Thank you for attending the 73rd Technology Fall Conference. This year's theme, *Technology Education for All: K-16*, reflects a program with presentations and workshops that are of interest to teachers and professionals at all levels. Enjoy presentations from our theme threads on the Common Core Standards and Student Learning Objectives (SLOs), Technology Education for Grades K-5, Gizmos, Apps and Gadgets for Engineering and Technology, and Sustainability. The program also features several extended length, hands-on workshops that give you an opportunity to work with current and innovative technologies.

This is the second year for our Technology Innovation Showcase which features the innovative work of students and technology professionals through displays, demonstrations, artifacts, and activities. Please join us for this informal session and take an opportunity to learn more about what is happening within technology classrooms and labs.

The department is excited about progress with the School of Education Renovation Project. The Wilber Hall addition is complete, and we are enjoying new Manufacturing Systems and Woods Laboratories that feature advanced equipment, technologies, and instructional resources. While Park Hall is currently closed for renovations, we are diligently planning and preparing to outfit several new lab facilities. New Communications, CAD and Engineering Graphics, Transportation and Energy, Design, Electronics, and Methods Laboratories will be opened in Park Hall for the fall 2013 semester.

The department is constantly working to expand and improve our program offerings. 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 73rd Technology Fall Conference, and mark your calendar for the 74th Technology Fall Conference on October 24 & 25, 2013.

Mark W. Hardy, Chairperson

Department of Technology

GENERAL INFORMATION

COMMERCIAL EXHIBITS
Sheldon Hall, 2nd Floor Ballroom
Thursday, 8:30 a.m. – 4:30 p.m.
Friday, 8:30 a.m. – 12:15 p.m.
Exhibits will be open during lunch time.

SHIP'S PROGRAM*
Sheldon Hall
Thursday, noon – 12:15 p.m.
Friday, noon – 12:15 p.m.
*You must be present to win a prize.

CONFERENCE RECEPTION*
Elk's Lodge, West Fifth and Bridge Streets (Route 104)
Thursday, 5:00 p.m. – 6:30 p.m.
*Name badges are provided for all paid registrants.
Please wear your name badge.
To attend the reception, you must be 21 or older.

HOSPITALITY ROOM
Sheldon Hall, 2nd Floor Ballroom
Thursday, 7:30 a.m. – 11:00 a.m.
Friday, 7:30 a.m. – 11:00 a.m.

TECHNOLOGY EDUCATION FOR ALL
K-16

Persons with disabilities needing accommodations to attend the conference should contact Teri Davis in the main department office at 315.312.3011

FALL CONFERENCE STAFF

Conference Chair
Daniel V. Tryon

Conference Program & Web Site
Mark Springston

Budget and Finance
Teri Davis

Commercial Exhibits & Reception
Michael Nehring

Conference Printing
College Publications Office

Graphics and Signs
John Belt

Shuttle Services
Thomas Kubicki

Publicity & Program Editor
Judith Belt

Registration
Richard Bush
Donna Matteson

Presenter Services
Mark Hardy

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.

THURSDAY ITINERARY

October 25, 2012

REGISTRATION
7:30 a.m. • Sheldon Hall, Lower Lobby

COMMERCIAL EXHIBITS
8:30 a.m. – 4:30 p.m. • Sheldon Hall, 2nd Floor Ballroom

SHIP'S PROGRAM
noon – 12:15 p.m.
You must be present to win a prize. Exhibits will be open during the lunch break. Please take time to support the commercial exhibitors.

LUNCH ON YOUR OWN
noon – 1:15 p.m.
The Campus Center offers a variety of lunch options.
The Campus Center is west of Wilber Hall. See map — page 9

HOSPITALITY ROOM
7:30 a.m. – 11:00 a.m. • Sheldon Hall, 2nd Floor Ballroom
Enjoy the coffee and doughnuts.

SESSION 1 • 8:45 a.m. – 9:30 a.m.

SESSION 2 • 10:00 a.m. – 10:45 a.m.

SESSION 3 • 11:15 a.m. – 12:00 p.m.

SESSION 4 • 1:30 p.m. – 2:15 p.m.

SESSION 5 • 2:45 p.m. – 3:30 p.m.

SESSION 6 • 3:45 p.m. – 4:30 p.m.

RECEPTION • 5:00 p.m. – 6:30 p.m.

EVENING SESSION • 8:00 p.m. – 10:00 p.m.

Persons with disabilities needing accommodations to attend the conference should contact Teri Davis in the main department office at 315.312.3011

SESSION 1 **Thu. 8:45 a.m. - 9:30 a.m.**

Six Great Middle School Activities **Alex Sheldon**

Repeated in Session 10—Fri. 2:15 p.m. - 3:00 p.m. **163 Wilber Hall**

Anyone who teaches middle school technology knows that student projects and activities need to satisfy many criteria. A good activity must be engaging, interdisciplinary, appropriate for all students, cost-effective, and appropriate for your technology lab. Six middle school activities that satisfy these criteria will be presented.

Geometric Manufacturing- **Jack Higgins**
A Middle School Perspective **253 Wilber Hall**

Repeated in Session 8—Fri. 10:45 a.m. - 11:30 a.m.

The focus of this presentation will center around a middle school technology program. The program involves students in an operation of lean manufacturing techniques exercised to produce all the parts and pieces required to assemble a geometric model/toy known simply as "the jitterbug". Program participants will also be presented with other geometry-inspired projects from compass constructions to closest packing models. Common core for mathematics standards and natural connections to technology curricula will be highlighted.

Overview of Google Apps **Nicole Decker**
for Increased Productivity **B5 Wilber Hall**

This presentation will give an overview of the Google Apps for Education suite and how the applications can work together to allow you to be more productive. Specifically, you will see how Gmail, Calendar and Docs/Drive can work independently and together to allow you to weed out unimportant email, efficiently create meetings with others, and collaboratively work on documents with others in real time from anywhere you have an Internet connection.

Cubed Cans **Adam Lesh, Mike Dempsey, Jean Hallagan**
191 Wilber Hall

Why does canned food come in containers in the shape of a cylinder? What if cans were made in the shape of a rectangular prism instead? Participants will have the opportunity to explore this and more as they compare cylinders and prisms based on volume and surface area. Further, we will discuss the economics and engineering concepts behind this application in a presentation that directly supports STEM education.

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session 1 **8:45 a.m. - 9:30 a.m. continued**

From Technology Education to Clinical Perfusion in Open Heart Surgery — **Cheng Sun, 352 Wilber Hall**

After studying and majoring in Technology Education at SUNY Oswego, I have obtained additional education and degrees to become a Nurse, Family Nurse Practitioner, then a Perfusionist. Now, I am the Senior Clinical Perfusionist at the St. Luke's-Roosevelt Hospital in NYC. Technology Education was instrumental in my transition from the classroom to the open-heart operating theater. The processes of identifying and solving problems in the operating room are the same processes I had originally learned in my Technology Education curriculum. As a perfusionist, I am using an array of complicated technologies to perform extra-corporeal circulation to keep the surgical patients alive during intricate cardiac surgeries.

Build & Program a Robot — **Steve Hughes, Teresa Hughes**

(EXTENDED TIME: SESSIONS 1&2) 8:45 a.m. - 10:45 a.m. — **B2 Wilber Hall**

You must bring a laptop computer to this session. We will load the Mindstorms software on it. You will use it to control a STEM robot that you build. F.I.R.S.T LEGO League will be demonstrated and discussed. You can keep the Mindstorms software copy. ***This is an extended session, limited to 24 participants.***

SESSION 2 **Thu. 10:00 a.m. - 10:45 a.m.**

Making Fire with Your Students — **Jim Juczak, Building 20**

In the process of teaching technology, oftentimes we skip the basics of material transformation as time is limited. Making fire without matches or lighters is a great attention grabber in any grade. Participants in this session will learn to start fires with flint and steel, bow drills, ferro-cerium rods, and other techniques.

Futuring Through Story Tech — **Matt Spindler**, **B5 Wilber Hall**

In a time of accelerated disruptive change, it is critical that teachers create learning experiences that help students capitalize on the power of being prepared for change. Students' futures will be based on their abilities to execute innovative adaptations that serve as bridges between the present and the future. Story tech is a useful tool to assist students in understanding distant horizons and how to position themselves to take advantage of change and adaptation.

Enhance Your Classroom with LEGO Robotics — **Scott Stagnitta**, **191 Wilber Hall**

With LEGO MINDSTORMS, students will 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 your middle school curriculum 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. LEGO Robotics will truly enhance your classroom and can make a huge impact with your students.

The Science, Math, and Technology of Measurement — **Clark Greene**, **B4 Wilber Hall**

Measurement is all around us. From the many different measurement units, tools, and techniques, individuals rarely consider measurement as a topic. Experience 15 separate and distinctly different classroom measurement activities.

NY State STEM Education Collaborative Meeting — **Judith Belt, Chuck Goodwin, Margaret Ashida**

(EXTENDED TIME: SESSIONS 2, 3 & 4) 10:00 a.m. - 2:15 p.m. — **357 Wilber Hall**

In this session, the NYS STEM Education Collaborative will work on advocacy for STEM education as well as the mission and vision of the collective group made up of representatives from science, technology, engineering, and math educators. STEM education is viewed, by the collaborative, as an integrative curriculum concept that does not exclude other disciplines, e.g. art, ELA, social studies. Conference participants are invited to attend.

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session 2 **10:00 a.m. - 10:45 a.m. continued**

AutoCAD STEM Workshop for Beginning or Novice CAD Teachers

Donna Matteson, Star Matteson and select SUNY Oswego CAD Students

(EXTENDED TIME: SESSIONS 2&3) 10:00 a.m. - 12:00 p.m. **253 Wilber Hall**

This workshop will guide participants through the development of a 3D solid model from the precise measurements of a physical object. The participants will then perform engineering analysis using mass property calculations to identify material of the physical object. Participants will identify volume of the physical object with a water displacement test and compare results to the computer analysis of the solid model. Electronic handouts and instructional resources will be provided. This workshop can be replicated at the middle and high school levels to reinforce STEM concepts: Measurement, Material Density, Mass, Volume, and Unit Conversion. ***This is an extended session, limited to 20 participants.***

Build & Program a Robot

Steve Hughes, Teresa Hughes
B2 Wilber Hall

(EXTENDED TIME: 8:45 a.m. - 10:45 a.m.) See Session 1 for description.

Thanks 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 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. richard.bush@oswego.edu or 315.312.3011

SESSION 3 **Thu. 11:15 a.m. - 12:00 p.m.**

Turkey Box Call — **Jim McLaughlin**
163 Wilber Hall

Looking for a great project idea? This one is a winner with my students. The turkey box call is a fun and inexpensive woodworking project that really works. It is easily adaptable to all grade levels. Project samples and complete plans will be available for session participants.

I may know you better than you know yourself! — **Chuck Knier**
B4 Wilber Hall

With the success of last year's conference presentation, it only seems logical to present on the topic of learning styles again this year. For people who don't know the collective research of Ken and Rita Dunn, you may be surprised to learn about some of the known characteristics of your students.

Photography as a Visualization and Measurement Tool in Technology — **Andrew Davidhazy**
352 Wilber Hall

Photography can be a tool of measurement and visualization of "invisible" events. In this session the focus will be on the application and demonstration of photography to visualize and make measurements of high speed events with simplified equipment. We will share high speed flash photography, stroboscopic techniques, frequency, velocity, event duration recorded with basic cameras, and low cost, ingenious, imaging solutions.

Technology Education at SUNY Oswego: New Program - New Facilities — **Mark Hardy, Rich Bush, Daniel Tryon**
191 Wilber Hall

SUNY Oswego is undergoing significant updates with its facilities and teacher preparation program. Undergraduate program updates, new course offerings, and new facilities that address current needs for technology and engineering educators will be presented. Promotional materials will be provided to participants.

Exponential Growth and Decay — **Rachel Rhynders**
Kayla Hoffman, Jean Hallagan
121 Wilber Hall

During this STEM-based presentation we will demonstrate a model of exponential decay and how the body's kidneys filter blood over a period of time. We will also present other ways in which to exhibit exponential growth and decay functions. Through these demonstrations we hope to illustrate real-life applications of these functions.

Strategies for Enhancing and Utilizing Google Spreadsheets and Forms

Mark Springston
B5 Wilber Hall

There are many uses for Google spreadsheets and forms, such as student-log entries, sign-up sheets, collaborative data entry, department libraries/inventories, surveys, email merges, and conference registration forms. Some foundational topics in this demonstration include skip logic, counts, data validation lists, and sharing protection/strategies. More advanced techniques include having a created/edited HTML form that still submits to a Google spreadsheet, adding images, quizzes, adding custom data validation via JavaScript, customizing the sent message, sending customized emails via PHP, and creating PDF invoices from user input.

AutoCAD STEM Workshop for Beginning or Novice CAD Teachers

Donna Matteson, Star Matteson and select SUNY Oswego CAD Students
253 Wilber Hall

(EXTENDED TIME: 10:00 a.m. - 12:00 p.m.) See Session 2 for description.

NY State STEM Education Collaborative Meeting

Judith Belt, Chuck Goodwin, Margaret Ashida
357 Wilber Hall

(EXTENDED TIME: 10:00 a.m. - 2:15 p.m.) See Session 2 for description.

Lunch on Your Own. The Campus Center — west of Wilber Hall — offers a variety of lunch options. See map on page 11.

Commercial Exhibits: open until 12:15 p.m.
Ship's Program drawings: noon – 12:15 p.m.

CAMPUS CENTER LUNCH VENUES

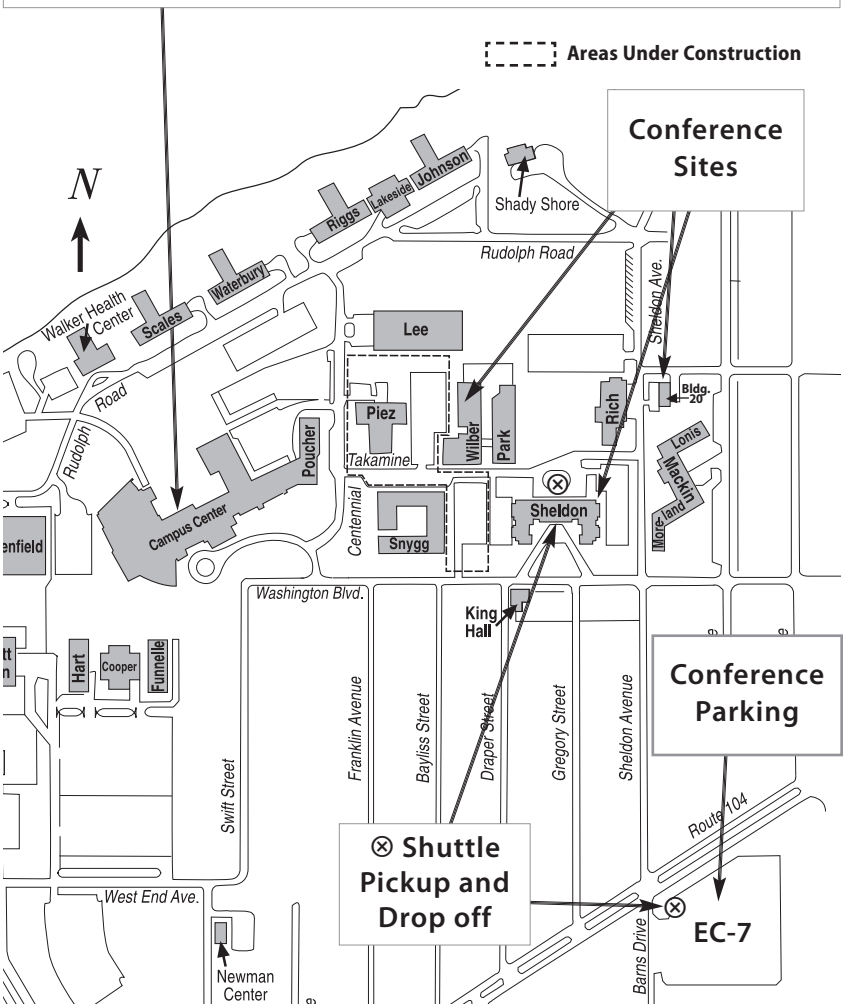
Palates: Traditional to international flavors. *Lower Level, Food/Activity Court area*

Crossroads: Café & Grill. *Main Level across from Welcome/Information Center*

Cutting Board: Sandwiches, pizza, soups & salads. *Lower Level, Food/Activity Court area*

Laker Express: Quick to eat entrees, side dishes & pastries. *Lower Level, Food/Activity Court area*

Freshens Smoothies: Smoothies & coffee. *Second Floor, Compass area*



SESSION 4 **Thu. 1:30 p.m. - 2:15 p.m.**

Linking Technology Education and Community Service

Zach Owen, Blair Buchholz
191 Wilber Hall

Teaching technology education through community service projects offers an authentic experience for students to learn about technology and to develop solutions for local and global issues. This presentation will share how technology students designed and built water filtration systems, disaster relief toilets, and more at Andover Central School. Incorporating community service and global awareness offers an opportunity to promote technology education programs in schools as well as to provide students with rich experiences.

Become a Cooperating Teacher for Technology Education Programs

Michael Nehring, Clarke Greene
B4 Wilber Hall

Whether you have been a cooperating teacher for student teachers in the past or are interested in becoming one for the first time, this session will discuss the requirements, expectations, and rewards that come from being a cooperating teacher for SUNY Oswego and SUNY Buffalo.

Foundations in Smart Grid

Steve Macho
121 Wilber Hall

Engineering Technology and Technology Education faculty from Buffalo State have developed a course titled: Foundations in Smart Grid. The development of this course occurred over a two-year period in conjunction with Pacific Crest (an educational services company) and funding received from the U.S. Department of Energy for Smart-Grid workforce preparation. The essential course intentions are to engage students in systems thinking, the design process, basic principles of electricity and power distribution, technology/engineering public policy, and to provide information on the opportunities in training, education, and life-long learning to enhance career awareness regarding Smart Grid.

Tools for Teaching Electronics

Earl Gates
B2 Wilber Hall

Identify tools that are helpful to students learning electronics. A discussion will focus on hardware and software useful in teaching electronics.

The NYSTEEA Conference
February 7-8, 2013 at the TEC Smart Center in Malta, NY
Learn more about the conference at www.nysteea.org

How to Create an After-School STEM Enrichment Program

Carrie Herron, Jim Reynolds
352 Wilber Hall

With budget cuts at the forefront of education and the need to increase our students' exploration of STEM, learn how to create an after-school STEM enrichment program at little cost in your area. Funding ideas, resources and lessons will be presented that you can use to start your own program!

Preview Newly Released Envisioneer V8 and Use it for FREE!

Jeff Hapgood
163 Wilber Hall

Preview the new Envisioneer V8 enhancements that enable you to teach architectural, landscape, and interior design more efficiently. Witness students' excitement as they easily construct buildings, interior, exterior, and landscape design ideas in fully animated 3D in minutes. Featuring Building Information Modeling, award-winning Envisioneer V8 is still the easiest-to-use building design program with eye-popping modeling power priced for tight school budgets. No annual fees, always upgradable, and we want you to try it FREE by taking the Envisioneer Challenge! Test-drive up to 10 seats for 30 days. At the end of the challenge earn a 10% purchase discount, FREE Training, and 20% off your first version-upgrade! Also, faculty new to Envisioneer receive a FREE seat. So you've got two great reasons to attend our presentation: (1) Take the Envisioneer Challenge (2) A FREE Envisioneer Faculty seat!

Cloud-Based Solutions for Web Sites

Mark Springston, Adam Nesbitt

(EXTENDED TIME: SESSIONS 4&5) 1:30 p.m. - 3:30 p.m.

B5 Wilber Hall

Google Sites is a great solution for creating web sites for student/faculty e-portfolios, student organizations, and courses. Google Sites gives educators and students a convenient system for creating web sites, especially for courses that don't require learning web technologies. The advantages of Google Sites include on-line editing, site collaboration, easy integration with documents, inserting gadgets/media, and giving full or partial access to designated audiences. Please bring electronic files (photos, docs, etc.) for a site that you want to create, and this workshop will allow you to start creating a Google Site. Attendees need a personal or school Gmail account.

NY State STEM Education Collaborative Meeting

Judith Belt, Chuck Goodwin, Margaret Ashida
357 Wilber Hall

(EXTENDED TIME: 10:00 a.m. - 2:15 p.m.) See Session 2 for description.

SESSION 5 **Thu. 2:45 p.m. - 3:30 p.m.**

Computer Aided Design and Drafting
The Wave of the Future!

Karen Young,
Tom Murphy, Jerry Falkowski
253 Wilber Hall

What is more exciting for students than taking an idea from concept to implementation? CAD designers, using 3D modeling software, translate sketches into line-based drawings that can be animated, rendered, or printed for use as presentation graphics or construction documents. Computer Aided Design and Drafting offers many exciting hands-on projects for your classroom. Join us for a hands-on look at the industry and its many career opportunities. Walk away with projects, material lists, prices, and information on our various high school related projects.

Solar Energy in Use in
Fayetteville-Manlius School District

David Witmer, Tom Wells,
Marc Yakowec
Building 20

Three buildings in our district have been using solar energy for one year. We have a working panel and materials used in the classroom, and we will share data as well as show how this program works. Solar energy is here and in use in central New York.

Professional Technology Education
Master's Degree: 100% Online

Glenn Hider
191 Wilber Hall

Repeated in Session 9—Fri. 1:15 p.m. - 2:00 p.m.

Earn your master's degree while teaching. 100% online program provides flexibility, enhancing your teaching and program. Five-term program provides professional experiences in: program development, grants, STEM, sustainability, special populations, creativity, assessment, research, and more. Competitive tuition available.

Scuttle Bot Mini Robotics and Basic Electricity
(EXTENDED TIME: SESSIONS 5&6) 2:45 p.m. - 4:30 p.m.

Mark Hardy
B2 Wilber Hall

In this hands-on workshop, participants will construct an inexpensive robot that can be used in a technology laboratory to teach basic DC electrical theory. The robot is made from readily available components, is easy to build, and can be used as a scaffold for teaching advanced robotic concepts. Each participant will construct and test a Scuttle Bot in this make-and-take workshop. Complete plans, templates, parts lists, and student handouts will be provided. There will be a $5.00 charge at the workshop for materials and is limited to 24 participants.

Engaging Elementary Students in STEM Club
Rebecca Crossley, Michael Nehring
352 Wilber Hall

Learn how to engage students in STEM education through an after school enrichment program conducted at a local elementary school for students in grades two through four. Undergraduate and graduate students from Oswego's Technology Education program spent 12 weeks developing and implementing STEM activities for 27 elementary students.

APPR, SLO, Common Core: Technology Education's Role
Chuck Goodwin, Michael Fry, Rich Kulibert
(EXTENDED TIME: SESSIONS 5&6) 2:45 p.m. - 4:30 p.m. **Sheldon, Lower Lobby**

This presentation will assist with new requirements for all teachers–APPR, Common Core, SLO–and how technology educators can fulfill these requirements.This panel's expertise should give insight into your role and offer guidance into how to be successful in the process.

Universe is Plural and at Minimum Two
Joseph Clinton
(EXTENDED TIME: SESSIONS 5&6) 2:45 p.m. - 4:30 p.m. **163 Wilber Hall**
Repeated in Session 9/10—Fri. 1:15 p.m. - 3:00 p.m.

With the Common Core Standards and the emergence of STEM, educators have the opportunity to reintroduce into the educational system the natural method of learning inherent in all children but often lost in the teaching methods used today. Too often the abstract concepts are assumed to give precise solutions to physical realities. Each participant in the workshop will receive a physical modeling kit to assemble and take. The model will illustrate the challenges between applying physical realities and mathematical principles. An animated film will also be distributed that will illustrate the theoretical application of the same mathematical abstractions as the model.

Cloud-Based Solutions for Web Sites
Mark Springston, Adam Nesbitt
B5 Wilber Hall

(EXTENDED TIME: 1:30 p.m. - 3:30 p.m.) See Session 4 for description.

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

SESSION 6 **Thu. 3:45 p.m. - 4:30 p.m.**

Creating Multimedia in the Classroom

Daniel Laird
253 Wilber Hall

SUNY Oswego has introduced Multimedia Services. Campus Technology Services and Penfield Library have collaborated to provide a Multimedia Production Room. In addition to the resources in this room, we also have dedicated personnel to assist faculty, staff, and students with their questions and inquiries. During our discussion, we will share some of the tools employed to run the gambit of authoring hugely spectacular and glitzy productions to run of the mill everyday podcasts, including solutions that you can use in your web browser without installing any software.

Creating QR Codes for Class Projects

Rebecca Mushtare
B5 Wilber Hall

QR (Quick Response) codes, or matrix barcodes, are an interesting, easy and exciting way to get students involved with digital media. As a faculty member you could create QR codes to send students on a scavenger hunt or students could create a QR code based project. All that is needed is access to the Internet and QR readers (built into most smart phones and mobile devices like iPod Touch). This session will provide you with the opportunity to create QR codes and discuss a wide range of applications in the classroom.

It Worked Then. It May Work Now.

Chuck Knier
191 Wilber Hall

With over 51 years in the education community with experience from kindergarten to college, what worked for teaching activities in the past may still work in today's technology class. Bring a pad to jot down some activities that may be copied or may inspire you to new classroom activities.

Universe is Plural and at Minimum Two

Joseph Clinton
163 Wilber Hall

(EXTENDED TIME: 2:45 p.m. - 4:30 p.m.) See Session 5 for description.

Interested in hosting a student teacher?

Stop in 252 Wilber Hall in the Field Placement Office and speak to James Decker, Assistant Field Placement Coordinator for Technology Education.

session 6 **Thu. 3:45 P.m. - 4:30 p.m. continued**

APPR, SLO, Common Core: Technology Education's Role

Chuck Goodwin, Michael Fry, Rich Kulibert Sheldon, Lower Lobby

(EXTENDED TIME: 2:45 p.m. - 4:30 p.m.) See Session 5 for description.

Scuttle Bot Mini Robotics and Basic Electricity

Mark Hardy B2 Wilber Hall

(EXTENDED TIME: 2:45 p.m. - 4:30 p.m.) See Session 5 for description.

EVENING SESSION **Thu. 8 p.m. - 10 p.m.**

Inventing Eco-Futures

Chris Zelov 222 Sheldon Hall

Christopher Zelov, the founder of The Knossus Project, a Research and Development enterprise devoted to developing artifacts in the strategic realms of: Green Design, Educational Film, and Book Publishing, will be presenting a tour-de-force of his work over 20 years dealing with Inventing Eco-Futures. For over a decade, Knossus has been dedicated to seeking out and creating things that will make the world a better place in which to live. Specifically, Project efforts have centered on the development of a sustainable environment, renewable energy, and environments that are not only ecologically friendly, but also are artistically vibrant. The Project is actively engaged in the discourse of what it means to truly integrate Technology, Nature, and Humanity into everyday existence.

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.

FRIDAY ITINERARY

October 26, 2012

REGISTRATION
7:30 a.m. • Sheldon Hall, Lower Lobby

TECHNOLOGY INNOVATION SHOWCASE
9:00 a.m. – 10:30 a.m. • Sheldon Hall, Lower Lobby
Visit the showcased projects on your way to commercial exhibits.

COMMERCIAL EXHIBITS
8:30 a.m. – 12:15 p.m. • Sheldon Hall, 2nd Floor Ballroom

SHIP'S PROGRAM
noon – 12:15 p.m.
You must be present to win a prize. Exhibits will be open during the lunch break. Please take time to support the commercial exhibitors.

LUNCH ON YOUR OWN
noon – 1:15 p.m.
The Campus Center offers a variety of lunch options.
The Campus Center is west of Wilber Hall. See map — page 11

HOSPITALITY ROOM
7:30 a.m. – 11:00 a.m. • Sheldon Hall, 2nd Floor Ballroom
Enjoy the coffee and doughnuts.

SESSION 7: TECHNOLOGY INNOVATION SHOWCASE
9:00 a.m. – 10:30 a.m.

SESSION 8 • 10:45 a.m. – 11:30 a.m.

SESSION 9 • 1:15 p.m. – 2:00 p.m.

SESSION 10 • 2:15 p.m. – 3:00 p.m.

Persons with disabilities needing accommodations to attend the conference should contact Teri Davis in the main department office at 315.312.3011

SESSION 7

Fri. 9:00 to 10:30 a.m. • Sheldon Hall, Lower Lobby

TECHNOLOGY INNOVATION SHOWCASE

The newest addition to the conference, an exhibit of innovative practices in technology and/or technology education, includes:

- Poster displays
- Technological artifacts and inventions
- Technological activities
- Student projects and activities
- Design plans
- Multimedia displays

3D Tic-Tac-Toe and Hat Looms - High School Projects	Eric Cohoon, Carl Koppmann
Blinking Eyes and Flashing Lights	Andrew Davidhazy
Efficient Wood Burning Theory and Practice: Rocket and Masonry Stoves	Jim Juczak
iPad Turns tPad: Great Apps for Technology Education	Vince Muscato, Kimberly Grice, Melissa Yeager, Daniel Cava, Savaria Raineri
K-8 Technology Education Activities	Rich Kulibert
LEGO Robotics	Scott Stagnitta
Liverpool High School FIRST Robotics Exhibit	Casey Ostrander, Matt Starke
Oswego Technology Education Association: Future Leaders in Technology Education	Alex Parsons, Jeff Abbott, Donald Esposito Kelley, Sam Leone, Rachel Edic
Q & A about Student Teaching	Jim Decker
Robot Demonstration	Damian Schofield, Dan Young, Dan Cutler
Rock Smith: An Effective Learning Tool For Guitar	Kevin Graham

session 7 **Fri. 9:00 a.m. - 10:30 a.m. continued**

Scratch-Built Electric Car Demonstration	Kerry Brennan
Solar Photo-Voltaic in Your Classroom	David Witmer, Marc Yakowec
STEM 4 Kids Program	Alex Elkins, Eddie Amato, Melissa Yeager
Team MINI: Building a Better Stronger, Lighter Robotic Machine	Erica Querns, Ray Holt, Andrew Wager
Technology Education at SUNY Oswego New Facilities	Daniel Tryon, Mark Hardy
The Neat Seat	Kimberly Grice, Vince Muscato, Anthony Facchini
The One Dollar Tablet and Do-It-Yourself Touch Screen Technology	Edward Levine, Mike Petrone

SESSION 8 **Fri. 10:45 a.m. - 11:30 a.m.**

Teaching a STEM Program using VEX Robotics

David Crowell, Joe Zahra
B2 Wilber Hall

You will see first hand how the Robotics Engineering Curriculum (REC) is used in conjunction with the Vex Robotics Design System to engage students. Using the on-line curriculum with full animations, see how it immediately engages the students by working in teams, building and programming their own robot. During this process, students will gain hands-on knowledge about physics, sensors, and robotic arms. Topics include: Introduction to Robotics, Introduction to VEX Programming, Physics and Robotics, Sensors Arms and End Effectors.

Breaking Paradigms: Teaching Sustainability Through Brainstorming

Edward Levine
352 Wilber Hall

Whether you teach a course on sustainable living or not, the ideas that are vital to future innovation can be embedded in ANY course. Through classroom practices, brainstorming, and reading and writing, students learn to "think outside the box" and live more sustainably. This presentation will talk about a free activity that can energize and promote creativity in any course at any age level.

Engineering by Design Curricula is Now in NYS!

Chuck Goodwin, Mike Fry
B5 Wilber Hall

NYS is now an Engineering by Design (EbD™) consortium state. Curriculum materials are constantly updated, complete with scoring rubrics, lesson plans, vocabulary, unit tests, class projects and activities, powerpoints, online, and print resources and learning objectives. EbD is solidly connected to the MST and common core standards. Online EbD pre- and post-tests are now NYSED approved. Each MS and HS lesson plan provides engagement, exploration, explanation, extension, and evaluation. EbD can be easily taught within existing technology education labs. The next NYS MS and HS training is scheduled for the last week in June 2013.

Integrative-STEM Training for K-5(8) teachers

Steve O'Brien
117 Wilber Hall

In the last 5-10 years there has been a heightened interest in the T&E of STEM in K-12 education. Examples of the result of this heightened interest include: the establishment of several Schools of Engineering Education that focus teaching engineering concepts in both K-12 and 13+ grade levels, highly popular in-school and after-school design activities (FIRST, VEX, NASA competitions), and the inclusion of T&E content and methods in the proposed "Next Generation" Science Standards. In this presentation we review the concept of Integrative-STEM (i-STEM) as a methodology for training teachers to approach STEM and non-STEM subjects in an integrative fashion. We review i-STEM and its applicability in Problem-Based Learning (PBL) and its potential impact for both pre-service and in-service teacher training. Current i-STEM training methods/activities as well as published impacts well be presented.

Geometric Manufacturing- A Middle School Perspective

Jack Higgins
163 Wilber Hall

The focus of this presentation will center around a middle school technology program. The program involves students in an operation of lean manufacturing techniques exercised to produce all the parts and pieces required to assemble a geometric model/toy known simply as "the jitterbug". Program participants will also be presented with other geometry-inspired projects from compass constructions to closest packing models. Common core for mathematics standards and natural connections to technology curricula will be highlighted. This session will extend 30 minutes into lunch for attendees that want to make a jitterbug.

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session 8 **Fri. 10:45 a.m. - 11:30 a.m. continued**

iPad: Practical Tips — **Mike Amante, Ryan Orilio**
121 Wilber Hall

The iPad offers a whole new world of options for teaching and learning in today's classroom. During this session, you will hear from two technology teachers how this device can be used to deliver instruction wirelessly, extend learning in your classroom through web-based instruction, and increase teacher and student productivity.

Lunch On Your Own. The Campus Center — west of Wilber Hall — offers a variety of lunch options. See map on pg 11.
Commercial Exhibits: open until 12:15 p.m. Ship's Program drawings: noon – 12:15 p.m.

SESSION 9 **Fri. 1:15 p.m. - 2:00 p.m.**

iTunes U Course Building & Delivery for iOS — **Mike Amante, Ryan Orilio**
117 Wilber Hall

iTunes U is a free web-based authoring tool and app from Apple that lets any K-12 educator design & distribute learning content featuring audio, video, books, and other content to iOS devices. Come to this session to learn how quickly and easily iTunes U can be set up and used to deliver engaging mobile learning for any subject or grade level. Bring your iOS device to experience it firsthand today!

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video2e Program: Teaching Video Editing & Studio Video Effects — **Michael Fisher, Michael Sitterly, Caitlin Bowen, Mike Petrone, Alissa Theleman**
(EXTENDED TIME: SESSIONS 9&10) 1:15 p.m. - 3:00 p.m. — **B5 Wilber Hall**

This program highlights a learning interface designed by the presenters to teach high school students the basics of video editing & special effects using Adobe Premiere Pro and After Effects. In the hands-on portion of the program, you will be able to explore the interface and complete some of the tutorials included in it. The interface and all practice files, which includes two complete units of multimedia instruction, will be available so please bring a USB flash drive (4 GB or higher) if you wish to use this interface in your class.

Exploring Residential Submetering — **Jason MacLeod**
B6 Wilber Hall

Do you know how much energy is consumed making a pot of coffee? Have you ever investigated what devices draw phantom loads? This is a presentation overview of a ongoing study exploring residential energy consumption through designing a comprehensive submetering system.

Universe is Plural and at Minimum Two **Joseph Clinton**
(EXTENDED TIME: SESSIONS 9&10) 1:15 p.m. - 3:00 p.m. **163 Wilber Hall**

With the Common Core Standards and the emergence of STEM, educators have the opportunity to reintroduce into the educational system the natural method of learning inherent in all children but often lost in the teaching methods used today. Too often the abstract concepts are assumed to give precise solutions to physical realities. Each participant in the workshop will receive a physical modeling kit to assemble and take. The model will illustrate the challenges between applying physical realities and mathematical principles. An animated film will also be distributed that will illustrate the theoretical application of the same mathematical abstractions as the model.

Measuring STEM Students' Emotional States through Kinect Motion Sensing **Roger Taylor, Randy Belcher, Dan Cutler**
191 Wilber Hall

Students' emotional states can greatly influence the learning process. One challenge for educators is to be able to determine student emotional state and then to attempt to make pedagogical adjustments to enhance student learning. This presentation will describe an ongoing research project that uses the Kinect motion sensing input device to measure student posture as a way of determining emotional state.

Scratch Built Electric Car Project **Kerry Brennan**
(EXTENDED TIME: SESSIONS 9&10) 1:15 p.m. - 3:00 p.m. **192 Wilber Hall**

Design, engineer, then build the classic two-pole electric motor and the wooden car that it will power. Teach your students how to turn basic materials into a fun toy. Classroom activities include: hand and power tools, mechanical drawing skills, electric motor theory and basic woodworking skills. Introduce your students to what may be the car of the future, today. A $5.00 materials fee will be collected from participants at the workshop. Limited to 25 participants.

Professional Technology Education Master's Degree: 100% Online **Glenn Hider**
253 Wilber Hall

Earn your master's degree while teaching. 100% online program provides flexibility, enhancing your teaching and program. Five-term program provides professional experiences in: program development, grants, STEM, sustainability, special populations, creativity, assessment, research, and more. Competitive tuition available.

SESSION 10 **Fri. 2:15 p.m. - 3:00 p.m.**

This Was Not A Vacation! **Jim Juczak**
117 Wilber Hall

I left teaching because I didn't want to be that crabby guy in the teachers' room. Twenty-five years was enough. I have been writing, developing sustainable projects, and recently was recruited by the U.S. Army's 3rd Brigade Combat Team to go to Forward Operating Base Pasab in Kandahar, Afghanistan spending three months there teaching and building projects to educate the local nationals and army about sustainability and renewable energy. This presentation will outline that experience.

Six Great Middle School Activities **Alex Sheldon**
191 Wilber Hall

Anyone who teaches middle school technology knows that student projects and activities need to satisfy many criteria. A good activity must be engaging, interdisciplinary, appropriate for all students, cost-effective, and appropriate for your technology lab. Six middle school activities that satisfy these criteria will be presented.

From KaZoon Kites to the Mathematics of a Tetrahedron **Jackie Maguire, Jean Hallagan**
253 Wilber Hall

Have you ever tried to make a kite out of tissue paper, string, and straws? A high flying KaZoon kite proves that these simple components can soar into the sky. This demonstration will depict how to construct a tetrahedron kite that will lift into the sky and provide the basis for a great STEM lesson. We will address mathematical aspects of this construction including angles, length, area, and volume. These three-dimensional works of art will allow students to explore numerous mathematical and scientific relationships while utilizing something that is a part of nearly every child's windy summer days.

Universe is Plural and at Minimum Two **Joseph Clinton**
163 Wilber Hall

(EXTENDED TIME: 1:15 p.m. - 3:00 p.m.) See Session 9 for description.

PRESENTERS

A

Jeff Abbott
Eddie Amato
Mike Amante
Margaret Ashida

B

Randy Belcher
Judith Belt
Caitlin Bowen
Kerry Brennan
Blair Buchholz
Richard Bush

C

Daniel Cava
Joseph Clinton
Eric Cohoon
Rebecca Crossley
David Crowell
Dan Cutler

D

Andrew Davidhazy
Jim Decker
Nicole Decker
Mike Dempsey

E

Rachel Edic
Alex Elkins
Donald Esposito-Kelley

F

Anthony Facchini
Jerry Falkowski
Michael Fisher
Michael Fry

G

Earl Gates
Chuck Goodwin
Kevin Graham
Clark Greene
Kimberly Grice

H

Jean Hallagan
Jeff Hapgood
Mark Hardy
Carrie Herron
Glenn Hider
Jack Higgins
Kayla Hoffman
Ray Holt
Steve Hughes
Teresa Hughes

IJK

Jim Juczak
Carl Koppmann
Chuck Knier
Rich Kulibert

L

Daniel Laird
Adam Lesh
Edward Levine
Sam Leone

M

Steve Macho
Jason MacLeod
Jackie Maguire
Donna Matteson
Star Matteson
Jim McLaughlin
Tom Murphy
Vince Muscato
Rebecca Mushtare

NO

Michael Nehring
Adam Nesbitt
Steve O'Brien
Ryan Orilio
Casey Ostrander
Zach Owen

P

Alex Parsons
Mike Petrone

QR

Erica Querns
Savaria Raineri
Jim Reynolds
Rachel Rhynders

S

Damian Schofield
Alex Sheldon
Michael Sitterly
Matt Spindler
Mark Springston
Scott Stagnitta
Matt Starke
Cheng Sun

TUV

Roger Taylor
Alissa Theleman
Daniel Tryon

WX

Andrew Wager
Tom Wells
David Witmer

Y

Marc Yakowec
Melissa Yeager
Karen Young
Dan Young

Z

Joe Zahra
Chris Zelov

DEPARTMENT STAFF

Technology Department • SUNY Oswego

Mark Hardy, *Chair*

Teri Davis, *Department Secretary*

Faculty

John Belt
Design
Student Teacher Supervision

Judith Belt
Technical Writing
Technology and Civilization

Richard Bush
Materials Processing
Technology Management
Coordinator
Advisement Coordinator

Al Dybas
Student Teacher Supervision

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Mark Hardy
Construction
Graduate Studies

Thomas Kubicki
Energy
Transportation
Student Teacher Supervision

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Mark Springston
Communications Systems
Professional Education Sequence
Graduate Studies

Daniel Tryon
Manufacturing Systems
Polymers

Richard Valentine
Student Teacher Supervision

Edward Zak
Electronics
Professional Education Sequence

Graduate Assistants

Justine Calitree

William Mehr

Special Guests

Robert Tufte, *NYSTEEA President*
Phil Dettelis, *Technology Education Liaison, NYSED*
Howard Gordon, *Executive Assistant to the President, SUNY Oswego*
Pamela Michel, *Interim Dean School of Education, SUNY Oswego*

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