N.E.W. Manufacturing Alliance
Booth 136

NOCTI Measuring What Matters
Booth 507

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Conference Exhibitors as of February 20, 2015

NWTC Manufacturing Trailer
Trailer

Old Dominion University**
Booth 502

Paxton Patterson*
Booths 201/300

Pitsco Education/Heartly*
Booths 100/102/104/106

Project Lead the Way
Booth 209

Purdue EPICS K12/Technology Leadership & Innovation**
Booth 602

Realityworks
Booth 532

SeaPerch**
Booth 108

Snap-on Tools and NC3
Booth 537, 539, 636, 638 (truck included)

St. Cloud State University**
Booths 618/620

The STEM Academy**
Booth 203

STEMy Stuff LLC**
Booth 134

Stevens Institute of Technology
Booth 533

Stratasys*
Booths 103/202

Technology Student Association (TSA)**
Booth 213

Three Harbors Council Boy Scouts - STEM for Life
Booth 630

Three Lakes High School Fab Lab
Booth 130

Tooling U- SME
Booth 330

Tormach, LLC*
Booth 115

Union Grove High School
Booth 133

United States Fab Lab Network, Inc.
Booths 116, 118 120, 122, 124, 126, 128

Universal Laser Systems, Inc.
Booth 215

The University of Texas, Engineer Your World
Booth 140

University of Wisconsin – Milwaukee
School of Architecture and Urban Planning
Booth 230

University of Wisconsin – Parkside
Booth 536

University of Wisconsin – Platteville
Booth 437

University of Wisconsin – Stout
Booth 439

Universal Technical Institute
Booth 214

Valley City State University**
Booth 114

Vernier Software & Technology*
Booth 212

VEX Robotics*
Booth 313/315/412/414

Virginia Tech School of Education**
Integrative STEM Education
Booth 110

Water Council and University of Wisconsin – Milwaukee
Booth 432

Watertown High School Robotics
Booth 113

Whitebox Learning* (ECP)
Booths 307/406

Wisconsin Automotive and Truck Dealers Foundation Partnership
Booth 538

Wisconsin Department of Public Instruction and SkillsUSA
Booth 138

Wisconsin Technical College System
STEM Leadership
Booths 137,139, 236,238, 237, 239, 336, 338

zSpace and Moss
Booth 415

Full exhibitor profiles, maps, and contact information are available in the CrowdCompass mobile app.

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### Exhibitors by Booth

**100 Section**
- 100/102/106 **PITS CO EDUCATION**
- 101 **GOODHEART-WILLCOX PUBLISHER**
- 103 **STRATASYS**
- 104 **HEARLIHY**
- 108 **SeaPerch**
- 110 Virginia Tech School of Education
- 112 **MILWAUKEE SOCIETY OF ENGINEERING (MSOE)**
- 113 **WATERTOWN HIGH SCHOOL ROBOTICS**
- 114 Valley City State University
- 115 **TORMACH, LLC**
- 116-128 even U.S. FabLab Network (USFLN)
- 130 **THREE LAKES HIGH SCHOOL Fab Lab**
- 131 **CONNECTED CLASSROOMS**
- 132 **BRILLION HIGH SCHOOL**
- 133 **UNION GROVE HIGH SCHOOL**
- 134 STEM My Stuff LLC
- 136 **THE N.E.W. MANUFACTURING ALLIANCE**
- 137/139 **WISCONSIN TECHNICAL COLLEGE SYSTEM STEM LEADERSHIP**
- 138 **WISCONSIN DEPARTMENT OF PUBLIC INSTRUCTION/ SKILLSUSA**
- 140 The University of Texas, Engineer Your World
- 142 Madison Metropolitan School District

**200 Section**
- 200 **GOODHEART-WILLCOX PUBLISHER**
- 201 **PAXTON/PATTERSON**
- 202 **STRATASYS**
- 203 The STEM Academy
- 207 **AUTODESK**
- 209 **PROJECT LEAD THE WAY**
- 212 **VERNIER SOFTWARE AND TECHNOLOGY**
- 213 Technology Student Association/TSA
- 214 **UNIVERSAL TECHNICAL INSTITUTE**
- 215 **UNIVERSAL LASER SYSTEMS, INC.**
- 230 University of Wisconsin-Milwaukee
- 231 **BIRD BRAIN TECHNOLOGIES**
- 232 **BURLINGTON HIGH SCHOOL**
- 233 **AMERICAN INSTITUTE OF AERONAUTICS AND ASTRONAUTICS**
- 236/237/ 238/239... **WISCONSIN TECHNICAL COLLEGE SYSTEM STEM LEADERSHIP**

**300 Section**
- 300 **PAXTON/PATTERSON**
- 302 **INTELITEK**
- 306 **3D SYSTEMS, INC.**
- 307 **WHITEBOX LEARNING**
- 308/309 Carnegie Mellon Univ. Robotics Academy
- 312/314 **ITEEA-EbD™**
- 313/315 **VEX ROBOTICS**
- 330 **Tooling U-SME**
- 331 **DOG HUNTER**
- 332 DEPCO LLC
- 333 **MILWAUKEE BIG STEP**
- 336 **ELECTUDE**
- 338 **DELCAM**

**400 Section**
- 401/403 **MASTERCAM/CNC SOFTWARE**
- 406 **WHITEBOX LEARNING**
- 408 **California University of Pennsylvania**
- 412/414 **VEX ROBOTICS**
- 413 **ENGINEERING EDUCATION SERVICE CENTER**
- 415 **zSPACE AND MOSS**
- 430 **American Society for Engineering Education**
- 431 **MAKERBOT**
- 432 **WATER COUNCIL AND UNIVERSITY OF WISCONSIN – MILWAUKEE**
- 433 **Ball State University/Department of Technology**
- 437 **University of Wisconsin - Platteville**
- 439 **University of Wisconsin – Stout**

**500 Section**
- 500 **IN-HOUSE SOLUTIONS**
- 501 **KELVIN**
- 502 **Old Dominion University**
- 503 **ENERGY CONCEPTS, INC.**
- 507 **NOCTI MEASURING WHAT MATTERS**
- 509 **GPS EDUCATION PARTNERS**
- 512 **LAKE VIEW ADVANCED TECHNOLOGY ACADEMY**
- 513/515 **DS SOLIDWORKS**
- 514 **FESTO DIDACTIC, INC.**
- 519 **HALDEMAN-HOMME, INC.**
- 521 **FOREST SCIENTIFIC CORPORATION**
- 525 **NASCO**
- 527 **IASCO**
- 530 **NATIONAL GEOGRAPHIC/CENGAGE LEARNING/DELMAR**
- 531 **AMATROL**
- 532 **REALITYWORKS**
- 533 **Stevens Institute of Technology**
- 536 **University of Wisconsin – PARKSIDE**
- 537/539 **SNAP-ON TOOLS & NC3 (truck included)**
- 538 **WISCONSIN AUTOMOTIVE AND TRUCK DEALERS FOUNDATION PARTNERSHIP**

**600 Section**
- 600 **North Carolina State University**
- 602 **Purdue EPICS K12**
- 606 **NATIONAL COALITION OF ADVANCED TECHNOLOGY CENTERS**
- 608 **MANUFACTURING SKILL STANDARDS COUNCIL**
- 612 **Georgia Technology and Engineering Association**
- 614 **INTERIOR CONCEPTS**
- 618/620 **St. Cloud State University**
- 624 **eCYBERMISSION**
- 626 **RACINE UNIFIED SCHOOL DISTRICT**
- 630 **THREE HARBORS COUNCIL BOY SCOUTS - STEM FOR LIFE**
- 632 **Illinois State University**
- 636/638 **SNAP-ON TOOLS & NC3 (truck included)**

**BACK of EXHIBIT HALL:**
- **Dream Flight Trailer**
- **NWTC MANUFACTURING Trailer**
- Harley Davidson motorcycle display

**ALL CAPS/ Bold indicate ITEEA commercial exhibitor. Italics indicate institutional/organizational exhibitor. Small Caps indicate WTEA Partnership Exhibitor.**

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Thursday, March 26 at 1:00 p.m.

Scott Thomas
Teacher, CTE Architecture Design at Shadow Ridge High School, Surprise, AZ

Architectural-Engineering Design, Drafting, STEM, and Common Core

The teaching of STEM and the Common Core State Standards for Math is easily integrated into architectural-engineering design and drafting classes. In this workshop, participants will learn how to accomplish this in a way that engages students and creates a student-driven classroom and lab environment.

Friday, March 27 at 1:00 p.m.

Patrick Molzahn
Cabinetmaking & Millwork Program Director at Madison College in Madison, Wisconsin, and WCA Chief Evaluator

Integrating National Standards into Your Woodworking Curriculum with the Newly Revised Modern Cabinetmaking

Join Patrick Molzahn as he shares ways to build a successful standards-based program. You will learn strategies for implementation and how the new edition of Modern Cabinetmaking is used to cover these standards, ensuring that students gain skills for success.
Incorporate **Applied CNC STEM Activities** into your Career Tech Ed Classroom.

*We’ve made it easy!*

The three projects – Carousel, Catapult and Ruler – follow guidelines and requirements set by renowned organizations and align to national standards. Each one is a complete, hands-on, interdisciplinary package that educators can use at secondary and post-secondary levels of learning.

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Virtual Reality for the Classroom

A new way for teaching STEM curriculum

Imagine dissecting a frog without getting messy or building and running complex physics experiment in mere moments. With zSpace, it’s possible.

Attend zSpace Exhibitor Showcase:

**Teaching in Depth:**
**Introducing Virtual STEM Labs to the Classroom**

Tuesday, March 26th @ 12:15 pm
Exhibit Hall Show Floor

Booth #415

Visit us online at edu.zspace.com
Engage your Students in Engineering

The “E” in STEM, by WHITEBOX LEARNING
Thursday, March 26th from 2:00pm - 2:50pm – Room: 203B
Friday, March 27th from 2:00pm - 2:50pm – Room: 203B

Engage your students in the complete engineering design process. Come see what’s new from WHITEBOX LEARNING, a complete standards-based applied STEM learning system (STL, NGSS, Common Core). WhiteBox’s unique cloud-based virtual-modeling (CBVM™), allows students to research, design, analyze, and simulate their designs, hundreds of times, before building their physical models. And they can compete with fellow classmates around the “world”, 24/7, all virtually, from any browser. How cool is that?! Then, precise manufacturing templates (or STL Files) can be printed (outputted) in order to build the exact physical model, thereby “connecting the virtual to the physical”™. Our STEM Applications (courses) include Gliders2.0 (Aeronautics), Dragster2.0 (Newtonian Physics), Structures2.0 (Statics), GreenCar2.0 (Renewable Engineering), Rockets2.0 (Rocketry and Ballistics), MousetrapCar2.0 (Simple Machines), Prosthetics2.0 (Kinematics, Bio-Physics, Medical Devices), Rover2.0 (Mechatronics), and SurvivalShelter2.0 (Conductive Heat Flow).
TeachMe3D.org

A COMPLETE TRAINING TOOL FOR 3D MODELING SOFTWARE.

DESIGNED FOR

MIDDLE SCHOOLS
HIGH SCHOOLS
ROBOTICS TEAMS

INTEGRATES WITH EXISTING CURRICULUM

DIFFERENTIATED ACTIVITIES
KEEP ALL STUDENTS ENGAGED

PERFECT FOR ABSENT STUDENTS

FOCUS ON HELPING STUDENTS, NOT LECTURING SOFTWARE

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DOWNLOADABLE STUDENT ACTIVITY FILES

TEACHER OUTLINE & ANSWER KEY
INSPIRED DESIGNS. ENGAGED STUDENTS.

Stratasys Idea Series 3D Printers

Give students hands-on experience with the 3D printing technology used by professionals. Watch as students turn CAD designs into functional 3D models they can see, share and test.

Visit us at: Booths 103 & 202!

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LEARN MORE AT BOOTH 203 AND AT THE STEM EDUCATIONAL THEATER ON THURSDAY, MARCH 26, 2015 AT 11:15 IN THE ITEEA EXHIBIT HALL
Preview These Titles at Booth 101

**Engineering Fundamentals**
*By Ryan A. Brown, Joshua W. Brown and Michel Berkehiser*

*Engineering Fundamentals: Design, Principles, and Careers* provides a complete introduction to the field, starting with the design process and then reviewing, in-depth, nine of the top disciplines. For each discipline, career options, educational requirements, basic math and science principles, and real-world applications are presented. The content fully supports STEM initiatives and an activity-based curriculum.

- The text is appropriate for all levels of students as technical content is presented in an easy-to-understand manner.
- Students learn methods to identify problems, brainstorm, and develop solutions.
- It correlates to college and career readiness state standards for math and to Next Generation Science Standards.

**Video Game Design Composition**
*By D. Michael Ploor*

*Video Game Design Composition* delivers in-depth instruction, including theory and application, on the details of video game design. This full-year curriculum is authored by an active instructor with over a decade of classroom experience teaching video game design. Included scope and sequence chart information outlines each day’s activities for the student and the instructor.

- A free, fully functional game engine download is included with the *Software Design Guide*.
- STEM, college and career readiness, portfolio, teamwork, and event preparation activities are included in every chapter.
- Text content is aligned with the International Game Developers Association (IGDA)–recommended educational framework.

**Exhibitor Showcases**

*Thursday, March 26 at 1:00 p.m.*
Architectural-Engineering Design, Drafting, STEM, and Common Core

*Friday, March 27 at 1:00 p.m.*
Integrating National Standards into Your Woodworking Curriculum with the Newly Revised Modern Cabinetmaking
INSPIRING CREATIVE ROBOTICS!

The Hummingbird Robotics Kit is a spin-off product of Carnegie Mellon University’s CREATE lab. The kit is designed to introduce engineering and robotics activities to upper elementary students, while at the same time providing more complex robot design opportunities to older students through an innovative, arts and crafts-based approach.

Meet us at the conference to learn more about Hummingbird!

- Find out about Hummingbird integration with the 6th grade EbD-TEEMS Our World and Me course
- Check out arts and crafts robots created with Hummingbird Kits
- Try your hand at building and programming YOUR own robot

A Preferred EbD™ Curriculum Partner

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Explore our new STEM Solutions!

Engineering

SCIENCE

Applied Math

Technology

Elevate Thinking. Easily Set Your Course. Promote Better Outcomes.
Changing Culture in Robotics Classrooms

New Basic Skills - There is a growing recognition that computational and algorithmic thinking are new basic skills that all K-12 students must learn, yet few schools offer significant Computer Science courses offerings.

Robotics Education - When students study robotics systems they have the opportunity to develop the computational thinking and practices needed in today’s complex world, but currently that doesn’t happen in the majority of robotics education classrooms.

Research Based Solution Carnegie Mellon’s Robotics Academy and the University of Pittsburgh’s Learning Research and Development Center have identified three main issues that inhibit students learning Computer Science Principles in robotics classrooms:
• Teacher preparation, 
• Course content, 
• And, access to resources.
This project seeks partners. On Thursday at the conference, we will present a comprehensive set of resources, models, and tools designed to foreground computational thinking that we are testing in robotics classrooms nationally.

Presentation at ITEEA Conference

Thursday, March 26th
1:00 PM - 1:50 PM
101A - 810 sf
contact: rshoop@cmu.edu
or visit our booth to learn more!
Celebrating 40 years of service!

UNI Overseas Recruiting Fair
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