DEPARTMENT OF TECHNOLOGY
SCHOOL OF EDUCATION

October 30 & 31, 2014

fallconference.com

Designing the Future Since 1886

Welcome!

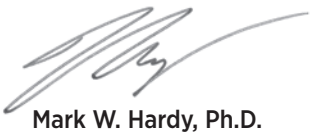
Thank you for joining the Department of Technology in celebrating our 75th Technology Fall Conference. Our conference tradition started in 1936 as a meeting of teachers and college faculty to discuss issues in education. It is exciting to be part of the history of the department and how this conference has transformed over the last century.

The second phase of the School of Education Renovation Project is now completed. We have been making full use of the Wilber Hall addition with the Manufacturing Systems and Woods Laboratories over the past year. Our facilities in Park Hall including the Communications, CAD and Engineering Graphics, Transportation and Energy, Design, Electronics, and Methods Laboratories were opened for the spring 2014 semester, and are being enjoyed by faculty and students. The new equipment and laboratory resources have greatly extended our capabilities for instruction and technological innovation. We are looking forward to the upcoming renovation of our Metals, Polymers, and Construction Systems laboratories. Our new facilities reflect the hard work of faculty, staff, and students over the past few years.

The department is excited to announce changes to our Technology Management Bachelor of Science program with a new Advanced Manufacturing Management track under development. We are working with regional manufacturers to identify course content and skill sets that will best prepare students entering management positions with the manufacturing sector. The combination of technical and business courses will give them the ability to become leaders in their field.

The Department of Technology has some of the finest learning resources and course offerings in our field. Our graduates are still being highly sought after in New York State and across the nation. Encourage your students to visit SUNY Oswego and consider a degree program in Technology Education or Technology Management.

Enjoy the 75th Technology Fall Conference, and mark your calendar for the 76th Technology Fall Conference on October 29 & 30, 2015.



Mark W. Hardy, Ph.D.
Chair, Department of Technology

GENERAL INFORMATION

Commercial Exhibits

Connector between Wilber Hall Lobby and Shineman Center

Thursday, 8:30 a.m. – 4:30 p.m. • Friday, 8:30 a.m. – 12:30 p.m.

Exhibits will be open during lunch time.

Ship's Program*

Wilber Hall Lobby

Thursday, 12:55 p.m. • Friday, 12:40 p.m.

**You must be present to win a prize.*

Conference Reception*

Lake Ontario Event and Conference Center

Reception with Cash Bar at 5:00 pm
Buffet Dinner 6 - 9:00 p.m. (included with conference registration)
Celebrate with former colleagues and meet new ones

**Name badges are provided for all paid registrants.*
Please wear your name badge. To attend the reception, you must be 21 or older.

Hospitality Area

Wilber Hall Lobby

Thursday, 7:30 a.m. – 11:00 a.m. • Friday, 7:30 a.m. – 11:00 a.m.

Complimentary Wifi Access

Oswego-Guest SSID

Username: tech2014 Password: tech2014

Persons with disabilities needing accommodations to attend the conference should contact Mrs. Teri Davis in the Technology Department office at 315.312.3011

FALL CONFERENCE STAFF

Conference Chair
Richard Bush

Conference Program and Website
Mark Springston

Budget and Finance
Teri Davis

Commercial Exhibits and Reception
Michael Nehring

Conference Printing
Office of Publications

Graphics and Signs
John Belt
Dan Tryon

Shuttle Services
Thomas Kubicki

Registration
Edward Zak
Teri Davis

Presenter Services
Mark Hardy

Conference Outreach
Donna Matteson

Graduate Assistants
Steven Gromling
Nicholas Oetinger

THURSDAY ITINERARY

OCT. 30, 2014

Registration

7:30 a.m. • Wilber Hall Lobby

Hospitality Area

7:30 a.m. - 11:00 a.m. • Wilber Hall Lobby

Enjoy the coffee and donuts compliments of the Oswego Alumni Association. Additional seating available in the new Richard S. Shineman Center.

Commercial Exhibits

8:30 a.m. - 4:30 p.m.
Connector between Wilber Hall Lobby and Shineman Center

Lunch On Your Own

11:15 a.m. - 12:45 p.m.

At Lakeside or Coooper Dining Halls.

Exhibits will be open during the lunch break.
Please take the time to support the commercial exhibitors.

Ship's Program

12:55 p.m. • Wilber Hall Lobby

You must be present to win a prize.

Sessions

SESSION 1: 9:00 a.m. - 9:45 a.m.

SESSION 2: 10:30 a.m. - 11:15 a.m.

SESSION 3: 1:15 p.m. - 2:00 p.m.

SESSION 4: 2:30 p.m. - 3:15 p.m.

SESSION 5: 3:45 p.m. - 4:30 p.m.

SESSION 1 THU. 9:00 A.M. - 9:45 A.M.

High School Robotics for College Credit

Hugh Howard, Nick Cimorelli • 101 Park

Sustainability of high school Tech Ed electives and programs is a constant issue with budget cuts and the tax cap. East Rockaway High School recently was approved to offer SUNY college credit for Robotics. Two full-year sections are running at the smallest high school in Nassau County. The instructors will tell you about the program and what was involved in order to have the course approved for college credit.

iTunes U: Course Distribution for Rich and Immersive Learning Experiences

Rick Bettencourt • 102 Park

With the explosion of iPads on campuses, iTunesU is the best way to deliver content for today's teaching strategies. Anyone can publish course material free of charge. You get to share your ideas and material in a powerful new way, while your students get a rich and immersive learning experience. iTunesU is available no matter where you teach. Use iTunesU to make content available to anyone with an Apple ID. Public and private distribution is available. Distribute immersive material delivered as stream or download, and you can also post assignments, class information, and adhoc discussions.

STEM in a Box

Tom Kubicki • 115 Park

The pressure for schools to prepare students for STEM careers is growing stronger each school year. The time is ripe for Technology Education programs in secondary schools to take the lead and provide the leadership and capacity to deliver a solution for this need. This presentation will provide information and insight on how to meet this challenge.

LEGO Mindstorms

Melissa Hirt • 213 Park

This session will demonstrate how LEGO Mindstorms can be used in the class or an after school program. Classroom use will include Math Common Core activities using a class set of robots or just one robot. If you can't fit robotics in the classroom then consider an after school program. We will discuss FIRST LEGO League as well as other options for after school robotics.

DOUBLE SESSION 1&2 THU. 9:00 a.m. - 11:15 a.m.

Micro Electro-Mechanical Systems for the Classroom

Zachary Carrico • 212 Park

One of the major problems in providing hands on micro and nanotechnology education is the inability to replicate processing or even viewing in the classroom. This presentation will explore some of the resources available to bring hands on Micro and Nano education into your classroom putting actual Micro Electro-Mechanical Systems (MEMS) into your students' hands. Participants will receive curricular materials and participate in activities utilizing Wheatstone bridge based MEMS pressure sensors.

SESSION 2 THU. 10:30 a.m. - 11:15 a.m.

The Google Classroom

Joe Corleto • 101 Park

Google Classroom is a new suite of software developed by Google and available to all Google Apps for Education accounts for free. It is an online learning platform that seamlessly integrates with Google Drive to create an online classroom environment. Handing out assignments, grading, and communication is a breeze with Google Classroom. It can be used for any class whether it is a traditional face-to-face, hybrid, or online-only class. This is taking Google Apps to the next level.

Inexpensive Vinyl Cutter Projects that Engage Middle Schoolers

Gregory Bailey • 102 Park

The focus of this presentation will be on an affordable, easy-to-use vinyl cutter to engage middle school students in grades 5-8. The vinyl cutter is currently used to teach a sandblast glass etching unit, screen printing, foam name cutting, and vinyl sign making. The simple-to-use, free software is a must-have item. Learn how to turn a black and white bmp image into a file that the cutter can use for all four projects.

Junior Solar Sprint Makes STEM Fun: Part One

Bob Walters, David Buchner • 115 Park

Find out why you should teach this alternative energy unit and see how to teach a Junior Solar Sprint (JSS) unit. Learn how to make the science and math of STEM jump off the page. Learn tips and tricks to making JSS vehicles. Get a start at making a vehicle for this new TSA event.

RealCareer® Welding Solutions: Tools Designed to Improve Your Program

Merri Johnson • 191 Wilber

Give your students hands-on experience to learn proper welding techniques with in-helmet live welding guidance! Realityworks® welding solutions help students gain quality welds quicker. Preview the NEW guideWELD™ LIVE real welding guidance system to see how this solution combination can benefit your program.

Getting Started with Raspberry Pi

Mike Amante • 213 Park

The Raspberry Pi is a credit-card sized computer that can be used in electronics projects of all kinds, to teach computer programming, and much more. Come learn how to get started with this device in your own classroom and see how fun and interesting it can be in almost any STEM classroom! Project ideas and examples as well as resources for getting started will be shared.

Behind the Scenes Tour of the New Shineman Hall

FDC Staff • Shineman Center

The Richard S. Shineman Center for Science, Engineering and Innovation stands as an environmentally friendly tribute to its own name, brimming with sustainable innovations that educate as they conserve—from the highly visible twin LED touch screens monitoring the building's energy pulse in the main entry way to the nearly invisible largest geothermal-well installation in the state. Join this tour for an in-depth look at this state-of-the-art complex, which is built to achieve LEED Gold certification.

NOTE: The tour is limited to 24 participants and starts outside the Shineman Hall entrance within the Wilber—Shineman Hall connector.

REPEATED in SESSION 6: Friday 9:00 a.m. - 9:45 a.m.

LUNCH ON YOUR OWN

THU. 11:15 p.m. - 12:45 p.m.

Commercial Exhibits: open until 4:30 p.m.

Ship's Program drawings: 12:55 p.m.

CAMPUS CENTER LUNCH VENUES
DINING HALLS
CONFERENCE SITES
N
Johnson
Lakeside
Riggs
Shady Shore
Rudolph Road
Waterbury
Scales
Walker Health Center
Road
Rudolph
Lee
Sheldon Ave.
Poucher
Centennial
Richard S. Shineman Center for Science, Engineering & Innovation
Wilber
Park
Rich
Lonis
Mackin
Sheldon
Campus Center
Washington Blvd.
132 CAMPUS CENTER
King Hall
Hart
Cooper
Funnelle
Franklin Avenue
Bayliss Street
Draper Street
Gregory Street
Fifth Avenue
CONFERENCE PARKING
Swift Street
Route 104
SHUTTLE PICKUP & DROP OFF
West End Ave.
Newman Center
Barns Drive

SESSION 3 THU. 1:15 p.m. - 2:00 p.m.

Media Design and Production: Best Practices

David Faux • 102 Park

This presentation will focus on selected practices of a project-based CTE course used as an elective at a comprehensive high school. Each participant will receive seven teacher-prepared publications and access to website support materials.

Find Your Voice, Advocate for Tech Ed (CTE)

Constance Spohn • 115 Park

"If you are not at the table, you're on the table." Advocating for your programs will be very important as the push for multiple career pathways—CTE, ELA, Humanities and STEM—reaches our schools. How can you ensure Technology Education is at the table? This workshop will focus on ways to advocate, effective types of communication, advocacy tips and sharing your story.

Experimenting with Rapid Prototyping and Something Called Custom Intersections

Jim Flowers • 191 Wilber

Sure, 3D printers and laser cutters can make product prototypes, but they can also help students engage in original experimentation. See how students and teachers take an experimental approach and push the limits of the hardware. A special project called custom intersections will also be demonstrated, with free models given to the first 60 attendees.

Cinematic Learning

Christopher Zelov • 203 Park

Join award-winning filmmaker Christopher Zelov as he premiers the film: A Visit With Magnus (What Can You Learn from a Monk); and the trailer for: The Future of (design) Education. Zelov is the founder of The Knossus Project, a research and development enterprise focused on creating artifacts in the strategic realms of: educational film, green design, and book publishing. Among other projects, he co-created the award-winning film Ecological Design: Inventing the Future that helped to launch the Sustainable Development movement.

REPEATED in SESSION 9: Friday 2:00 p.m. - 2:45 p.m.

INFORMATION

about the Fall Conference can be found at www.fallconference.com

SESSION 3 CON'T.

Middle School Technology Projects with Blended Learning

Corey Szyikowski • 212 Park

We will be taking a look at several technology projects which include: TechEd Speedster, Three Piece Puzzle, woodworking, home maintenance, machine safety lessons, and more. We will not only look at these projects but discuss how they are managed with blended learning. Come see how blended learning in a technology class makes teaching and learning a better experience for both teacher and student. Videos are available at www.techedlearning.com

DOUBLE SESSION 3&4 THU. 1:15 p.m. - 3:15 p.m.

STEM/STEAM: A Cosmic Connection

Joseph Clinton • 163 Wilber

A paper model of The James Webb Space Telescope will be assembled by each participant and discussed as a project using several learning styles emphasizing the cosmic connections across the disciplines of STEM/STEAM. There will be discussion of how the project can be used across the Depth of Knowledge levels from Level One through Level Four. Each participant will receive a CD ROM with subject reference web sites, a set of model assembly instructions, and laser cutting files for the model parts.

Wind Turbines Meet the Grid

Raymond Pitcher, Glenn Van Knowe, Sandi Van Knowe • 193 Wilber

The participants will construct weight lifting turbines out of everyday materials, as well as learn how they can introduce wind technology into their classes. They will then be introduced to a recently developed online virtual grid model and related activities and the newly created hands on model. This is a STEM workshop.

THANKS TO OUR CANDIDATES!

Many of the conference activities and services are possible only because of the efforts of many students, especially the officers and members of the Oswego Technology Education Association. Their assistance with and support of the conference and the department are sincerely appreciated.

SESSION 4 THU. 2:30 p.m. - 3:15 p.m.

Incorporation of Common Core Math, Science, and Engineering into Bridge Building

Michael Nehring • 101 Park

The presentation will provide ideas of how to incorporate concepts from the common core mathematics standards, New York State science standards, and New York State technology standards into middle school or high school curriculum that includes instruction on bridge design. The presentation demonstrates how to take a popular activity and increase its potential power to improve students understanding, resulting in data that can be used to meet the state's requirement for APPR.

Becoming a Technology Teacher: Today's Reality

Mark Hardy, Clark Greene • 191 Wilber

Becoming a Technology Teacher is still an exciting and viable career option. Our current teacher preparation program enrollments are down and yet there are districts that cannot fill positions. Learn about the current job opportunities, certification requirements, and potential impacts on our field if we fail to produce the technology teachers required for our future. Most important, learn what you can do to help keep technology education alive in New York schools.

REPEATED in SESSION 9: Friday: 2:00 p.m. - 2:45 p.m.

NYSTSA Leadership Training

Evelyn Weinstein and NYSTSA Officers • 203 Park

New York State Technology Student Association — one of the premier means to engage, excite and educate middle and high school students in all aspects of "STEAM" (the A is for Arts!) learning. Students who have access to TSA chapters at their schools expand their science, art and math learning while working together with their peers as they get ready for competitions at State and National Conferences. More than 60 STEM-based activities that are fully aligned with Common Core objectives, make for a vibrant and exciting TSA school year! Come learn how to start a chapter at your school, and about the variety of hands-on activities your students will be clamoring to do!

CTE TAC — Supporting CTE Programs and Teachers in NY

Constance Spohn • 212 Park

In its fourth year of operation, the Career and Technical Education Technical Assistance Center of NY assists the NYSED in carrying out its mission of improving the quality, access, and delivery of CTE across the state. This presentation will share the program approval support, instructional resources, and professional development opportunities and services offered by CTE TAC with a focus on how it can assist Technology Education administrators, teachers and programs.

DOUBLE SESSION 4&5 THU. 2:30 p.m. - 4:30 p.m.

Content Creation — iBooks Author and Today's ePub

Rick Bettencourt • 102 Park

iBooksAuthor is an amazing app that allows anyone to create beautiful Multi-Touch, electronic textbooks for iPad and Mac computers. With galleries, video, interactive diagrams, 3D objects, mathematical expressions, and more, these books bring content to life in ways the printed page never could. The first 45 minutes will be demonstrating creating an iBook which can be used in the classroom, distributed to friends/colleagues or published on the Apple iBookStore. If you would like to create your own iBook, plan to stay for the entire two hours. Download iBooksAuthor for free, if you bring your own Mac. Please bring your own digital content!

Modern Ruin: A World's Fair Pavilion [DOCUMENTARY TEST SCREENING]

Matthew Silva • 132 Marano Campus Center

Matthew Silva, a high school technology teacher and co-founder of the preservation group People For the Pavilion, presents a test screening of his upcoming documentary 'Modern Ruin: A World's Fair Pavilion'. The film chronicles the story of the New York State Pavilion, beginning with the 1964/65 World's Fair, through it's time as a concert venue for bands such as the Grateful Dead, Led Zeppelin and others, it's stint in the 70's as a roller skating rink, to present day advocacy.

SESSION 5 THU. 3:45 p.m. - 4:30 p.m.

Promoting Your Technology Education Program Locally

Samuel Medema, Clark Greene • 101 Park

This session will present ideas about promoting and preserving TE programs at the local level. Different strategies that can be used to promote your program will be shared. The presentation will include time for participants to ask questions and share on strategies that work at their school and/or district.

Prepping & Finishing a Surface

William Bush • 163 Wilber

If you are struggling with the prepping and finishing process, this presentation is a must for you. Gain a good understanding of abrasives and oil finishes that are not complicated. Learn to identify areas that will need to be addressed prior to applying a finish. Understand the reason for choosing oil and top coats.

REPEATED in SESSION 8 and 9 (EXTENDED SESSION double):
Friday 1:00 p.m. - 2:45 p.m.

The Next Wave of 3D Printing & Advanced Manufacturing

Jeff Hapgood, Mark Leonard • 191 Wilber

The buzz about 3D printers has been heard around the world. So what is the next step for these game changers? This presentation will discuss how 3D printers have already moved way beyond making trinkets and how they are directly impacting and changing today's manufacturing and advanced manufacturing practices worldwide and even in our own communities. Every attendee will receive a grant form to apply for a chance to receive a FREE 3D printer for your school!

Portable Trainers for Solar and Wind — Get the DATA!

Jeffrey Stevens • 193 Wilber

Enjoy an overview of a unique Renewable Energy system developed at Alfred State College. This portable trainer named REVTOS is a live working example of solar electric (PV) and wind turbine connected to a battery-based system to convert AC power for use in the classroom. **BEST OF ALL**... we have outfitted a computer to record and present the data for use in the classroom with lesson plans. Come and see how high schools are working with Alfred State to utilize this system in their technology classrooms.

CNYTEEA: Past, Present & Future

Matt Starke • 212 Park

What is the Central New York Technology & Engineering Educators' Association (CNYTEEA)? While we are all under the same roof at the Fall Conference, let's take some time to discuss what has made CNYTEEA such a great organization and what we can do to make it better in the future. CNYTEEA plans to collectively formulate an agenda for the year based on everyone's input.

.....

Please join us for our 75th Anniversary Reception Thursday at

Lake Ontario
Event and Conference Center

Located within the Best Western Plus Captain's Quarters Hotel
26 East First Street, Oswego, NY *(across from The Press Box)*

Reception with Cash Bar at 5:00 p.m.

Be our guest for the Buffet Dinner 6-9:00 p.m.
(included with conference registration)

Celebrate with former colleagues and meet new ones!

FRIDAY ITINERARY

OCT. 31, 2014

Registration

7:30 a.m. • Wilber Hall Lobby

Hospitality Area

7:30 a.m. - 11:00 a.m. • Wilber Hall Lobby

Enjoy the coffee and donuts compliments of the Oswego Alumni Association. Additional seating available in the new Richard S. Shineman Center.

Commercial Exhibits

8:30 a.m. - 12:30 p.m.
Connector between Wilber Hall Lobby and Shineman Center

Lunch On Your Own

11:15 a.m. - 12:45 p.m.

Exhibits will be open during the lunch break.
Please take the time to support the commercial exhibitors.

Ship's Program

12:40 p.m. • Wilber Hall Lobby

You must be present to win a prize.

Sessions

SESSION 6: 9:00 a.m. - 9:45 a.m.

KEYNOTE / SESSION 7: 10:30 a.m. - 11:15 a.m.

SESSION 8: 1:00 p.m. - 1:45 p.m.

SESSION 9: 2:00 p.m. - 2:45 p.m.

SESSION 6 FRI. 9:00 a.m. - 9:45 a.m.

Engineering byDesign (EbD) A Standards-Based Model Program

Andy Zaffarano, Kenneth Ford • 101 Park

The International Technology and Engineering Educators Association's STEM Center for Teaching and Learning has developed the only standards-based national model for Grades K-12 that delivers technological literacy in a STEM context. The model, Engineering byDesign, is built on the Common Core State Standards (High School / Middle School with NGSS coming soon), Standards for Technological Literacy (ITEEA), Principles and Standards for School Mathematics (NCTM), Project 2061, and Benchmarks for Science Literacy (AAAS). Additionally, the K-12 Program has been mapped to the National Academy of Engineering's Grand Challenges for Engineering.

Apple Remote Desktop — An IT Admin's Dream Come True

David Kahn • 102 Park

This session will cover everything about Apple Remote Desktop, from how teachers can use it to control lab computers during lectures, to IT admins using it to remotely install software and simple maintenance tasks. Having been working at SUNY Oswego since 2003, and have been using Apple Remote Desktop with our campus Mac computer labs since it came out, it is the tool that I could not work without. Note: This session may extend into break some based on interests of participants.

How Motorcycles Help Build a Technology Education Program

Matthew Saramak, Steve Jones • 115 Park

This presentation will reflect the unique program at Eden Jr/Sr High in Eden, NY. Both presenters will discuss how a Technology club evolved into a club that builds award-winning motorcycles. The presenters will also discuss how this club brought in non-typical Technology Education students and how it has led to the creation of exciting new courses.

How to Start a VEX Robotics Team

Dan Tryon, Mark Humphrey, Justin Montois, Nicholas Oetinger 191 Wilber

Have you considered starting a VEX robotics team? Find out how we got started, competed regionally, became Northern New York State Champions, and traveled to Anaheim, CA to compete in the VEX World Championship! We will describe the lessons we learned in our first year.

SESSION 6 CON'T.

Helpful Data Obtained from NYSTEEA's MS and HS Surveys

Chuck Goodwin, DTE • 212 Park

The best spokespersons for our technology and engineering programs have always been our students. Since 2004, the NYSTEEA MS and HS student surveys have provided significant data that strongly supports our subject area with decision makers. In fact, several times the survey data has helped to keep the middle school mandate in place. Come, see and hear what important findings have been made through this ongoing survey activity.

LEGO Robotics Projects that Enhance Learning

Scott Stagnitta • 213 Park

With LEGO MINDSTORMS, students experience a fun, exciting, and practical application of math, science, and technology. Solving the robotic challenges involves mechanical engineering, computer programming, problem solving, cooperative learning, and communication skills. Benefits of LEGO MINDSTORMS in middle school curricula include encouraging students to go into robotics-related fields, encouraging girls to consider engineering as a career option, and increasing enrollment in pre-engineering high school courses. Key projects that will be presented are Rube Goldberg, Sumo wrestling robotics, maze-bot, and robotic bowling (featured on the TV show Bridge Street on Syracuse WSYR). LEGO Robotics enhance the classroom and make a huge impact on students. This presentation will also cover the following: New Lego EV3 Robotics, STEM Labs in Elementary School, and the Haiku Learning Management System.

Behind the Scenes Tour of the New Shineman Hall

FDC Staff • Shineman Center

The Richard S. Shineman Center for Science, Engineering and Innovation stands as an environmentally friendly tribute to its own name, brimming with sustainable innovations that educate as they conserve—from the highly visible twin LED touch screens monitoring the building's energy pulse in the main entry way to the nearly invisible largest geothermal-well installation in the state. Join this tour for an in-depth look at this state-of-the-art complex, which is built to achieve LEED Gold certification. NOTE: The tour is limited to 24 participants and starts outside the Shineman Hall entrance within the Wilber—Shineman Hall connector.

REPEATED from SESSION 2: Thursday 10:30 a.m. - 11:15 a.m.

STUDENT INVOLVEMENT This fall Oswego Technology Education Association members hosted two 4-week STEM programs for 41 community children: STEM 4 Kids (K-3) and Young Inventors (4-6). Later this fall they will attend the TEECA EAST conference in Virginia Beach competing against nine other universities.

California University of Pennsylvania's
Global Online Program

Master of Education in Technology Education

▶ 1 0 0 % O N L I N E

Ensure the vital competitiveness of your students by becoming an expert educator in integrating technology and engineering (the T&E of STEM) by earning your Master's degree **ONLINE.**

This 100% online program will enhance your ability to prepare your students with a conceptual understanding of technology and its place in society:

- Dedicated, world-class faculty
- No residency requirement
- 31 credits
- Asynchronous program with flexible learning
- Competitive tuition

The National Academy of Engineering developed an action plan to address the "technology" and "engineering" components of STEM (science, technology, engineering and math) with representatives from business, government and education to address growing employment demands.

Strengthen the "T&E" pipeline to address the looming shortage of talent prepared to enter these careers. Prepare your students by being the best.

CALIFORNIA UNIVERSITY OF PENNSYLVANIA
BUILDING CHARACTER. BUILDING CAREERS.
www.calu.edu/go
A proud member of the Pennsylvania State System of Higher Education.

CALU
GLOBAL ONLINE

SESSION 7 FRI. 10:30 a.m. - 11:15 a.m.

75th Anniversary Keynote Address

Technology Education — Keeping the Momentum Going: Changing, Growing and Prospering

Yvonne Spicer • 2nd Floor Ballroom, Sheldon Hall

The landscape of technology education has consistently evolved, driven societal needs, economic development, and accountability of student achievement. In the 21st century the stakes are high and educators are challenged to raise the bar for all students. This presentation will focus on STEM awareness with an emphasis on the "T" and "E", standards, implications, challenges, and opportunities to inspire our students in the 21st century. Participants will be introduced to a few best practices to improve the pipeline of STEM literate students, specifically technology and engineering and how it connects with science and mathematics education.

Our goal to raise $1 million is slowly moving forward, but we aren't there yet. Brochures describing the endowment can be found in your conference packet. Thank you for ensuring that the department will be here to serve the next generation of technology candidates. Contact Rich Bush to learn more about the Technology Endowment.

SESSION 8 FRI. 1:00 p.m. - 1:45 p.m.

Introduction to Biomedical Engineering

AJ Longware • 101 Park

Biomedical engineers use STEM to develop materials, devices, and processes that help to prevent injuries and diseases or to rehabilitate patients. During this presentation, you will learn more about biomedical engineering as well as see and experience examples of student solutions to the biomedical design challenge. Participants will receive materials for the classroom, including bulletin board display materials and the design folio that guides students through the informed design process.

Photography — A Useful Tool of Technology

Andrew Davidhazy • 102 Park

The usefulness of cameras and photography as tools of technology for visualization and measurement purposes will be presented and discussed in this program. High speed photography, stroboscopic photography, and other applications will be emphasized and demonstrated.

Junior Solar Sprint Makes STEM Fun: Part Two

David Buchner, Bob Walters • 115 Park

View and/or run/race Junior Solar Sprint (JSS) vehicles. The vehicles that participants made in the previous workshop will be tested out. Learn why you should teach this fun STEM activity. Find out how this JSS event is run at the national TSA conference. Tips and tricks will be shared on how to teach this in your class. Participate and be informed about resources for the JSS activity.

NYSED Graduation Pathways, The CTE Program Approval Process, and Technology Education

Phil Dettelis • 191 Wilber

The New York State Education Department's Board of Regents has been discussing alternate pathways to graduation for some time now. The possibility of graduation pathways in the Arts, CTE, Humanities, and STEM is growing with every Regents meeting. This session will take a look at how the CTE Program Approval Process and the Graduation Pathways discussion may impact technology education programs.

The 52nd NYSTEEA Conference

is March 4-6, 2015 in Binghamton, NY.
Learn more about the conference at www.nysteea.org

SESSION 8&9 FRI. 1:00 p.m. - 2:45 p.m.

Prepping & Finishing a Surface

William Bush • 193 Wilber

If you are struggling with the prepping and finishing process, this presentation is a must for you. Gain a good understanding of abrasives and oil finishes that are not complicated. Learn to identify areas that will need to be addressed prior to applying a finish. Understand the reason for choosing oil and top coats.

REPEATED from SESSION 5: Thursday 3:45 p.m. - 4:30 p.m.

Connecting, Collaborating, Critical Thinking, Creating, and Curating: Creating a STEM Community

Kelsey Roman, Matt Sheehan • 212 Park

New York State technology teachers Kelsey and Matt recently connected and collaborated as Institute Fellows at the Siemens STEM Academy this past August—a program run in conjunction with the Siemens Foundation, Discovery Education, and Oak Ridge National Laboratories. The presenters were afforded the opportunity to meet and discuss the importance of STEM education with professionals at the forefront of the STEM disciplines, tour and network at leading science and research institutions, and develop STEM education implementation plans for their classrooms, districts, and communities. This presentation will share their experiences from the Siemens STEM Institute, as well as examine project-based learning and its interconnection to the T&E in STEM education. It will also discuss local and national efforts that focus on STEM culture as a primary concentration for schools.

Robotics as a Platform for Scaffolded K-16 Project-based STEM Learning

James Carroll, Ajay Sonar, Amanda Clapper • 213 Park

This hands-on workshop will allow participants to experience elements of the programs offered by the Northern NY Robotics Academy at Clarkson's robotics-based K-16 STEM programs which have been adopted by various school districts throughout Northern NYS. Participants will work in small groups to experience these programs first-hand, and will come away with a better understanding of how to work with the NNYRA and its regional partners to offer the programs within their institutions.

HOST A STUDENT TEACHER

Stop in 175 Wilber Hall in the Field Placement Office and speak to Carol Taormina, Assistant Field Placement Coordinator for Technology Education.

SESSION 9 FRI. 2:00 p.m. - 2:45 p.m.

Engineering in Technology Education: A Look at Two New Courses

Edward Zak, Donna Matteson • 101 Park

Join us for a look inside two new courses that address engineering and its delivery through a technology education classroom. The first, Engineering Concepts in Technology and Engineering Education, provides a look into the engineering concepts, curriculum, and activities that can be delivered in a technology education program. The second, Computer Aided Design Engineering and Analysis, allows students the opportunity to further their engineering knowledge and skills while they work both independently and within teams to address engineering problems and propose justifiable solutions based upon engineering standards and analysis.

Becoming a Technology Teacher: Today's Reality

Mark Hardy, Clark Greene • 102 Park

Becoming a Technology Teacher is still an exciting and viable career option. Our current teacher preparation program enrollments are down and yet there are districts that cannot fill positions. Learn about the current job opportunities, certification requirements, and potential impacts on our field if we fail to produce the technology teachers required for our future. Most important, learn what you can do to help keep technology education alive in New York schools.

REPEATED from SESSION 4: Thursday 2:30 p.m. - 3:15 p.m.

EV Kart Design, Analysis & Construction by HS POE Students

Mike White • 115 Park

Using a freely available 'Instructable' on the Internet, high school students redesigned, analyzed and constructed a rapidly prototyped Electronic Vehicle (EV) kart based on an MIT grad student's original design. Students modified key components (steering, frame and drive motors) and conducted FEA analysis using SolidWorks prior to fabrication. Parts were then waterjetted and teams built the karts. Upon completion, students were able to drive the kart around the interior loop of the school. The EV kart has been a great interest builder for the technology program and represents a unique capstone project for a POE, transportation, alternative energy or manufacturing class. Additional design projects that could utilize the karts will also be discussed.

SESSION 9 CON'T.

Portable Design: Chairs

Benjamin Entner, Francisco Ovalle • 191 Wilber

Students from Professor Entner's Art 106 *3D Design Concepts* class will present the results of their Chair assignment. For this assignment, students were required to design sturdy Modernist chairs made from recycled and found cardboard. Their chairs were required to break down into component parts that would fit into the volume of two airplane carry-ons.

Cinematic Learning

Christopher Zelov • 203 Park

Join award-winning filmmaker Christopher Zelov as he premiers the film "A Visit With Magnus (What Can You Learn from a Monk);" and the trailer for "The Future of (design) Education." Zelov is the founder of The Knossus Project, a research and development enterprise focused on creating artifacts in the strategic realms of: educational film, green design, and book publishing. Among other projects, he co-created the award-winning film "Ecological Design: Inventing the Future" that helped to launch the Sustainable Development movement.

REPEATED from SESSION 3: Thursday 1:15 p.m. - 2:00 p.m.

Great opportunity to compete in the VEX Skyrise game and skills challenge! High school and college teams are welcome at the second annual **Oswego Nor'easter!**

www.oswegonoreaster.org

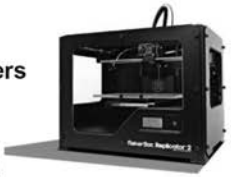
WHEN
Saturday, November 22

WHERE
SUNY Oswego

COST (per team)
$50 Donation

Allegheny is New York's #1 STEM and Fab Lab Resource!

- 3D Printers and 3D Scanners
- Laser Engravers/Cutters
- CNC Routers/Mills/Plasma
- CAD/CAM/CNC Software
- Installation, Service & Support



SOLIDWORKS

zSpace

Mastercam

New York State Contract Pricing Available!

Allegheny Educational Systems has provided Technology Educators with the highest quality products and after-sale support for over 35 years.

Our services include lab layout design, curriculum implementation, installation and training for all products that we offer.

Allegheny
Educational Systems, Inc.

FREE Fab Lab Planning Guide!

Call: 800-232-7600

Email: info@alleghenyedusys.com

www.alleghenyedusys.com

PRESENTERS

A
Mike Amante

B
Gregory Bailey
Rick Bettencourt
David Buchner
William Bush

C
Zachary Carrico
James Carroll
Nick Cimorelli
Amanda Clapper
Joseph Clinton
Joe Corletol

D
Andrew Davidhazy
Phil Dettelis

E
Benjamin Entner

F
David Faux
Jim Flowers
Kenneth Ford

G
Chuck Goodwin
Clark Greene

H
Jeff Hapgood
Mark Hardy
Melissa Hirt
Hugh Howard
Mark Humphrey

J
Merri Johnson
Steve Jones

K
David Kahn
Tom Kubicki

L
Mark Leonard
AJ Longware

M
Donna Matteson
Samue Medema
Justin Montois

N
Michael Nehring

O
Nicholas Oetinger
Francisco Ovalle

P
Raymond Pitcher

R
Kelsey Roman

S
Matthew Saramak
Matt Sheehan
Matthew Silva
Ajay Sonar
Yvonne Spicer
Constance Spohn
Scott Stagnitta
Mat Starke
Jeffrey Stevens
Corey Szyikowski

T
Dan Tryon

V
Glenn Van Knowe
Sandi Van Knowe

W
Bob Walters
Evelyn Weinstein
Mike White

Z
Andy Zaffarano
Edward Zak
Christopher Zelov

MISC
FDC Staff
NYSTSA Officers

WHO

will keep your program thriving when you retire?

Send students who are interested in providing a unique educational experience through technology education to an institution that prepares technology educators. In the SUNY system that would be SUNY Oswego and SUNY Buffalo.

Technology Teachers Needed!

Technology Education teachers are in high demand in New York State and across the country. **Teaching jobs are available** for our candidate teachers, and positions are not being filled due to a shortage of certified teachers.

Encourage a young person to become a technology education teacher and experience the gratification of being a teacher and changing lives.

Department of Technology

Technology Education • Technology Management

State University of New York at Oswego

315-312-3011

www.oswego.edu/tech

DEPARTMENT FACULTY & STAFF

SUNY Oswego Technology Department

John Belt
Design
Materials Processing

Judith Belt
Technical Writing
Technology And Civilization

Richard Bush
Materials Processing
Technology Management Coordinator
Advisement Coordinator

Teri Davis
Department Secretary

Al Dybas
Student Teacher Supervision

Dennis Fagan
Student Teacher Supervision

Mark Hardy
Construction
Materials Technology
Graduate Studies

Thomas Kubick
Energy Transportation
Student Teacher Supervision

Bill Lavin
Student Teacher Supervision

Donna Matteson
Engineering Graphics
Computer Assisted Drawing

Michael Nehring
Professional Education Sequence
Graduate Studies

Mark Springston
Communication Systems
Professional Education Sequence
Graduate Studies

Daniel Tryon
Manufacturing Systems
Polymers

Carol Taormina
Field and Student Teaching Placement

Richard Valentine
Student Teacher Supervision

Edward Zak
Electronics
Engineering Technologies
Professional Education Sequence

Steven Gromling
Graduate Assistant

Nicholas Oetinger
Graduate Assistant

COMMERCIAL EXHIBITORS

Listed below are exhibitors for the 2014 Fall Conference.
Their presence and contributions help make our conference possible.

We thank then for their services, interest, and financial support.

We encourage all our conferees to patronize them.

Alfred State College of Technology

Allegheny Educational Systems, Inc.

Ball State University

California University of Pennsylvania

Charles County Public Schools

Educational STEM Solutions, LLC

Empire Technical Training Systems

Goodheart-Willcox Publishers

HITech Inc.

iDesign Solutions

Joe Zahra Associates, LLC

K&L Service Group, Inc.

Kelvin

LEGO Education

NYSTEEA/ITEEA

Realityworks, Inc.

Robotel

Spectrum Industries, Inc.

Studica, Inc.

Technology Education Concepts, Inc.

NOTES

The Department of Technology at the State University of New York at Oswego is pleased to host its 75th Technology Fall Conference.

The Annual Fall Conference is historically rich in professional development opportunities and is geared toward all levels of teachers. Its teacher-centered philosophy provides a variety of experiences throughout the day, from presentations, to hands-on workshops, commercial vendor exhibits, and networking opportunities.

DEPARTMENT OF TECHNOLOGY

(315) 312-3011 • oswego.edu/tech

For additional conference information, please visit: fallconference.com

Oswego, NY 13126-3599 | Phone: 315.312.2500