DEPARTMENT OF TECHNOLOGY
SCHOOL OF EDUCATION

October 29 & 30, 2015

fallconference.com

Designing the Future Since 1886

Welcome!

Welcome and thank you for joining the Department of Technology for our 76th Technology Fall Conference. The conference program is filled with innovative ideas, teaching strategies, and advanced technologies for you to enjoy through this professional development opportunity.

SUNY Oswego is still a national leader in technology and engineering education. With our updated course curricula and advanced facilities, we are preparing teacher candidates to fill public school teaching positions as qualified and certified teachers. However, we need your help. There are far more technology teacher vacancies than we can fill with our current student population. Technology programs are being adversely affected by unfilled positions. Teaching jobs are available throughout New York State and across the country for our graduates. Encourage your students to become technology teachers who share the rewards of being educators in such a diverse and exciting field.

The department continues to develop our Technology Management Bachelor of Science program by developing a new Advanced Manufacturing Management track. Regional manufacturers are supporting our efforts through their expertise and supporting cooperative education opportunities for students interested in working in the manufacturing sector. Manufacturing is making a comeback in the United States, and qualified managers with technical expertise are in high demand.

Our graduates are 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. Let us know how we can connect with you and your students to explore the opportunities that SUNY Oswego has to offer.

Enjoy the 76th Technology Fall Conference, and mark your calendar for the 77th Technology Fall Conference on October 27 & 28, 2016.

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, 1:00 p.m. • Friday, 12:45 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 5 - 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: fallconf • Password: oswego15

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**

Budget and Finance ..... **Teri Davis**

Commercial Exhibits ..... **Michael Nehring**

Conference Printing ..... **College Publications Office**

Conference Program Editor ..... **Judith Belt**

Conference Program Chair & Website ..... **Mark Springston**

Graphics and Signs ..... **John Belt and Dan Tryon**

Shuttle Services..... **Donna Matteson**

Registration ..... **Edward Zak and Teri Davis**

Presenter Services ..... **Mark Hardy**

Reception..... **Richard Bush**

Graduate Assistants..... **Kristin Smith and Michael Piro**

THURSDAY ITINERARY

OCT. 29, 2015

Registration

7:30 a.m. • Wilber Hall Lobby

Hospitality Area

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

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. - 1:00 p.m.

At Lakeside or Cooper Dining Halls.

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

Ship's Program

1:00 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.

3D Printing: Considerations and Applications for the Classroom

Donna Matteson, Jonathan Russo • 101 Park

Session will include history, terminology, and technology of 3D printing followed by a discussion of classroom applications. The presenter will identify several classroom resources plus free, inexpensive software to draw or capture images of people, places, or things and convert them into 3D objects. A demonstration will show how 3D virtual objects can be viewed to clarify difficult concepts or 3D printed to use as instructional aids.

Oswegatchie Camp for Technology Students: Summer 2016

Maurice (Mo) Lepine, Devin Murphy • 102 Park

Oswegatchie Educational Center, owned and operated by the New York State FFA, is open for interested middle or high school students for summer camping. "Camp O" is a tremendous summer camp that has opened many horizons for students seeking a supplement to their education beyond the classroom while having the time of their lives. The opportunity is open for technology education students, and similar professional development and benefits are available for teachers as well. This presentation will promote the camp program and guide interested teachers in bringing students to Oswegatchie Camp.

Questions and Answers on edTPA

Ryan Schwarzott • 213 Park

This session will present a brief overview for the edTPA scoring process from a current Pearson technology and engineering education edTPA scorer. General recommendations will be given for improving your portfolio and how cooperating teachers can help with the process. A question and answer session for general questions only will follow. This is not a Pearson-sponsored presentation.

RealCareer Welding Solutions: Tools Designed to Improve Your Program

Merri Johnson • 191 Wilber

Attendees will learn how Realityworks RealCareer Welding Solutions, the guideWELD VR welding simulator, and the guideWELD LIVE real welding guidance system combine individualized instruction on core welding techniques, personalized feedback, and comprehensive curriculum to help welding instructors create more effective welders more efficiently while engaging students in skill development and career exploration. Learning objectives include: methods for engaging students with 21st Century technology, ideas for incorporating career exploration into the classroom, techniques for providing hands-on job skill development opportunities, and ways to reduce classroom management and safety concerns while saving money on costly consumables.

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

The Electrical Grid Meets your Classroom

Raymond Pitcher, Blane Berry, Britta Berry • 193 Wilber

This is an introduction to a new teaching tool that was developed with a NYSERDA grant and is being marketed by Kidwind. The attendees will problem solve the grid and will develop alternative power sources to power the grid. They will be introduced to Common Core and national science and technology standards, lesson, plans and web links that can be used with this teaching tool.

Understanding Spatial Structure through Drawing on the SPHERE

Richard Esterle • 203 Park

Facilitate creativity through drawing on the sphere. We can understand the deep structure of spatial organization through a simple low-tech hands-on technique. A must for anyone working in the production of objects or working in computer aided modeling. Discover the relationships of the 5 Platonic and other solids to the sphere and cube through simple drawing techniques. Take away models you will use for life. Enables working in 3D environments for computer aided design and understanding technologies from nano-crystals to geodesic domes.

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

Assessment and Evaluation Techniques for Technology Education

Karin Dykeman • 212 Park

What makes a project an A or a C? Is there really a difference between a drawing that gets an 87 and one that gets an 88? Do your students think grades are given or earned? During this session numerous techniques and examples developed to answer these questions and make assessment more transparent and an effective part of the educational process will be shared and discussed. Explore objective and subjective techniques such as collaborative evaluation, peer assessment, criteria based analysis, scoring guides, and rubrics and how they can be applied as both formative and summative assessments.

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 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. This presentation will also cover the following: Lego EV3 Robotics,incorporating 3D printing into robotics projects, STEM labs in elementary school, and the Haiku Learning Management System.

New York State Technology Student Association

Stacy Corio, Jen Kluczynski • 191 Wilber

"Attractions" and "distractions" are two reasons that are often cited in professional educational journals for the disturbing student dropout rate. Students themselves say "I don't like school" 38% of the time when asked why they leave school. If you like the idea of starting or enhancing your after-school tech classroom with "positive attractions" and "innovative distractions," learn about the opportunities that the New York State Technology Student Association (NYSTSA) offers. NYSTSA can transform your club into a nationally recognized team by competing at the local, state, and national levels! Learn how to start/affiliate your chapter, run meetings, prepare for competitions, fundraise, and more!

Water Rocket — A Great Problem Solving Activity

Gregory Bailey • 115 Park

Water rocket projects are a fun and engaging middle school activity that can be used to teach problem solving or engineering concepts. Students are required design, build, and fly a water rocket containing an egg-stronaut into space at 90 PSI and have their egg-stronaut survive. This presentation will be an A to Z demonstration of the water rocket project including the best place to purchase zipper space suits. Jigs, fixture, fin, and parachute templates will be demonstrated as well as an egg-stronaut obstacle course. Weather permitting, test launches may take place.

LUNCH ON YOUR OWN

THU. 11:15 p.m. - 1:00 p.m.

Commercial Exhibits: open until 4:30 p.m.
Ship's Program drawings: 1:00 p.m.

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

Graphic Media Production Using Adobe InDesign

David Faux, Benson Faux • 102 Park

The presentation will focus on the production of an 8-page booklet created using InDesign. The content will provide background helpful in producing any print product or graphic presentation. Specifics to be covered will include: Getting Started with a Design Brief; Creating an Appropriate Document Format; Creating a Workspace; Establishing and Changing Measurement Systems; Setting Columns, Margins, and Bleeds; Creating Master Pages; Page Numbering; Working with Layers; Building Swatches; Selecting Pantone Colors; Text Wrap; Creating Captions; Setting Paragraph and Character Styles; Maintaining Links; Creating Packages; and Color Theory & Workflow. Each participate will receive the printed products used for the presentation.


MARANO 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.
Richard S. Shineman Center for Science, Engineering & Innovation
Wilber
Park
Rich
Poucher
Centennial
Marano Campus Center
Sheldon
Lonis
Mackin
Morehland
Washington Blvd.
132 MARANO 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 CON'T.

Introducing Technology Education to Kuwaiti Schools

Meshari Alnouri • 213 Park

Kuwait is a nation thrust into wealth, turning from a desert land of pearl traders into a booming oil exporter in fewer than 80 years. While the country raced to expand its industrial technologies, the education system was made a second priority, leaving room for many opportunities. The Sabah al Ahmed Center for Giftedness and Creativity (SACGC), is working with the Ministry of Education to introduce gifted programs into public schools. This presentation will focus on how the SACGC partnered with ITEEA, will be implementing technology education into Kuwaiti schools through these gifted programs.

Technology Teachers Needed!

Mark Hardy, Clark Greene • 191 Wilber

Technology teachers are in high demand in both New York State and the nation. Technology teacher preparation program enrollments are down while districts are unable to fill positions. Learn about the current job opportunities, certification requirements, and potential impacts on our field if we fail to produce enough technology teachers to meet the demand. Learn what you can do to help keep technology education alive in New York schools.

Utilizing Geometry In Design

Alta Jo (AJ) Longware • 101 Park

Help your middle school or DDP students get their school supplies organized by having them design and construct a corrugated board organizer for their locker or desk. This activity enables students to visualize the nets (patterns) of the common solid shapes and provides them with a practical application for basic geometry. The organizer design challenge follows the problem-solving model, requiring students to research, brainstorm, develop sketches of alternatives, create nets of the various shapes, and construct a full size model. Students integrate computer skills and ELA to create an "instructables" style step-by-step how-to guide to share their design with others.

VEX Robotics and KidWind Competitions

Adam South • 115 Park

Join us for an overview of these two great programs. Whether added as an enrichment, after school activity or absorbed into your course curriculum they add tremendous value to any STEM program. We will also showcase our upcoming Lansingburgh High School VEX Nothing But Net Tournament in Troy NY on January 2016. All in attendance will receive a coupon for a free shirt redeemable at the tournament and $10 rebate for registering a team.

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

Make the Amazing Geometry Machine with Dick Esterle the Inventor

Richard Esterle • 203 Park

Constructing this model with Dick Esterle, architect, toy designer and inventor of the AMAZING GEOMETRY MACHINE © will aid in understanding the dynamics of form and forces. The Dynamic Polystring Transformahedra Modeling extends the ideas of tensegrity and increases understanding structural dynamics of engineering concepts. Materials will be provided for both three and four tube models. This model is a take home teaching aid for STEAM and engineering related curricula..

Making and Using a Stroboscope

Andrew Davidhazy • 163 Wilber

You will be building a mechanical stroboscope and use it to track movement such as people in motion, falling objects, and bouncing balls. We will explore technical and creative applications. You will be provided with most materials but are asked to bring your camera to the workshop so the stroboscope you build can be fitted to it. This workshop is limited to 10 participants.

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

Color Laser Printing: The Digital Front End

Benson Faux, David Faux • 102 Park

Knowledge of the brain of a digital press is necessary to clearly understand digital workflow. The processing required to prepare a job for the print engine and carried out within the Raster Image Processor (RIP), EFI's (Electronics For Imaging) RIP, and Productivity Software will be discussed. We will also discuss the digital front end of a production system that will include prepress, makeready, and output concerns. If time permits, each participant will have the opportunity to use the Mac's Command Work Station (CWS) to print to a digital press.

Liverpool Middle's High Altitude Balloon Project

Ray Finney • 115 Park

The High Altitude Balloon Project began in 2013 when our math teacher and her students won a Space Kit. Together with a highly skilled team of teachers and students, we assembled, launched, and recovered the first LMS HAB in 2014. In 2015, with a new design, new cameras, and new flight computer we tried again with even greater success. Our HAB launch has become an annual STEM activity centered in the tech lab at LMS.This presentation will share all the parts, explain our process, share our data, successes, failures and a short video of our last flight to over 99,000'. Come and learn about the activity and how you can craft your own HAB project.

Project-Based Design, Analysis, & Simulation STEM Applications

Graham Baughman, Joe Zahra • 191 Wilber

WHITEBOX LEARNING is a standards-based, project-based, turn-key STEM Learning System. Students can research, design, analyze, and SIMULATE their designs, and compete virtually all around the world from any browser. How cool is that?! Engage your students in the complete engineering design process! STEM Applications 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 (Bio-Physics, Medical Devices), Rover2.0 (Mechatronics), SurvivalShelter2.0 (Conductive Heat Flow), and KidWind2.0 (Wind Turbines).

VEX IQ: New Updates for New or Seasoned VEX IQ Programs

Scott Read • 101 Park

Whether you want to start a Vex IQ program or are a seasoned VEX IQ competitor, we will discuss new curriculum, the new game (Bank Shot), and new competitions being held this school year.

What Can the T in STEM/STEAM Do For Your Curriculum?

Caitlin Bowen, Jeff Stevens • 213 Park

The NYS Common Core encourages problem solving and hands-on, real world applications, 21st century skills, and rigor. What better way to tackle that challenge, than to collaborate with a department specializing in a number of those areas. This session will demonstrate practical ways for doors to be opened between the math, science, and technology classrooms. You will go away with collaborative project ideas, tools, and lessons on ways to intermingle math, science, and technology topics.

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

C-Me Circuit

David Buchner, Bob Walters • 205 Park

This double header presentation explores a multitude of technologies in circuit design and mold making. All participants will receive parts to build a oscillating double LED light circuit and solder the components in a printed circuit board, then produce a finished package to hold the battery and circuit board. This project is designed for 7th graders and introduces them to material processing, polymers, mold and circuit design. This workshop is limited to 24 participants. A $5.00 fee will be collected to cover the cost of the components. (Batteries not included)

Timber Frame in the Technology and Engineering Classroom

Zach Owen • 193 Wilber

See how Andover Central School incorporates an age old craft to engage students in the technology classroom. This hands-on workshop will share some timber framing fundamentals, and give attendees a chance to play with the tools of the trade.

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

Comparing Engineering Design and Scientific Inquiry

Clark Greene • 101 Park

With the advent of STEM education, abundant references to engineering design and scientific inquiry are prevalent with interpretations often appearing ambiguous or even inaccurate. This presentation will look at a number of referenced comparisons between engineering design and scientific inquiry with a discussion of potential misconceptions, pedagogical implications, and exploration of understanding and application.

Controlled Environment Agriculture (CEA) Hydroponic & Aquaponic Systems in the Classroom

Maurice (Mo) Lepine • 115 Park

Aquaponics and hydroponics are a tremendous way to incorporate math and science into your classroom while bringing the emerging practice of indoor vertical gardening to your curriculum. Through videos, the two gardening systems used in Ray Middle School in Baldwinsville, New York will be demonstrated.

Inventing Eco-Futures

Christopher Zelov • 203 Park

Inventing Eco-Futures with Filmmaker Christopher Zelov—Drawing on his 20 years in the film and design worlds, Zelov will take the attendee's on a cinematic tour-de-force on his ever- expanding frame of reference dealing with the future of Cities, Eco-Villages, Eco-Districts, and personal futures. Visit places like Gaviotas, Findhorn, Village Homes, Oberlin, and the heart of creativity.

Tell Us What You Need

Alta Jo (AJ) Longware, Phil Dettelis • 191 Wilber

The NYSTEEA team is here to listen. Let us know what you think we need to do to help meet the current and future needs of T&E teachers and students. Topics for discussion will also include the direction of the T&E in STEM and CTE, goals of the newly formed advocacy committee, development of an exemplar STEM pathway, and future T&E teacher recruitment strategies for every classroom.

The Best Digital Tools for Today's STEM Classrooms

Mike Amante • 102 Park

With a plethora of devices and platforms in today's digital landscape, what are the very best tools to enhance learning in today's engineering and design classrooms? During this interactive session, you will learn about a wide variety of tools that have proven be useful in practically any technology classroom on practically any device. Come and pick up a few ideas or share a few of your own!

The Guzheng Project

Matthew Burch • 163 Wilber

The Guzheng is an acoustic Chinese instrument that dates back nearly 2500 years to the Qin Dynasty (897-221 BC). I travelled to China for the sole purpose of researching the Guzheng. Returning home I built the Guzheng and electrified it to explore its sonic capabilities. In this presentation I will describe the design process and perform an original composition using my Guzheng.

Please join us for our 76th 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!

INFORMATION

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

FRIDAY ITINERARY

OCT. 30, 2015

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7:30 a.m. • Wilber Hall Lobby

Hospitality Area

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

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

12:45 p.m. • Wilber Hall Lobby
You must be present to win a prize.

Sessions

TECHNOLOGY INNOVATION SHOWCASE
SESSION 6: 9:00 a.m. - 10:15 a.m.

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. - 10:15 a.m. • 190, 191, and 193 Wilber Hall

TECHNOLOGY INNOVATION SHOWCASE

Biodiesel	Katie Walther
Ice, Ice Baby: Using Hockey to Teach STEM Concepts	Colleen Schafer
Lego Robotics Projects That Enhance Learning	Scott Stagnitta
Manufacturing Project: Wooden Wallet	Cody LaFlamme, Mike Palmer, Chris Wood, Mike Early, Joni Bristol, Robson Ruiz Spaduto
Old School Tech: Iron Casting in the Computer Age	Benjamin Entner, Rich Bush
Oswego Technology Education Association	Carson Case, Matthew Brennan
Quickest Detection Algorithm for Real-Time Signal Processing	Robson Ruiz Spaduto, Valdery Rodrigues Monte, Mario Bkassiny
SeaPerch, Underwater Robotics	Michael Petrone Jr., Tom Blechinger
STEM 4 Kids & Young Inventors	Rachel Edic, Jonathan Russo, Heidi Chamberlain

SESSION 6 CON'T.

FRI. 9:00 a.m. - 10:15 a.m. • 190, 191, and 193 Wilber Hall

Team Mini	Evyn Steinberg
The Guzheng Project	Matthew Burch
Utilizing Smartwatches to Understand Students Activities and Affective States	James Duffy, Kristen DiMartino, Candice Ribiere
VEX IQ Challenge Program and Product Demonstration	Marc Couture
VEX Robotics and KidWind Competitions	Adam South

Oswego Technology Student Involvement

During the fall 2015 semester, Oswego Technology Education Association members hosted two 4-week STEM programs for 52 community children: STEM 4 Kids (K-3) and Young Inventors (4-6).

In fall 2014 students attended the ITEEA Conference in Milwaukee WI, and later in this fall semester, they will host the TEECA EAST (teecaeast.org) conference in Virginia Beach, which will be attended by nine other universities competing for awards in the regional competition.

THANK YOU

to all who have helped with our Technology Endowment!

Our goal to raise $1 million is slowly moving forward, but we aren't there yet. Brochures describing the endowment are available for your information. 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 7 FRI. 10:30 a.m. - 11:15 a.m.

Building a Tensegrity Table

Richard Koenig • 203 Park

Inspired by Buckminster Fuller's domes and Kenneth Snelson's tensegrity structures, Rich Koenig sought and designed a functional application - a tensegrity table base made with six aluminum struts and one continuous sixteen foot steel cable. In this session Rich will assemble a complete table base and discuss the critical thinking process related to designing, machining, fabrication, fixture design, and assembly. STEAM & Engineering concepts.

Choose The Right 3D Printer for Your Program

Jeffrey McGinley, Paul Koontz • 163 Wilber

With the many options of low cost 3D printers available today, it is important to select the right printer for your application. This session will provide attendees with the background of low-cost 3D printers that are available and point out the various features to look for in making your decision. If you already have a 3D printer or are looking to purchase your first 3D printer, you don't want to miss this informative session.

Demonstration of the Geometrics StrataVisor Reflection and Refraction Seismograph System

Dave Valentino, Dana Harper, Kendell Cozart-Middleton, Icaro Augusto Pacheco, Alex D'Alessandro, Tracey Garland, Luis Henrique Aguiar De Araujo • 102 Park

Seismic reflection and refraction techniques are used to image the subsurface and to assess physical properties using vibrational waves. The Geometrics StrataVisor is a high performance, compact system that can be used for exploration geology. Portability of the system makes it ideal for a variety of field settings. Both display and graphical output enable the user to see results while in the field. This presentation will include a demonstration.

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.

Engineering by Design

Kenneth Ford, Andy Zaffarano • 213 Park

The International Technology and Engineering Educators Association's STEM Center for Teaching and Learning has developed the only standards-based national model that delivers technological literacy in a STEM context to K-12 students. The model, Engineering by Design, is built on the Common Core State Standards, Next Generation Science Standards , Standards for Technological Literacy Principles and Standards for School Mathematics. Additionally, the Program K-12 has been mapped to the National Academy of Engineering's Grand Challenges for Engineering. Through an integrative STEM experience, EbD uses four content areas (science, technology, engineering, math) as well as English-Language Arts to help students understand the complexities of tomorrow in an authentic problem and project-based environment.

How a Motorcycle Changed a Technology Program

Matt Saramak, Steve Jones • 115 Park

This presentation will focus on the past, current, and future technology education program at Eden Jr/Sr High School in Eden, NY. The presenters will demonstrate how they used an after-school technology club to totally revitalize their program and gain support from the students, administration, and the community. The presenters will provide insight and techniques to create a team approach, with administration and community, within the technology department.

NYSED Technology Education Update: Sequences and Graduation Pathways

Phil Dettelis • 101 Park

The State Education Department has issued new regulatory language on graduation pathways. Come and learn about the benefits and differences of locally developed sequences, approved programs, and graduation pathways. Topics will include integrated credits, substitution of graduation requirements, regents exam substitution options, and future developments that are anticipated.

Using Writing to Increase Critical Thinking Performance in Technology and Engineering Education

Judith Belt • 212 Park

Increasingly, business leaders are calling for graduates who possess advanced analysis and communication skills and for an educational system that builds a nation of innovative and effective thinkers (Business-Higher Education Forum and American Council on Education). How does your curriculum answer this call? This presentation will provide support for teaching critical thinking skills through writing. Literacy not your job - according to the NYSED - literacy is everyone's job.

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

A Framework for Understanding and Supporting Diversity in Your Classroom

Pat Russo • 101 Park

Every time teachers address issues of diversity they must consider their curriculum, students, school community, and their own comfort levels and understanding of diversity issues. Not all strategies work in every classroom or school setting. Usually teachers must select and/or invent strategies that will be effective in their specific setting. This presentation will provide participants with a framework for thinking about issues of diversity, strategies for supporting students from groups that are typically marginalized, and strategies for teaching students to value diversity.

Advanced Manufacturing at SUNY Oswego

Mark Hardy, Richard Bush • 115 Park

The Department of Technology offers a program in technology management with a manufacturing concentration for students interested in a career in industry. Our current program is undergoing a major update with assistance from our advisory council comprised of leaders in advanced manufacturing management. Learn about our program changes, partnerships with industry, and cooperative education opportunities. This is an excellent career opportunity for your students who are interested in an exciting career in manufacturing.

Adventures in TOYLAND: Tetrahedron goes Nobbly Wobbly

Richard Esterle • 203 Park

Inventor Dick Esterle presents how a walk along Canal Street NYC led to the Nobbly Wobbly and the Amazing Geometry Machine© went Klackeroo©. See how some simple investigations into understanding 2D and 3D spatial patterning led to his designs for the toys, Klackeroo and Nobbly Wobbly, and other designs. Understanding the cube and mapping for CAD generation for 3D printing will be presented. Additional information at:
http://www.shapeways.com/designer/de605s

CNC Machining from a STL File, Yes it's True!

Jared King • 191 Wilber

Want your students to be able to make prototypes from non-proprietary materials like acrylic, wood, Teflon, etc. but think CNC machining is too complicated? Guess again! 3D machining can be as simple as exporting an STL file from your CAD software. Join us to learn how the latest hardware and software technologies have made prototyping easy, allowing more students to experience 3D machining, subtractive rapid prototyping, engraving, and PC board milling. You'll see how Roland's equipment expedites students' learning curves and allows them to apply their knowledge toward the design and production of real-world products.

Implementing a Grade-by-Grade, K-8, Continuum of Engineering Education with Robotics

Sue Sorrentino, Donna Chaback • 213 Park

Experience instructional excerpts and demonstrations by a team of former corporate engineers now K-8, STEM educators at Allendale Columbia School. Learn about the added value and remarkable results of teaching real world, professional engineering practices in early elementary grade levels by providing a comprehensive and systematic, grade-by-grade continuum, utilizing and re-purposing robotics systems and electronic components for designing interactive structures, and smart robots programmed with motors and sensors. In this context, young design thinkers make relevant connections with their content area learning, with the skills applied, and with innovating solutions to real world problems they are presented.

Using Google in Technology Education

Matt Starke • 102 Park

Google has come onto the education scene in the past couple of years with new tools to help in the classroom. In a technology education setting, these tools can be used effectively to increase student engagement, create a classroom brand, and allow for projects to go where they could not before. One technology teacher shares his experiences with Google Classroom, Sites, Drive, Docs, Sheets, Forms, and more.

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

Using the Mini Lathe to Enhance the Technology Classroom

Jamie Cuyler • 193 Wilber

This hands-on workshop is designed to showcase many exciting projects you can create using a mini lathe in the technology classroom.

INTERESTED IN HOSTING A STUDENT TEACHER?

Stop by the Field Placement Office
in 175 Wilber Hall and express your interest.

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

Curriculum Components For the Success of ALL Learners

Angela Perrotto, Anne Fairbrother, Tiphanie Gonzalez, Amanda Fenlon • 191 Wilber

What are the components of curriculum that should be included in every module? How do we ensure that curriculum is written for all students as we move toward "college and career readiness" with current and emerging career trends? How can a lens of social justice be applied to curriculum? This workshop will present critical components of curriculum (such as standards, outcomes, assessments) and identify US trends in student populations to include how to embed working with English language learners, students with disabilities, and students of poverty within these curriculum components.

Designing Apps for Android

Jarrod Haselbauer • 101 Park

This presentation will cover methods of creating apps for Android phones and tablets, provide materials & resources, and have participants create an app they can use before leaving the conference.

Getting Started with Infographic Tools

Michelle Bishop • 208 Park

Infographics, visual displays of data and information, can be found everywhere today. They are typically used to communicate complex ideas more efficiently, can help make information more accessible to a wider audience, and have powerful instructional applications. This workshop will introduce infographic tools and present ideas for classroom instruction.

Manufacturing a Geodesic Sphere

Jack Higgins • 203 Park

The fabrication and construction of geodesic domes and spheres offer students a great opportunity to learn about manufacturing techniques and processes as well as the application of Technology, Engineering, Art, Mathematics, and Science (STEAM). This presentation will showcase how a high school technology class manufactured two geodesic domes and ultimately combined them to form a 12' diameter sphere.

Plywood Boat Building

Richard Bush • 115 Park

This presentation will cover the building of four different boats by participants in the H. Lee White Maritime Museum's boat building class. The boats include two rowboats and two kayaks. Learn how a couple of sheets of CDX plywood and fewer than 20 hours of work can turn into years of fun on the water. We'll add a sprinkle of math, science and technology to make it all happen.

Who will grow your program when you retire?

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

PRESENTERS

A
Luis Henrique Aguiar De Araujo
Meshari Alnouri
Mike Amante

B
Gregory Bailey
Graham Baughman
Judith Belt
Blane Berry
Britta Berry
Michelle Bishop
Mario Bkassiny
Tom Blechinger
Caitlin Bowen
Matthew Brennan
Joni Bristol
David Buchner
Matthew Burch
Richard Bush

C
Carson Case
Donna Chaback
Heidi Chamberlain
Stacy Corio
Marc Couture
Kendell Cozart-Middleton
Jamie Cuyler

D
Alex D'Alessandro
Andrew Davidhazy
Phil Dettelis
Kristen DiMartino
James Duffy
Karin Dykeman

E
Mike Early
Rachel Edic
Benjamin Entner
Richard Esterle

F
Anne Fairbrother
Benson Faux
David Faux
Amanda Fenlon
Ray Finney
Kenneth Ford

G
Tracey Garland
Tiphanie Gonzalez
Clark Greene

H
Mark Hardy
Dana Harper
Jarrod Haselbauer
Jack Higgins

J
Merri Johnson
Steve Jones

K
Jared King
Jen Kluczynski
Richard Koenig
Paul Koontz

L
Cody LaFlamme
Maurice (Mo) Lepine
Alta Jo (AJ) Longware

M
Donna Matteson
Jeffrey McGinley
Devin Murphy

O
Zach Owen

P
Icaro Augusto Pacheco
Mike Palmer
Angela Perrotto
Michael Petrone Jr.
Raymond Pitcher

R
Scott Read
Candice Ribiere
Valdery Rodrigues Monte
Robson Ruiz Spaduto
Jonathan Russo
Pat Russo

S
Matt Saramak
Ryan Schwarzott
Sue Sorrentino
Adam South
Robson Spaduto
Scott Stagnitta
Matt Starke
Evyn Steinberg
Jeff Stevens

V
Dave Valentino
Bob Walters

W
Katie Walther
Chris Wood

Z
Andy Zaffarano
Joe Zahra
Christopher Zelov

Technology Teachers Needed!

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

Encourage a young person to become a technology educator 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

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STATE UNIVERSITY OF NEW YORK

DEPARTMENT FACULTY & STAFF

SUNY Oswego Technology Department

John Belt ..... Design, Materials Processing

Judith Belt ..... Technical Writing & Literacy, Technology and Civilization, School of Education Writing Fellow

Richard Bush ..... Transportation, 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

Bill Lavin ..... Student Teacher Supervision

Donna Matteson ..... Engineering Graphics, Computer Aided Design, Architectural Drawing

Michael Nehring ..... Professional Education Sequence, Student Teacher Supervision, Graduate Studies

Mark Springston ..... Communication Systems, Professional Education Sequence, Graduate Studies

Daniel Tryon ..... Manufacturing Systems, Polymers

Richard Valentine ..... Student Teacher Supervision

Edward Zak ..... Electronics, Engineering Technologies, Professional Education Sequence

Kristin Smith & Michael Piro ..... Graduate Assistants

COMMERCIAL EXHIBITORS

Listed below are exhibitors for the 2015 Fall Conference.
Their presence and contributions help make our conference possible.

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

We encourage all our conferees to patronize them.

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NOTES

The Department of Technology at the State University of New York at Oswego is pleased to host its 76th 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

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