

The League for Innovation is proud to present the third annual

2012 STEMtech

CONFERENCE

October 28-31, 2012

Westin Crown Center and Sheraton Crown Center
Kansas City, Missouri

STEMtech is a conference designed to help increase student success in science, technology, engineering, and mathematics; better align educational systems with each other and local workforce needs; and explore technology's role in the teaching and learning processes.

CONFERENCE PROGRAM



Hosted by Johnson County Community College and Metropolitan Community College

CONFERENCE AT A GLANCE



The following times are subject to change.

24-Hour Email and Internet Lab

1:00 p.m. Saturday through 12:00 p.m. Wednesday

SATURDAY	
1:00 - 7:00 p.m.	Registration
SUNDAY	
7:00 a.m. - 7:30 p.m.	Registration
8:30 - 9:30 a.m.	Special Session and Concurrent Sessions
9:00 a.m. - 4:00 p.m.	STEMtech Summit
9:45 - 10:45 a.m.	Special Session and Concurrent Sessions
11:00 a.m. - 12:00 p.m.	Special Session, Concurrent Sessions, and Poster Sessions
1:00 - 2:00 p.m.	Special Session, Concurrent Sessions, and Roundtable Discussions
2:15 - 3:15 p.m.	Special Session, Concurrent Sessions, and Poster Sessions
3:15 - 4:15 p.m.	Refreshment Break in the Exhibition Hall
4:30 - 6:00 p.m.	Opening General Session
6:00 - 7:30 p.m.	Opening Reception in the Exhibition Hall
MONDAY	
7:00 a.m. - 7:00 p.m.	Registration
8:00 - 9:00 a.m.	Track Keynote Session, Concurrent Sessions, and Roundtable Discussions
9:15 - 10:15 a.m.	Track Keynote Session, Concurrent Sessions, and Roundtable Discussions
10:15 a.m. - 12:00 p.m.	Coffee Break in the Exhibition Hall
11:00 a.m. - 12:00 p.m.	Track Keynote Session, Concurrent Sessions, and Poster Sessions
1:15 - 2:15 p.m.	Refreshment Break in the Exhibition Hall
2:15 - 3:15 p.m.	Track Keynote Session, Concurrent Sessions, and Roundtable Discussions
3:30 - 4:30 p.m.	Track Keynote Session, Concurrent Sessions, and Roundtable Discussions
4:45 - 5:45 p.m.	Special Session, Concurrent Sessions, and Roundtable Discussions
5:45 - 7:00 p.m.	Reception in the Exhibition Hall
TUESDAY	
7:00 a.m. - 5:00 p.m.	Registration
8:00 - 9:00 a.m.	Track Keynote Session, Concurrent Sessions, and Poster Sessions
9:15 - 10:15 a.m.	Track Keynote Session, Concurrent Sessions, and Roundtable Discussions
10:15 - 11:15 a.m.	Coffee Break in the Exhibition Hall
10:15 a.m. - 12:00 p.m.	Exhibition Hall Open
11:00 a.m. - 12:00 p.m.	Track Keynote Session, Concurrent Sessions, and Poster Sessions
12:30 - 1:30 p.m.	Track Keynote Session and Concurrent Sessions
1:30 - 2:30 p.m.	Refreshment Break in the Exhibition Hall
2:30 - 3:30 p.m.	Concurrent Sessions
3:45 - 4:45 p.m.	Special Session and Concurrent Sessions
5:00 - 6:00 p.m.	Special Session and Concurrent Sessions
WEDNESDAY	
8:00 - 9:00 a.m.	Concurrent Sessions
9:15 - 10:15 a.m.	Concurrent Sessions
10:30 a.m. - 12:00 p.m.	Closing General Session

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WELCOME LETTER



Office of the Mayor

Mayor Sylvester “Sly” James, Jr.

**29th Floor City Hall
414 E. 12th St
Kansas City, Missouri 64106**

**(816).513.3500
(Fax) (816) 513.3518**

Dear Participant:

Thank you for visiting our city!

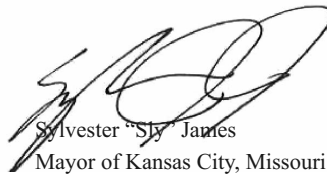
On behalf of my office, the city council, and the citizens of our community, it is my pleasure to welcome the League for Innovation and the STEMtech Conference to Kansas City, Missouri.

As your host colleges, Johnson County Community College and Metropolitan Community College, can tell you, we have a great deal of pride in our city. Kansas City has a thriving business community, high quality developments, and beautiful residential areas. We have a saying here that our city has more boulevards than Paris and more fountains than Rome. In addition, careful planning has allowed the city to maintain a significant amount of open space and park lands.

While you are with us, we invite you to enjoy every district of our city. Regardless of what area of Kansas City you find yourself, you won’t be far from great restaurants, retail establishments, and cultural events. With attractions ranging from the Sprint Center to the Nelson-Atkins Museum of Art, and a number of award-winning barbeque restaurants in between, Kansas City has something for everyone.

We, in Kansas City, believe that there is no other city like it. Once again let me welcome you to our city.

Sincerely,



Sylvester “Sly” James
Mayor of Kansas City, Missouri



The 2012 STEMtech conference is produced with the efforts of hundreds of individuals from **Johnson County Community College** and **Metropolitan Community College**. Our special thanks go to the volunteers who contributed countless hours to help plan, develop, and run this conference. Leading these efforts are the following members of the conference steering committee who contributed their time, expertise, hard work, and good spirits to bring this complex collaborative event to life.

Technical Consultants

David Jeffrey
Technical Conference Consultant
League for Innovation in the
Community College

Rob Karnbach
Channel Senior Evangelist
Extreme Networks

Steering Committee Chair

Dana Grove
Executive Vice President, Educational
Planning & Development and Chief
Operating Officer
Johnson County Community College

Technical/Audiovisual Support Team Leader

Mary O'Sullivan
Director, Information Services
Johnson County Community College

Speaker Support Team Leader

Janet Wyatt
Professor, Mathematics
Metropolitan Community College

Registration Support Team Leader

Jeff Hoyer
Director, Operations
Johnson County Community College

Hospitality Support Team Leader

Richard Higgason
Professor, English
Metropolitan Community College

SPECIAL SUPPORT

League for Innovation Corporate Partners play a central role in maintaining the technical sophistication of this event and sponsoring ongoing League activities. The League for Innovation acknowledges and thanks the following organizations for their special support of the 2012 STEMtech conference. A complete listing of partners participating in the 2012 STEMtech conference exhibition is provided in the companion document to this program, the *Guide to the Exhibition*.

Thanks to **Panasonic** for providing the video data projectors for presentation rooms, and **Johnson County Community College** for equipping email labs and conference administration with multiplatform computing. Thanks also to **Extreme Networks** for supporting the conference network with high speed internet access in presentation rooms, the wireless hot spot, and the Exhibition Hall.

The League for Innovation also extends a special thanks to the **Westin Crown Center**, **Sheraton Crown Center**, **GES**, and **AV Images** for their assistance in making the 2012 STEMtech conference a success.

ADDITIONAL GRATITUDE GOES TO



Sponsor of the Opening Reception in
the Exhibition Hall



Sponsor of the mouse pads for
the 24-Hour Email and Internet Lab



Sponsor of the host college
volunteer shirts



Sponsor of the conference
attendee bags



Sponsor of the Academic Leader's
Reception



Sponsor of the conference pens



Sponsor of the conference lanyards



One fundamental feature of the 2012 STEMtech conference is the exhibition of hardware, software, services, and programs provided by League for Innovation Corporate Partners, Friends of the League, and participating colleges. Corporate Partners, Friends of the League, and colleges participating in the 2012 STEMtech conference exhibition are described more fully in the companion document to this program, the *Guide to the Exhibition*.

2012 STEMtech CONFERENCE EXHIBITORS

Platinum Partners

Community College Week
Extreme Networks
Innovative Educators
League for Innovation in the Community College
National Repository of Online Courses
Panasonic

Gold Partners

CompTIA
eLumen
FIRST
NBC Learn
Nova Southeastern University Abraham S. Fischler School of Education
Spectrum Industries, Inc.

Silver Partners

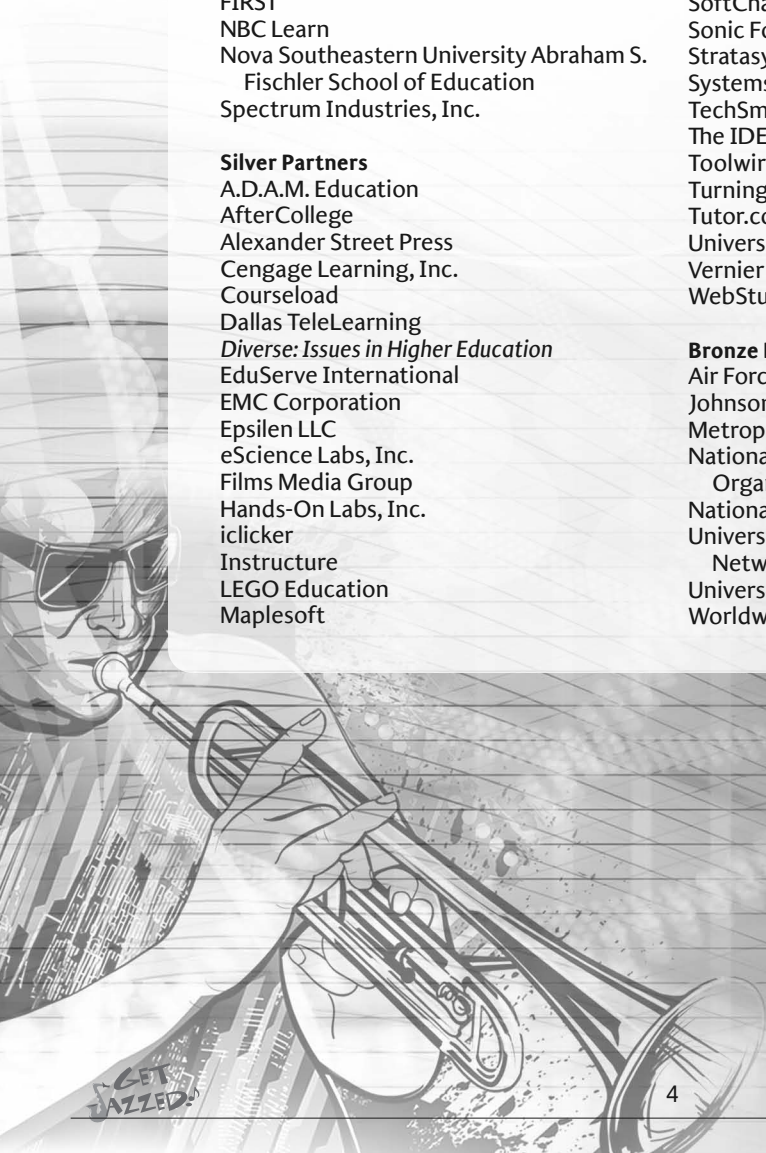
A.D.A.M. Education
AfterCollege
Alexander Street Press
Cengage Learning, Inc.
Courseload
Dallas TeleLearning
Diverse: Issues in Higher Education
EduServe International
EMC Corporation
Epsilon LLC
eScience Labs, Inc.
Films Media Group
Hands-On Labs, Inc.
iclicker
Instructure
LEGO Education
Maplesoft

MatchWare, Inc.

McGraw-Hill Tegrity
NanoProfessor
National Instruments
Owen Software Corp.
Oracle Academy
Primal Pictures
QLess Inc
Qwizdom, Inc.
Sapling Learning
SchoolChapters, Inc.
SmarterServices
SoftChalk LLC
Sonic Foundry
Stratasys 3D Printers & Production Systems
TechSmith
The IDEA Center
Toolwire
Turning Technologies LLC
Tutor.com
University of Phoenix
Vernier Software and Technology
WebStudy, Inc.

Bronze Partners

Air Force
Johnson County Community College
Metropolitan Community College
National Institute for Staff and Organizational Development (NISOD)
National Science Foundation
University of Illinois: Illinois Online Network
University of Maryland University College
Worldwide Instructional Design System



GENERAL INFORMATION



CONFERENCE REGISTRATION

Conference registration (**Grand Ballroom Prefunction, Ballroom Level, Sheraton**) is the place for participants to get information about the program, leave or receive messages, make special arrangements, and ask questions about the League for Innovation. The conference registration area is open from 1:00 p.m. Saturday to 5:00 p.m. Tuesday.

Registration fees provide admission to the Exhibition, General Sessions, Track Keynote Sessions, Special Sessions, Concurrent Sessions, Roundtable Discussions, Poster Sessions, Coffee and Refreshment Breaks, and Evening Receptions. A conference registration badge is required for admission to all conference events. Please wear your badge at all times. Each registered conference participant receives a ticket for a complimentary beverage at the Sunday and Monday receptions.

CONFERENCE WEBSITE, EMAIL SYSTEM, AND INTERNET BROWSING

The **Technical/AV Support Team** and **Extreme Networks** have designed an email and internet browsing system that allows conference participants to send and receive messages within the conference and around the world. The 24-Hour Email and Internet Lab (**Grand Ballroom Prefunction, Ballroom Level, Sheraton**) is open to participants from 1:00 p.m. Saturday to 12:00 p.m. Wednesday.

Conference participants with wireless capable devices may access the internet by using the complimentary wireless network at STEMtech's hot spot (**Grand Ballroom Prefunction, Ballroom Level, Sheraton**) 24 hours a day, from 1:00 p.m. Saturday to 12:00 p.m. Wednesday. The network name is "2012stemtech." If you have questions about or have problems with your wireless connection, contact a Technical/AV Support Team Member (**Freemont, Mezzanine Level, Sheraton**) for assistance.

HOSPITALITY

The 2012 STEMtech Hospitality Booth (**Grand Ballroom Prefunction, Ballroom Level, Sheraton**) is the place to ask questions about dining, shopping, tourist attractions, and local transportation in the Kansas City area.

Hospitality Booth Hours

Saturday	1:00 - 7:00 p.m.
Sunday	7:00 a.m. - 7:30 p.m.
Monday	7:00 a.m. - 7:00 p.m.
Tuesday	7:00 a.m. - 5:00 p.m.

SPEAKER CHECK-IN

All speakers should check in at Speaker Support (**Northrup, Mezzanine Level, Sheraton**) as soon as possible after arrival to discuss technical support needs and other details related to their session(s). When checking in, please bring the computer you will use for your presentation and a jump drive with your presentation on it.

Speaker Support Hours

Saturday	1:00 - 7:00 p.m.
Sunday	7:00 a.m. - 7:30 p.m.
Monday	7:00 a.m. - 7:00 p.m.
Tuesday	7:00 a.m. - 5:00 p.m.
Wednesday	7:00 a.m. - 12:00 p.m.

BUSINESS OFFICE

The Business Office at the Westin (Ballroom Level, directly across from the Penn Room) is equipped to accommodate the high-tech business traveler. The Business Office offers 24-hour guest access to copying, printing, and faxing. The Sheraton offers the Link located on the Lobby Level across from hotel registration. Guests can access computers and print materials.

SMOKING

The League for Innovation maintains a smoke-free environment at all League-sponsored events. Smoking is not permitted in any of the meeting rooms or in the Exhibition Hall.

SECURITY/FIRST AID/EMERGENCIES

Should conference participants need to contact security, seek first aid, or have an emergency while at the Sheraton, they should go directly to the nearest house phone and dial extension 3. Security personnel will determine your needs and respond immediately. Additionally, conference participants can seek aid at the front desk or from the concierge available in the hotel lobby. While at the Westin, participants can pick up any house phone for immediate assistance.



LOST AND FOUND

During the conference, all lost items turned in are held at the registration desk (**Grand Ballroom Prefunction, Ballroom Level, Sheraton**). Following the conference, all turned in items are returned to the League for Innovation office. Please contact Judy Greenfield at the registration desk while at the conference, and at (480) 705-8200 x200 following the conference, to investigate lost items.

RECORDING PRESENTATIONS

Recording of presentations by video, photography, audio, or other recording or reproduction mechanism is not permitted without the express written consent of the League for Innovation, except by presenters who want to record their own presentations. The League for Innovation reserves the rights to all recordings or reproductions at its conferences and meetings. Sanctions for noncompliance include being asked to leave the premises if this policy is violated.

Follow THE STEMtech CONFERENCE on...

twitter

www.twitter.com/LeagueSTEMtech



Keep up in real-time with what's going on at the STEMtech conference by following us on Twitter. Watch for:

- schedule information,
- late-breaking news,
- conference buzz, and
- Twitter only giveaways!

Use #12STKC to tweet about your experience and to see what everyone is saying about the conference. Or, go to www.twitter.com/LeagueSTEMtech for up-to-the-minute information.

facebook

WHILE YOU'RE AT IT, BECOME A FAN OF THE STEMtech CONFERENCE AT www.facebook.com/LeagueSTEMtech

We'll be posting pictures, more news, and updates about the STEMtech conference on facebook!





Perhaps the most challenging aspect of participating in the 2012 STEMtech conference is that it offers so much to do and learn at the same time! The 2012 STEMtech conference provides a dazzling array of simultaneous learning opportunities for participants: General Sessions, Summits, Track Keynote Sessions, Special Sessions, Concurrent Sessions, Roundtable Discussions, Poster Sessions, and internet and email access. In all, this is an exciting but potentially overpowering event. To keep your circuits from overloading and to move you smoothly through the conference program, we offer the following navigational tips:

All 2012 STEMtech events are at the Westin Crown Center and Sheraton Crown Center. Maps are available in the back of this program.

The **Conference at a Glance** is included inside the front cover of this program to give you the big picture view.

A 2012 STEMtech **Personal Planner** (page IBC) helps you design your personal conference learning agenda.

We expect that participants have as many varied eating schedules as they do learning styles, and we encourage self-directed approaches to dining, as well as learning. We offer appetizers and libations at the Sunday and Monday evening receptions during the Exhibition; and morning Coffee Breaks and afternoon Refreshment Breaks on Sunday, Monday, and Tuesday in the Exhibition Hall.

All sessions are listed chronologically and are clustered by conference track and format within this conference program.

Sessions presented at the 2012 STEMtech conference fall into one of the following tracks:

STEM Tracks

- Health and Science
- Energy, Environment, Natural Resources, and Sustainability
- Mathematics, Engineering, and Architecture
- Manufacturing, Industry, Agriculture, and Aerospace
- Technology, Multimedia, and Telecommunications
- Recruiting, Retaining, and Transitioning Students Into STEM Programs
- The Integration of STEM and the Liberal Arts (NEW)

tech Tracks

- Technology Systems and Applications
- E-Learning Resources

SESSION FORMATS

All STEMtech conference sessions feature a successful practice, program, or key issue with a strong focus on STEM in general education and workforce training or the use of technology across the institution.

General Sessions provide an opportunity to learn from national experts who discuss topics of interest to all conference participants while setting the context and underlying tone for the conference.

Track Keynote Sessions are hand selected based on their overarching vision or strong alignment with the conference's nine tracks. There is one Track Keynote Session per conference track. No other sessions in the same track are scheduled against Track Keynote Sessions.

Special Session presenters are hand-selected, dynamic, and knowledgeable individuals who provide more detailed perspectives about practical and innovative solutions to today's STEM and technology challenges and opportunities.

Summits are six-hour, fee-based workshops that deliver a body of practical knowledge and applications by providing in-depth exposure to specific topics within each of the conference tracks. Summit facilitators help participants learn new concepts, draw on participants' expertise and prior knowledge, and have participants apply what they have learned. Summit participants are awarded a certificate of completion. Onsite registration is available for Summits not filled at the start of the conference.

Concurrent Sessions are traditional presentations that form the core of conference offerings. Presenters are expected to use active learning techniques to engage their audience, distribute materials, and respond to follow-up requests for more information.

Roundtable Discussions afford a personal and interactive setting for exploring key issues related to each of the conference tracks. Numerous Roundtable Discussions take place simultaneously in the same ballroom (**Gillham Hall, Lobby Level, Sheraton**).

Poster Sessions take the form of an exhibit and are delivered primarily through the use of graphs, diagrams, pictures, data, and narrative text on bulletin boards. Conference participants are free to move from one display to another at their own pace. Numerous Poster Sessions take place simultaneously in the same location (**Empire Prefunction, Mezzanine Level, Sheraton**).



The **Exhibition Hall** is an extensive display of publications, furniture, hardware, software, communications, and other educational products and services of interest to conference participants.

Refreshment Breaks, Coffee Breaks, and Receptions provide an opportunity to enjoy complimentary snacks and drinks as you browse the Exhibition Hall. Mingle with colleagues and meet with experts to research and gather information about solutions to today's campus challenges.

Corporate Partner Presentations provide the opportunity for registered participants to hear individuals representing League for Innovation Corporate Partners share information about their products and services. Presentations made by individuals representing Platinum and Gold Level Corporate Partners are indicated throughout the conference program by their company logos.

PAPERLESS PRESENTATION EVALUATION

Participants in the 2012 STEMtech conference can evaluate presenters online at the conclusion of each session at www.league.org/stemtech/evaluation. The

online session evaluation application includes a grading scale and the ability to post comments and suggestions. Your anonymous comments and suggestions will be beneficial to presenters when preparing for future speaking opportunities, and are the best way to help shape the program at future STEMtech conferences!

Presenters, please encourage participants in your sessions to fill out the online evaluation form at their earliest convenience. Soon after the conclusion of the conference, presenters will receive a report summarizing the results of the participant evaluations. Evaluation data will be available online for about six weeks after the conference.



identifies sessions that are being recorded for post conference on-demand viewing via iStream, the League for Innovation's online resource bank, learning community, and professional development tool for faculty, staff, and administrators. To learn more about iStream and how colleges maximize its benefits, or to receive a guided tour of iStream resources, visit the League for Innovation's booth (#409) during open exhibition hours or contact Cheri Jessup at jessup@league.org.





SATURDAY, OCTOBER 27, 2012

1:00 - 7:00 PM **Registration**
Grand Ballroom Prefunction
Ballroom Level, Sheraton

SUNDAY, OCTOBER 28, 2012

7:00 AM - 7:00 PM **Registration**
Grand Ballroom Prefunction
Ballroom Level, Sheraton

✦ **8:30 AM - 9:30 AM**

SPECIAL SESSION

MANUFACTURING, INDUSTRY, AGRICULTURE,
AND AEROSPACE

Meeting Workforce Needs Through Business Leadership, Not Advice



Liberty, Ballroom Level, Westin
Representatives from the Convergence Technology Center at Collin College share methods for integrating business leadership into your program decisions to make students right-skilled and readily employable.

Ann Beheler, Executive Director, Emerging Technology Grants; Helen Sullivan, Director, Convergence Technology Center, Collin College, TX; Gordon Snyder, Director, National ICT Center, Springfield Technical Community College, MA; Deborah Boisvert, Executive Director, BATEC, University of Massachusetts - Boston, MA

CONCURRENT SESSIONS

HEALTH AND SCIENCE

The Nation's First Proton Therapy Specialist Certificate Program: A Collaborative Effort

Pershing Place South, Ballroom Level, Westin
The presenters highlight the collaborative efforts between Ivy Tech Community College, I.U. Health Proton Therapy Center, and ProCure to develop a program that meets the workforce needs of this rapidly expanding form of cancer treatment.

Larry Swafford, Dean, Health Science, Ivy Tech Community College, IN

ENERGY, ENVIRONMENT, NATURAL RESOURCES, AND SUSTAINABILITY

Integrating STEM and Sustainability in a Collegewide Core Curriculum

Shawnee, Ballroom Level, Westin
Join us for discussion of one college's experience deciding what sustainability was, how it fit into the core general education requirements, and what happened as a result of those discussions.

Debbie Dalrymple, Professor, Nursing; Jerry Coleman, Assistant Professor, Biology; Samuel Wallace, Assistant Professor, Geography, Montgomery County Community College, PA

MATHEMATICS, ENGINEERING, AND ARCHITECTURE

From Remedial Reading to a PhD in Engineering

Chicago C, Grand Ballroom, Sheraton
Participants discuss the key components of improving students' grades, as well as ways to make significant changes and to have influence over the projected engineering and mathematics workforce.

Calvin Mackie, Owner, Bookings, Channel Zero Group, LA

TECHNOLOGY, MULTIMEDIA, AND TELECOMMUNICATIONS

Inspiration to Implementation: The TI-Nspire CX in Math and Science

Pershing Place West, Ballroom Level, Westin
Participants experiment with the TI-Nspire CX and are introduced to some of its capabilities, features, and available resources. A majority of the resources demonstrated are available to use without purchasing a handheld by using only the TI-Nspire Document Player available online.

Scott Keltner, Adjunct Instructor, Mathematics, Johnson County Community College, KS

RECRUITING, RETAINING, AND TRANSITIONING STUDENTS INTO STEM PROGRAMS

A Journey Into the World of STEM

Chicago A, Ballroom Level, Sheraton
Researching best practices, collecting data, interviewing stakeholders, networking, and collaborating are just a few of the tools that are needed to strategize your way into defining STEM for you and creating your own strategic vision. Join Florida Virtual School as it shares its virtual journey into the STEM world.

April O'Bryan, Specialist, Instructional Support, Florida Virtual School, FL

THE INTEGRATION OF STEM AND THE LIBERAL ARTS

Supporting the STEM: Liberal Arts Methods Broaden Science Learning

Pershing Place East, Ballroom Level, Westin
Come engage in classroom activities that integrate liberal arts skills into science. Using hands-on experiences from actual class projects, participants broaden their views of texts in science; practice thinking about data, tables, graphs, and lab specimens as texts to be read and interpreted by students; and experience representing evidence in multiple formats that reflect liberal arts thinking that leads to scientific conclusions.

Susan Lustick, Professor, Biology; Karen Hattaway, Professor, English, San Jacinto College - North Campus, TX

SUNDAY



❖ 8:30 AM - 9:30 AM (CONTINUED)

E-LEARNING RESOURCES

Using iPads and iPods in the Special Education Classroom

Chicago B, Ballroom Level, Sheraton

Motivating students with disabilities and reluctant learners can be a challenge, and at times seems impossible. This session explores various iPad and iPod apps that increase student engagement, while providing them with the tools necessary for academic achievement.

Sharyn Root, Teacher and Chair, Special Education; Shelby Shankel, Teacher, Special Education; Nathan Bootz, Superintendent, Ithaca Public Schools, MI

A Virtual System Bridges the Gap Between Education and Employment

Pershing Place North, Ballroom Level, Westin

NBC2 is working to bridge the gap between student understanding of lab-scale and industrial-scale biomanufacturing production. A virtual module to practice and assess operating and troubleshooting an industrial-scale bioreactor is demonstrated.

Sonia Wallman, Executive Director, NBC2, Montgomery County Community College, PA; Yakov Cherner, Partner, NBC2, NH

❖ 9:00 AM - 4:00 PM

STEMTECH SUMMIT

TECHNOLOGY SYSTEMS AND APPLICATIONS

National Science Foundation Workshop

ADDITIONAL FEE REQUIRED

Empire B, Mezzanine Level, Sheraton

This workshop provides an overview of the National Science Foundation (NSF), its mission, funding opportunities, the proposal process, and other topics of particular interest to community colleges. In addition, a panel of funded Principal Investigators discusses the process of submitting proposals to and being funded by NSF. An overview of the proposal review process, followed by a mock proposal panel review, is also provided. This workshop is primarily designed for educators less experienced in submitting proposals to NSF. However, more experienced proposers and NSF grantees may also find the workshop useful and informative. Anyone at your institution who would like to learn more about NSF and its programs is invited to participate in this workshop.

Celeste Carter, Program Director, Division of Undergraduate Education, National Science Foundation, VA

❖ 9:45 AM - 10:45 AM

SPECIAL SESSION

HEALTH AND SCIENCE

Next Generation Science Standards:
Setting the Pace for Engineering USA
STEM for All



Liberty, Ballroom Level, Westin

In the frenzy to provide visionary, inspirational, and educationally brilliant standards in English and mathematics, we have in our midst the real promise for the future of STEM in the USA: the Next Generation Science Standards (NGSS). A brilliantly designed set of challenges for the K-12 world, these standards invite technology and engineering education and design into American public school classrooms. NGSS build the bridges between K-12 and postsecondary institutions and are truly a roadmap for K-20 STEM education alignment in America. This session engages participants in a deep discussion focused on the promise and real-world opportunities already in process. Come join us to consider how serious gaming, MIT Fab Labs, Maker Faire, Learn and Earn, and more can now be standards- and evidence-based. It's an exciting time, and one not to be missed!

Janice Morrison, President, Teaching Institute for Excellence in STEM, OH

CONCURRENT SESSIONS

HEALTH AND SCIENCE

Integrating Technology Into Teaching Biology and Chemistry

Pershing Place South, Ballroom Level, Westin

Participants consider how teaching chemistry and biology to college and high school students has evolved from chalkboard to white board over the last few years, primarily due to the use of technology.

Bal Barot, Professor, Science, Lake Michigan College, MI

ENERGY, ENVIRONMENT, NATURAL RESOURCES, AND SUSTAINABILITY

NASA Modules for Online Earth/Climate/Sustainability Science Courses

Shawnee, Ballroom Level, Westin

College instructors! Bring your computer and/or smartphone, and go online in this facilitated hybrid session. Download free modules and resources specially created for online course providers. This session is sponsored by the NASA Earth Science EPO Forum.

Russanne Low, Senior Scientist, NASA Earth Science EPO Forum, Institute for Global Environmental Strategies, VA



MATHEMATICS, ENGINEERING, AND ARCHITECTURE

Breaking Through Roadblocks in Students' STEM Pathways

Mission, Ballroom Level, Westin

Navigating STEM academic pathways is especially tricky for first-generation minority students in community colleges. Using engineering transfer processes as the model, this session assists STEM faculty members and administrators to pinpoint barriers and strategize breakthroughs.

Claire Phillips, Instructional Dean, Business; Michael Krall, Instructional Dean, Mathematics, Lone Star College System, TX

TECHNOLOGY, MULTIMEDIA, AND TELECOMMUNICATIONS

Designing Chaos in the Classroom

Pershing Place West, Ballroom Level, Westin

This session demonstrates how to integrate an ongoing or capstone project-based learning soft skills project based on Microsoft Office applications into technical courses, resulting in increased student employability.

Rex Parr, Professor, CIS, Aims Community College, CO

RECRUITING, RETAINING, AND TRANSITIONING STUDENTS INTO STEM PROGRAMS

Connect 4 Success! Institutionalized Mentoring for Developmental Math Students

Chicago A, Ballroom Level, Sheraton

Come learn about Mesa Community College's impressive results achieved in retention, completion, and progression for developmental math students by implementing an effective institutionalized mentoring program called Connect 4 Success.

Jennifer Moore, Adjunct Faculty, Psychology; Janet Felton, Executive Assistant to the President, Mesa Community College, AZ

Family Science Success: The Synergy of Schools, Engineers, and Universities

Chicago B, Ballroom Level, Sheraton

Learn how a STEM-focused nonprofit organization successfully brings together multiple stakeholders, including schools, professional engineers, scientists, and colleges, to create a unique, hands-on engineering program for elementary school students and their families that will also be available online to everyone.

Amy Wood, Director, High School Programs, Iridescent, CA

You Too Can Host STEM Events

Chicago C, Ballroom Level, Sheraton

Introducing young minds to STEM activities can open doors to expanding career choices. Learn how hosting such an event recruits future scientists, mathematicians, and engineers.

Laura Jackson, Teacher, Science, Lee's Summit School District, MO

A Shared Responsibility: Creating Partnerships for STEM Transfer Student Success

Chouteau A, Mezzanine Level, Sheraton

STEM transfer students may struggle academically and feel socially disconnected from their campus communities for a variety of reasons. In this session, the University of Maryland, Baltimore County and four community college partners—Anne Arundel Community College, the Community College of Baltimore County, Howard Community College, and Montgomery College—will share the development of an inter-institutional initiative focused on designing a t-STEM (transfer STEM) model as a way to address the academic and social dimensions of campus life, blend virtual and face-to-face platforms, and strengthen the collaboration of two and four year institutions.

Philip Rous, Provost and Senior Vice President, Academic Affairs, University of Maryland - Baltimore County, MD; Richard Cerkovnik, Director, AACC Regional STEM Center, Anne Arundel Community College, MD; Patricia Turner, Chair, Science, Engineering and Technology, Howard Community College, MD; Muhammad Kehnemouyi, Professor and Chair, Physics, Engineering, and Geosciences, Montgomery College, MD; Sarah Jewett, Program Director, STEM Transfer Student Success Initiative; William LaCourse, Dean, Natural and Mathematical Sciences; Kathy Lee Sutphin, Assistant Dean and Special Assistant to the Provost, Natural and Mathematical Sciences; Nancy Young, Vice President, Student Affairs; Patrice McDermott, Vice Provost; Jarrett Kealey, Program Coordinator, University of Maryland - Baltimore County, MD

THE INTEGRATION OF STEM AND THE LIBERAL ARTS

STEM Needs Liberal Arts Needs STEM

Pershing Place East, Ballroom Level, Westin

Exposure to the liberal arts can provide the perspective and creativity that STEM students need to apply their skills to real-world situations. During this session, educators explore how sustainability issues and concepts can provide a linkage between liberal arts and STEM.

Kim Criner, Coordinator, Sustainability Education and Engagement, Johnson County Community College, KS

TECHNOLOGY SYSTEMS AND APPLICATIONS

Getting Us All on the Same Page: A Teaching Syllabus Tool

Pershing Place North, Ballroom Level, Westin

Sinclair Community College has developed an online syllabus tool that provides faculty members with options for teaching approaches and content while ensuring compliance with college guidelines, accuracy of course information, adherence to the defined learning outcomes, and appropriateness for guiding student learning.

Jared Cutler, Director, Curriculum and Assessment; Russ Little, Manager, Web Systems, Sinclair Community College, OH



❖ 11:00 AM - 12:00 PM

SPECIAL SESSION

MATHEMATICS, ENGINEERING, AND ARCHITECTURE

Significant Discussions: Aligning 9-14 Math Curriculum for Student Success



Liberty, Ballroom Level, Westin

Come learn how community college faculty are holding Significant Discussions with their secondary school counterparts to develop strategies for ensuring that high school completion equals readiness for college-level math.

Cynthia Wilson, Vice President, Learning and Research, League for Innovation in the Community College, AZ; Alicia Morse, Chair, Mathematics, Anne Arundel Community College, MD; Valerie Cope, Coordinator, Academic Foundations, Sinclair Community College, OH

CONCURRENT SESSIONS

ENERGY, ENVIRONMENT, NATURAL RESOURCES, AND SUSTAINABILITY

Sustainability Matters: A Collaborative Discussion

Shawnee, Ballroom Level, Westin

How does one infuse sustainability into curriculum, college infrastructure, and campus life? Why should one try? Why is there no easy button? Participants discuss Johnson County Community College's answers to these questions, as well as their own best practices for infusing sustainability into the campus community.

Jay Antle, Executive Director, Center for Sustainability, Johnson County Community College, KS

MATHEMATICS, ENGINEERING, AND ARCHITECTURE

The Narrowing Gap Between the Campus and the Virtual Classroom

Mission, Ballroom Level, Westin

Technology allows on-campus and virtual classroom instructional methodologies to be narrowed significantly. Students view video lectures before class, which leaves class time for problem solving. Benefits include greater accessibility, problem-solving activities, and multiple applications between modalities. Participants discuss creating the digital lectures and capturing in-class lectures.

Michael Bartlett, Associate Professor, Mathematics, University of Wisconsin Colleges, WI

The Path to Redesign of Developmental Mathematics at a Community College

Chouteau B, Mezzanine Level, Sheraton

Last year the mathematics department at Kansas City Kansas Community College (KCKCC) began the task of redesigning the college's developmental math program. In preparation for this change mathematics faculty reviewed data on developmental education and developmental mathematics at KCKCC; attended conferences on curricular redesign; reviewed publisher curriculum delivery packages; wrote an internal grant for curriculum change; convinced stakeholders of the need for redesign; trained all developmental math faculty on new teaching strategies; and began training of faculty to teach with the selected delivery package, MyLabsPlus. This presentation will focus on the process, planning, and pitfalls of the redesign project. And, we will provide data on how this falls' students are proceeding in the newly redesigned mathematics program.

Michele Bach, Professor, Mathematics; Charyl Link, Professor, Mathematics; Debbie Detrick, Instructor, Mathematics; Edward Kremer, Dean, Mathematics Science and Computer Technology, Kansas City Kansas Community College, KS

Challenge Mat + NXT Robot = Engaged Participants

Chicago C, Ballroom Level, Sheraton

See how constructing and programming a robot to complete tasks on a thematic playing surface can build teamwork skills to solve rigorous challenges.

Laura Jackson, Teacher, Science, Lee's Summit School District, MO

TECHNOLOGY, MULTIMEDIA, AND TELECOMMUNICATIONS

Implementing iPads for Evaluation, Observation, and Instruction!

Pershing Place West, Ballroom Level, Westin

This session is designed to ease your worries about implementing iPads in your district. Ithaca has incorporated iPads into instructional practices. Teachers and administrators use them to instruct, evaluate, manage classrooms, and communicate with parents. Concerns about connectivity, privacy, and security are addressed.

Nathan Bootz, Superintendent, Ithaca Public Schools, MI

RECRUITING, RETAINING, AND TRANSITIONING STUDENTS INTO STEM PROGRAMS

A Successful Partnership: The STEM One Project

Chicago A, Ballroom Level, Sheraton

Learn how to develop and cultivate a partnership with your local school district designed to increase the number and success of students entering into STEM careers. Discussed are strategies designed to cultivate the partnership, recruiting and motivating students in STEM careers, and transitioning them from secondary to postsecondary institutions.

Roslyn Bogle, Equity Coordinator, Special Population, Georgia Piedmont Technical College, GA



Supplying Workforce Needs: Creating National Center for Supply Chain Technology

Chicago B, Ballroom Level, Sheraton

Sinclair Community College, Norco College, and other partners are working to create a much needed pipeline of supply chain technologists. Participants learn how they can partner with the center to create workforce development pipelines for their communities.

Dennis Brode, Associate Professor and Chair, Management; April Carpenter, Assistant Professor, Management, Sinclair Community College, OH

Strategies for Transitioning Underprepared Students Into Engineering Technology Programs

Chicago B, Ballroom Level, Sheraton

This session is designed for teachers interested in assisting underprepared students to achieve their goals of entering technical degree programs. The presenters share their school-within-a-school educational concept designed to help students be successful in college. Additional support is provided as students focus on strengthening their English and math skills.

Gary Behm, Assistant Professor, National Technical Institute for the Deaf (NTID) Engineering Studies; Diane Heyden, Assistant Professor, NTID Engineering Studies; Dino Laury, Interim Chair, NTID Engineering Studies, Rochester Institute of Technology, NY

THE INTEGRATION OF STEM AND THE LIBERAL ARTS

The Welborn STEM Project: Coming Together to Make a Difference

Pershing Place East, Ballroom Level, Westin

The Welborn STEM Project is a collaboration between The Church of the Resurrection, the NASA Glenn Research Center, and Welborn Elementary School to meet the STEM needs of elementary students. The collaboration model is discussed and participants have an opportunity to engage in the student engineering challenges and STEM instructional activities.

Diane McElwain, Education Specialist, NASA Education, NASA Glenn Research Center, OH

E-LEARNING RESOURCES

Using a Robust Social Learning Environment to Drive Student Engagement and Success

Pershing Place North, Ballroom Level, Westin

This session examines how the University of the Incarnate Word (UIW) uses the Epsilon Social Learning Environment to focus on student engagement and impact learning outcomes, persistence, and completion rates.

Mekelle Douglas, Director, Sales, Epsilon LLC, IN

POSTER SESSIONS

All Poster Sessions take place in Empire Prefunction, Mezzanine Level, Sheraton

HEALTH AND SCIENCE

Decreasing Class Student Number Increases Student Success in Microbiology Laboratory

This project examined learning in classrooms seating 16 and 24 students. Retrospective questionnaires gathered data regarding students' beliefs about classroom size. Discuss why grade data indicate that students in smaller classrooms perform better than students in larger classrooms.

Elynn Mulcahy, Associate Professor, Science, Johnson County Community College, KS

ENERGY, ENVIRONMENT, NATURAL RESOURCES, AND SUSTAINABILITY

Putting Math in Context

Traditional math class sequencing can leave students discouraged from pursuing high goals. Displayed is why program developers ought to consider putting math in context.

Peter Combs, Faculty, Renewable Energy Technology, Central Arizona College, AZ

RECRUITING, RETAINING, AND TRANSITIONING STUDENTS INTO STEM PROGRAMS

STEM Access for All

This session illustrates a districtwide STEM Access for All model in which every student is afforded STEM education opportunities and experiences. From the cradle to careers, come learn how to organize a districtwide STEM education system!

Antionette Mathews, Director, STEM Education and Curriculum Support, Lancaster Independent School District, TX

How and Why: Empower Your STEM Major Students Via Club Activities

This poster session conveys club activities to attract and support STEM major students, data, and future plans for a STEM Institute to promote successful transfer to four-year colleges.

Nathalie Darden, Assistant Professor, Mathematics; Rebecca Rozario, Assistant Professor, Mathematics, Brookdale Community College, NJ

THE INTEGRATION OF STEM AND THE LIBERAL ARTS

Trade Book Fun: Integrating STEAM in a Fifth Grade Classroom

Trade books are used as springboards to launch multiple journeys of STEM discovery with arts influences. These dynamic integrated literature units help students understand their personal connection to the world around them.

Ann Mailloux, Teacher, Fifth Grade; Jessica Fredricks, Teacher, Music; Amanda Bataille, Faculty, Bethune Academy, FL



✦ 1:00 PM - 2:00 PM

SPECIAL SESSION

E-LEARNING RESOURCES

Requiring an Orientation for New Online Students



Liberty, Ballroom Level, Westin

JCCC faculty members ask students in online courses to come prepared for class. Do students understand the time and study commitments needed to be successful? This session demonstrates an online orientation that provides an overview of institutional resources, tutorials for the LMS, and tips for success.

Ed Lovitt, Director, Distance Learning, Johnson County Community College, KS

CONCURRENT SESSIONS

HEALTH AND SCIENCE

Physics and Mathematics Begat Chemistry and Biology

Pershing Place South, Ballroom Level, Westin

Logic begat mathematics and mathematics begat physics. All was good. Then, physics said, "I'm lonely." So, it created chemistry from Newtonian equation. Chemistry began to grow and formed a limb that fell off, took root, and became biology.

Rose Stiffin, Chair, Health and Natural Sciences, Florida Memorial University, FL

Chemistry for Allied Health and Nursing Students: An Integrated Approach

Pershing Place North, Ballroom Level, Westin

Participants learn how to integrate lecture and laboratory activities for chemistry courses. Participants also experience the integration approach of this course in the form of hands-on activities.

Rosa Rivera-Hainaj, Dean, Science and Mathematics, Lorain County Community College, OH

ENERGY, ENVIRONMENT, NATURAL RESOURCES, AND SUSTAINABILITY

Population and Energy in the 21st Century: A Biological Perspective

Shawnee, Ballroom Level, Westin

As population growth slows, energy use, following biology principles, increases. Come explore how science educators can anticipate a world where a declining human population demands more energy from decreasing fossil fuel resources.

Larry Frolich, Faculty, Natural Sciences, Miami Dade College - Wolfson Campus, FL

MATHEMATICS, ENGINEERING, AND ARCHITECTURE

From Prototype to Production: Using Local Inventors in Design Education

Mission, Ballroom Level, Westin

Come learn how Metropolitan Community College offers inventors opportunities to employ design technology using the college's FabLab and prototyping lab. Participants discuss how students in the engineering technology program assist with the design and prototyping of products.

William Allyn, Faculty, Engineering Technology, Metropolitan Community College, MO

Using Second Life to Teach STEM Classes in Various Settings

Chicago A, Ballroom Level, Sheraton

Second Life, a virtual world, offers opportunities for face-to-face and distance education courses. Sites, activities, and the advantages and disadvantages of using this medium are shared by experienced instructors.

Jim Trepka, Assistant Professor, Industrial Technology, Kirkwood Community College, IA; Anne Bunnell, Instructor, Biology, East Carolina University, NC

TECHNOLOGY, MULTIMEDIA, AND TELECOMMUNICATIONS

Video Game Design: STEM Integration Curriculum to Common Core

Pershing Place West, Ballroom Level, Westin

Participants consider a complete middle and high school video game design curriculum that can be added to individual courses or to a complete four-year plan.

D. Michael Floor, STEM Curriculum Integration Specialist, Career and Technical Education, Middleton STEM High School, FL

RECRUITING, RETAINING, AND TRANSITIONING STUDENTS INTO STEM PROGRAMS

Building STEM Engineering and Biomedical Programs: Going From 3 to 27 Classes

Chicago C, Ballroom Level, Sheraton

The presenters share the journey of going from not offering any STEM classes to offering 27 biomedical and engineering classes in a school with over 99 percent of its students on free or reduced lunch and a minority population that is over 95 percent Hispanic and Native American.

Trevor Greene, Principal, STEM, Toppenish High School, WA

Yes, High School Really Does Matter!

Chicago B, Ballroom Level, Sheraton

The scores received on college placement tests often result in students needing to take remedial math. Come explore how junior year high school assessments provide students with an early warning, which can cause them to take an additional year of college preparation mathematics to improve their college placement scores.

Lynne Kowski, Professor, Mathematics, Raritan Valley Community College, NJ



THE INTEGRATION OF STEM AND THE LIBERAL ARTS

Creating Integrated Learning Communities: Interdisciplinary Project-Based Learning

Pershing Place East, Ballroom Level, Westin

Student and faculty presenters from NorthWest Arkansas Community College share a successful example of how a large community-based project was used to create an interdisciplinary learning community.

Dianne Phillips, Coordinator, Mathematics and Science; Marvin Galloway, Dean, Learning; Detta Stephens-Mason, Student, Honors, NorthWest Arkansas Community College, AR

TECHNOLOGY SYSTEMS AND APPLICATIONS

Tag, You're It!

Pershing Place North, Ballroom Level, Westin

The Dayton area is emerging as the hub of RFID technology in Ohio. Come learn how Sinclair Community College faculty members collaborate with industry leaders to provide students with hands-on learning opportunities in an effort to meet the growth in RFID technology with qualified RFID specialists.

April Carpenter, Assistant Professor, Management; Dennis Brode, Associate Professor and Chair, Management, Sinclair Community College, OH

ROUNDTABLE DISCUSSIONS

*All Roundtable Discussions take place
in Gillham Hall, Lobby Level, Sheraton*

MATHEMATICS, ENGINEERING, AND ARCHITECTURE

Bridging STEM Through Hands-On Invention Projects

Educators are introduced to the motivational power of self-selected problems to solve with technology through invention for teams of secondary school students, teachers, and mentors.

Leigh Estabrooks, Invention Education Officer, Engineering, Lemelson-MIT Program, MA

TECHNOLOGY, MULTIMEDIA, AND TELECOMMUNICATIONS

Technology for Study Abroad

Learn how to develop and use technology that helps to plan a short-term study abroad trip. Learn also to develop lessons that integrate the latest technology in the host country.

Heith Hennel, Professor, Information Technology, Valencia College, FL

Mission to Mars: A Student-Driven Experience

Science teachers in grades 5 to 12 learn how to use iPhones, iTouches, and remote controlled rovers to guide students in the research, design, engineering, and implementation of a rover mission to Mars.

Mike Schwieters, Teacher, Science; Tom Mussoline, Coordinator, Technology, University School of Milwaukee, WI

RECRUITING, RETAINING, AND TRANSITIONING STUDENTS INTO STEM PROGRAMS

Make My Cell Glow: Excite Students With Synthetic Biology

Discussion on how to use synthetic biology in the classroom and as an extracurricular activity to excite high school students to pursue a STEM career.

Rebecca Schini, Chair, Science, iGEM High School, IN

E-LEARNING RESOURCES

E-Portfolios: Methodology to Validate and Promote Critical Workforce STEM Skills

Participants will learn how the e-portfolio is used to validate and promote workforce readiness in the STEM areas of concentration. This session is particularly valuable to community college faculty members.

Ken Scott, Senior Instructor, Computer Information Systems, and Director, Cisco Networking Academy/SkillsUSA - Trenholm, H. Council Trenholm State Technical College, AL

❖ 2:15 PM - 3:15 PM

SPECIAL SESSION

MATHEMATICS, ENGINEERING, AND
ARCHITECTURE

Quantway and Statway: Pathways for Student Success in Community Colleges



Liberty, Ballroom Level, Westin

The Carnegie Foundation for the Advancement of Teaching has created innovative developmental mathematics pathways through college-level mathematics: Statway, a statistics pathway, and Quantway, a quantitative reasoning pathway. Both pathways incorporate relevant math students need in everyday life, ambitious learning goals, and productive persistence strategies, while reducing the number of exit points where students can stop out. Come experience some of the Quantway materials and hear from Quantway faculty about their experiences in the initiative.

Kinga Oliver, Assistant Professor, Mathematics; Jim Willis, Associate Professor, Mathematics; Ed Gallo, Professor, Mathematics, Sinclair Community College, OH; Duane Benson, Associate Professor, Mathematics, South Georgia College, GA; Karon Klipple, Director, Statway; Jane Muhich, Director, Quantway and Productive Persistence, The Carnegie Foundation for the Advancement of Teaching, CA



CONCURRENT SESSIONS

HEALTH AND SCIENCE

Creating Career Pathways in the Biomedical Sciences

Pershing Place South, Ballroom Level, Westin

Getting students and teachers excited about the biomedical sciences is critical to filling the pipeline needed to grow the health sciences sector. This interactive session demonstrates how partnerships between Project Lead the Way and a school district effectively transition students into the health sciences and biomedical fields.

Terri Schulz, National Director, Market Development and Relationships, Project Lead the Way, Inc., NY

ENERGY, ENVIRONMENT, NATURAL RESOURCES, AND SUSTAINABILITY

NASA Climate Science for Community College Career Pathways

Shawnee, Ballroom Level, Westin

Participants discuss how the Greenforce Initiative is incorporating climate change science and NASA tools and resources to enhance STEM skills and career pathways for lower-skilled adults.

Gloria Mwase, Program Director, BEOG; Stephen Lynch, Senior Project Manager, BEOG, Jobs for the Future, MA; Andrew Jorgensen, Director, Chemistry, The University of Toledo, OH

TECHNOLOGY, MULTIMEDIA, AND TELECOMMUNICATIONS

End User Computing in the Post Windows PC Era

Pershing Place West, Ballroom Level, Westin

This session explores the impact of tablets, smartphones, and other non-PC devices and the various technologies available to optimize end user computing as we enter the post Windows PC era.

Rick Watson, Instructor Support Facilitator, Technical Services, VMware Inc., SC

RECRUITING, RETAINING, AND TRANSITIONING STUDENTS INTO STEM PROGRAMS

EMSA: A Leg Up for High School Students

Chicago A, Ballroom Level, Sheraton

EMSA allows high school seniors to take accredited college level STEM courses in their senior year of high school, earning up to 26 college-level credits. Feedback from previous students, the program's growth and community acceptance, and an administrative critique are discussed. *Stephen Dunn, Professor and Coordinator, Physics and Engineering, Kishwaukee College, IL*

Student Enrollment and Engagement Through Connections: A Transformative Partnership

Chicago B, Ballroom Level, Sheraton

This presentation focuses on expanding the engineering pipeline through community colleges. Learn and discuss how

this partnership has used data to inform learning communities, advising, and recruitment programming and policy.

Mary Darrow, PhD Student, Education Leadership; Frankie Laanan, Interim Director, Center for Excellence in Science, Mathematics and Engineering Education, Iowa State University, IA; Jim Stick, Dean, Arts and Sciences; Randy Smith, Professor, Mathematics, Des Moines Area Community College, IA

Innovative STEM Facility Design and Curriculum Implementation

Chicago C, Ballroom Level, Sheraton

Considered are incorporating new technologies, innovative facility design, hands-on curricula, and collaboration with a school district to increase STEM student enrollments and success in a Hispanic serving community college and a major research university.

Denise Meeks, Department Chair, Science; Alex Kajstura, Campus President, Pima Community College, AZ

THE INTEGRATION OF STEM AND THE LIBERAL ARTS

Learning Communities at a Tribal College: Integrating STEM Content

Pershing Place East, Ballroom Level, Westin

This session highlights the presenters' experiences with interdisciplinary learning communities at Little Priest Tribal College. Participants discuss the role and value of learning community courses in higher education.

Jessica Antonellis, Instructor, Developmental Mathematics; Janyce Woodard, Instructor, Environmental Science; Stu Hellman, Instructor, Computer Science, Little Priest Tribal College, NE

TECHNOLOGY SYSTEMS AND APPLICATIONS

Educational GPS: Precisely Tracking STEM Learning Outcomes Across the Institution

Pershing Place North, Ballroom Level, Westin



Come learn how STEM programs can now have the capability to know, in real time, where any student or any defined set of students stands relative to any set of student learning outcomes.

David Shupe, Chief Innovation Officer, eLumen, MN

E-LEARNING RESOURCES

Twitter and Skype and Google: Oh My!

Mission, Ballroom Level, Westin

This wizard of a meeting unleashes the ease of using Twitter, Skype, and Google effectively with intended purpose and collaborative goals. Participating in this session is easier than going to the Emerald City alone! Participants are encouraged to bring laptops or smartphones to this session.

Cindy Rubin, Director, Science and Technology Education, My Science Classroom, Inc., MA



POSTER SESSIONS

All Poster Sessions take place in Empire Prefunction, Mezzanine Level, Sheraton

HEALTH AND SCIENCE

Data Collection Activities

Science Education Standards suggest students need opportunities to collect data to improve their understanding of science concepts. Displayed are probes and sensors that enable students to complete labs like real-world scientists.

Laura Jackson, Teacher, Science, Lee's Summit School District, MO

ENERGY, ENVIRONMENT, NATURAL RESOURCES, AND SUSTAINABILITY

How We Acquired a Wind Turbine at Eudora High School

Start to finish, a depiction of the process of getting a wind turbine installed on our high school campus. The focus is on STEM related lessons, student involvement throughout the process, and future lesson plans after installation.

Scott Keltner, Adjunct Instructor, Mathematics, Johnson County Community College, KS

RECRUITING, RETAINING, AND TRANSITIONING STUDENTS INTO STEM PROGRAMS

Increasing Opportunities for Underrepresented Students of Color in STEM

This session explores eliminating barriers to STEM education for underrepresented students of color. Displayed are promising strategies, including enrichment courses, culturally relevant mentorships and instruction, partnerships, and rigorous evaluation.

Sumaiya Talukdar, Director, Strategic Partnerships and Community Engagement; Jarvis Sulcer, Director, Academic Programs, Level Playing Field Institute, CA

Increasing the Awareness and Success of University STEM students

Displayed is information about an investigation into how students perceive and understand what STEM is and how this can inform how we engage them. The poster session facilitators are available to discuss developing support structures that encourage success and engagement in STEM degrees.

Kenwyn Cradock, Faculty, Biology, Eastern New Mexico University, NM

Building Roots in Your STEM Tech Partnerships: How to Deepen Industry Input Into Curricula and Instruction

This poster session displays early findings from an NSF-funded targeted research study that identifies the key mechanisms that deepen industry input into community college programs for STEM workforce training.

Louise Yarnall, Scientist, Center for Technology in Learning, SRI International, CA

THE INTEGRATION OF STEM AND THE LIBERAL ARTS

A System-Based Interdisciplinary and Intercollegiate Approach to STREAM Education

Interdisciplinary projects for STEM majors are displayed, including integrating liberal arts and technical majors. Inter-institutional system-based student learning outcomes are presented as a powerhouse for emerging projects.

Nathanial Wiggins, Distinguished Professor, Mathematics and Engineering, San Jacinto College - North Campus, TX

TEAMSworK (Technology, Engineering, Liberal Arts, Math, Science) in Ohio!

Participants discuss the journey of one school district's integration of Common Core, 21st century skills, and a 6-12th grade interdisciplinary curriculum seen throughout the pedagogical shift into a new student-centered school.

Elizabeth Del Campo Hartman, Instructional Coach, Curriculum and Instruction; Melissa Sand, Teacher, Art; Chris Anderson, Teacher; Steve Duke, Instructional Coach, Curriculum and Instruction, Princeton High School, OH

E-LEARNING RESOURCES

Nothing Is as Real World as a Science Fair Competition

Science fair competitions for grades 4-12 students emphasize individual scientific research that demonstrates students' mastery of STEM subjects. Discover school librarians' roles with kids as they explore, test, and create with STEM educators teaching the scientific method, guided inquiry, report writing, and presentation skills.

Mirah Dow, Associate Professor, Library and Information Management, Emporia State University, KS

♣ 3:15 PM - 4:15 PM

REFRESHMENT BREAK in the Exhibition Hall

Crown Center Exhibition Hall
Mezzanine Level, Sheraton



OPENING GENERAL SESSION

✦ 4:30 PM - 6:00 PM ✦

GRAND BALLROOM, BALLROOM LEVEL, SHERATON



CHAIR AND INTRODUCTION

Gerardo E. de los Santos,

President and CEO, League for Innovation in the Community College



WELCOME

Terry Calaway,

President and CEO, Johnson County Community College



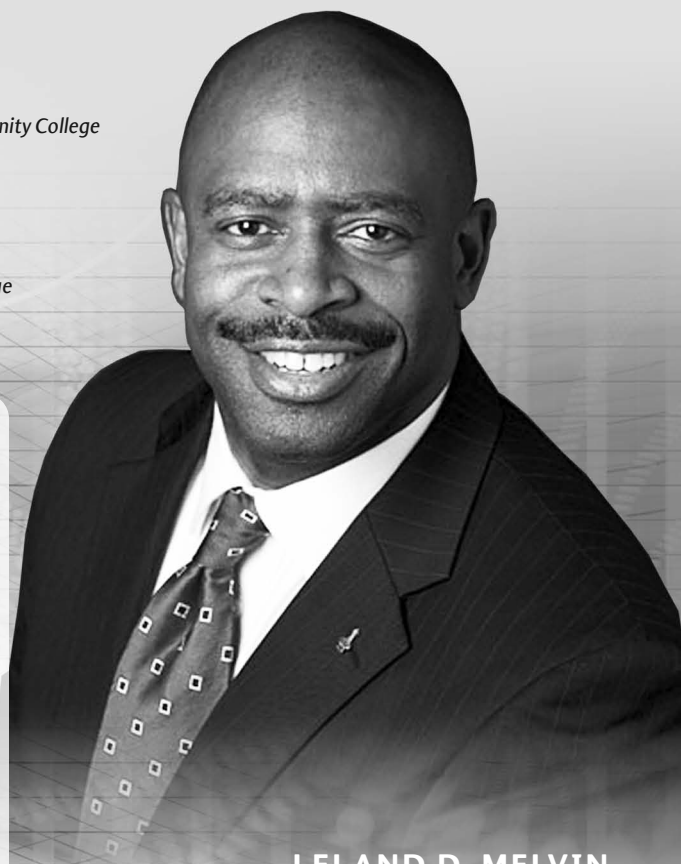
Mark James,

Chancellor, Metropolitan Community College

KEYNOTE SPEAKER

Leland D. Melvin, NASA Associate Administrator for Education, is responsible for the development and implementation of the agency's education programs that strengthen student involvement and public awareness about its scientific goals and missions. In this role, he leads the agency in inspiring interest in science, technology, engineering, and mathematics (STEM) through NASA's unique mission, workforce, facilities, research, and innovations.

Leland Melvin, Associate Administrator, Education, National Aeronautics and Space Administration (NASA), DC



LELAND D. MELVIN

✦ 6:00 PM - 7:30 PM

OPENING RECEPTION in the Exhibition Hall

Crown Center Exhibition Hall
Mezzanine Level, Sheraton



MONDAY, OCTOBER 29, 2012

7:00 AM - 7:00 PM Registration
Grand Ballroom Prefunction
Ballroom Level, Sheraton

✦ **8:00 AM - 9:00 AM**

TRACK KEYNOTE SESSION

MATHEMATICS, ENGINEERING, AND ARCHITECTURE

America's STEM Education Crisis: Opportunities and Solutions for Preparing Students for the Global Economy

Liberty, Ballroom Level, Westin

Educational, community, and business leaders agree that the United States inadequately prepares students for success in STEM related disciplines. As a result, workforce needs remain unmet and thousands of American students stand unprepared for the changing world around them. During this session, the presenter shares his experiences as a parent, principal, superintendent, and nonprofit CEO, and the lessons he has learned preparing our children for the global economy.



Vince Bertram,
President and Chief Executive Officer,
Project Lead the Way, Inc., NY

MONDAY

CONCURRENT SESSIONS

HEALTH AND SCIENCE

Increasing Efficiency and Access to Allied Health Education Through a Consortia

Empire C, Mezzanine Level, Sheraton

Representatives from a consortium of three public two-year colleges and one public university share allied health programs that use distance technology to provide rural communities cost-effective access to in-demand healthcare career education.

Richard Woodfield, Associate Vice President, Academic Affairs; Debra McCurdy, President, Rhodes State College, OH; Thomas Stuckey, President, Northwest State Community College, OH; Roberto Gutierrez, President, Klamath Community College, OR

MANUFACTURING, INDUSTRY, AGRICULTURE, AND AEROSPACE

Using 3D Printing Technology in STEM Classrooms

Shawnee, Ballroom Level, Westin

Learn how 3D printers can enhance curriculum and increase student engagement by providing them with hands-on opportunities. Participants discuss 3D printing and explore how this technology is being used in high school, community college, and university classrooms and labs.

Jesse Roitenberg, Manager, Education, Stratasys 3D Printers and Production Systems, MN

TECHNOLOGY, MULTIMEDIA, AND TELECOMMUNICATIONS

New Java Fundamentals and Java Programming From Oracle Academy

Pershing Place West, Ballroom Level, Westin

Conceived to help educators awaken and deepen students' interest in Java, computer science, and engineering, the curriculum is free and complete with lecture materials, labs, assessments, and projects. It's fun, engaging, easy to use, and aligns with the Oracle Certified Associate Java Programmer certification.

Lorilyn Owens, Director, Oracle Academy, CA

RECRUITING, RETAINING, AND TRANSITIONING STUDENTS INTO STEM PROGRAMS

Recruitment and Retention of Girls in STEM Programs

Chicago A, Ballroom Level, Sheraton

Participants learn about the hidden signals society sends girls to discourage them from pursuing careers in STEM. Participants also develop action plans and ideas for recruiting girls into STEM programs at the high school level and ways to keep them there through higher education.

Elaine Plybon, Specialist, Instructional Technology, Jack E. Singley Academy, TX

Help, I'm Sinking!

Chicago C, Ballroom Level, Sheraton

Discover the tools necessary for building a classroom that floats with clearly defined limits, mutual respect, and warm emotional support. Come discuss why teaching discipline is just as important as teaching the curriculum. *Michelle Sorrells, Instructor, Technology Education, Brooks County Middle School, GA*



❖ 8:00 AM - 9:00 AM (CONTINUED)

Improving Women's Experience in STEM Programs Through Student Organizations

Chouteau A, Mezzanine Level, Sheraton

The presentation illustrates techniques used to engage and retain female students in STEM programs by using student leaders and organizations involved within these fields.

Jennifer Musick, Assistant Director, Academic Advising; Rozlyn Hernandez, Academic Advising, Ivy Tech Community College, IN

Exploring the Multiple Pathways to STEM

Chicago B, Ballroom Level, Sheraton

This session focuses on sharing the challenges, successes, and best practices experienced when developing partnerships with school districts, community colleges, and four-year institutions to encourage specific educational and career pathways in STEM. Current research on these partnerships is also shared.

Soko Starobin, Assistant Professor, Educational Leadership and Policy Studies; Frankie Laanan, Interim Director, Center for Excellence in Science, Mathematics, and Engineering Education; Darin Moeller, Doctoral Research Associate, Educational Leadership and Policy Studies, Iowa State University, IA

21st Century School and Community Teams: Models for Partnering, Linking, and Building Educational Innovation

Benton AB, Mezzanine Level, Sheraton

**THORNBURG
CENTER**



Pragmatic Visionaries

Provided are case analyses of next generation TE(a)MS schools and communities. Participants learn about what South Korea and Finland have in common with Central Florida, San Diego, and the DC Metro area. Come discover emerging practice in schools and communities rooted in connecting technology, creativity, and local culture. Discover free open-source TE(a)MS tools you can use in your community.

Jim Brazell, Technology Forecaster and Strategist, Thornburg Center, IL

THE INTEGRATION OF STEM AND THE LIBERAL ARTS

Growing the STEM: Implementing Collegiate STEM Programs of Study

Empire B, Mezzanine Level, Sheraton

Participants consider how the faculty and staff of the Polk State College Collegiate High School implemented a comprehensive STEM program of study that includes structured curriculum and a research component. This session will benefit any educator seeking to implement a STEM initiative.

Suzanne Halverson, Faculty, Chain of Lakes Collegiate High School; Bridget Fetter, Director, Chain of Lakes Collegiate High School; Richard Jeffries, Guidance Counselor, Chain of Lakes Collegiate High School, Polk State College, FL

Building Bridges: Connecting History, Philosophy, Science, and Technology

Mission, Ballroom Level, Westin

Science and technology have always had an impact on and been influenced by the greater culture around them. Participants discuss how getting students to see the connection between history and the current age increases their interest in and application of what they learn in our classes.

Kurt Messick, Professor, Philosophy and Religion, American Public University System, WV

Preparing Future Science Teachers: Project-Based Learning and Mentoring Strategies

Pershing Place East, Ballroom Level, Westin

Learn how preservice teachers are given the opportunity to adapt college-level physical science content to the K-5 learning environment as they work in teams to collaborate with faculty mentors in public schools.

Dianne Phillips, Coordinator, Mathematics and Science; Tammy Huffman, Student, Teacher Education Program, Northwest Arkansas Community College, AR

TECHNOLOGY SYSTEMS AND APPLICATIONS

New Virtualization Solutions for the Classroom

Pershing Place North, Ballroom Level, Westin

Do your information technology and cybersecurity instructors struggle with providing relevant hands-on, skills-based activities? The presenters share new resources available to build and implement a robust virtual environment and demonstrate using this environment in student skills competition.

John Sands, Professor, Information Technology; Pamela Haney, Dean, Science and Business; Erich Spengler, Professor, Information Technology, Moraine Valley Community College, IL

E-LEARNING RESOURCES

Creating Content With Mobile Devices

Chouteau B, Mezzanine Level, Sheraton

During this presentation, participants discuss the perception that mobile devices are used solely for content consumption. This presentation will amaze its participants with device-driven content creation activities.

Anthony Marcasciano, Instructional Technologist, Center for Teaching and Learning; John Neff, Staff Development Specialist, Center for Teaching and Learning, Moraine Valley Community College, IL



Connected Professional Development: Using Social Media for Next Generation Learning

Empire A, Mezzanine Level, Sheraton



Explore best practices for social media and learning from NROC's community-sourced Connected Professional Development project. Discuss how social media can engage full-time faculty members and adjuncts in professional development, especially participatory course design, and in facilitating instruction.

Ruth Rominger, Director, Learning Design; Terri Rowenhorst, Director, Membership, National Repository of Online Courses, CA

Leveraging Alumni to Help STEM Students Get Jobs and Internships

Pershing Place South, Ballroom Level, Westin

A brief but comprehensive overview is provided about how healthcare and STEM students view social media when it comes to finding their first job or internship. Tips and online practices are provided that administrators and faculty can use to help their students connect with people in industry who can help achieve systemic and individual goals.

Jennifer Rutt, Senior Director, College and University Relations, AfterCollege, CA

ROUNDTABLE DISCUSSIONS

All Roundtable Discussions take place in Gillham Hall, Lobby Level, Sheraton

TECHNOLOGY, MULTIMEDIA, AND TELECOMMUNICATIONS

E-Challenges: Taming the Technology Beast

Programs today are challenged with having the latest hardware and software to answer the needs of students, transfer schools, and business and industry. Come discuss ways to best overcome technology challenges and frustrations.

Michael Ryan, Professor, Architecture; Robert Lowe, Professor, Architecture and Interior Design, Anne Arundel Community College, MD

RECRUITING, RETAINING, AND TRANSITIONING STUDENTS INTO STEM PROGRAMS

Partnering With Engineering Corporations to Create a Unique Engineering Curriculum

Explore how engineering corporations and nonprofit organizations can work together to create hands-on curriculum to recruit and retain students in STEM, and learn what pitfalls to avoid using lessons learned from Iridescent's afterschool engineering programs.

Amy Wood, Director, High School Programs, Iridescent, CA

The Effect of Supplemental Instruction on STEM Transfer Student Success

This roundtable discussion focuses on the experience of STEM transfer students participating in supplemental instruction. Important implications of issues affecting STEM transfer student success are discussed.

Marty Bonsangue, Professor, Mathematics, California State University - Fullerton, CA

THE INTEGRATION OF STEM AND THE LIBERAL ARTS

Tower Power: Transforming Elementary and Early Education Programs With STEM

Learn how collaboration among liberal arts, education, and science faculty from community colleges and four-year institutions strengthened the STEM preparation of preservice elementary and early education students. Participate in an engineering activity, Tower Power, which helps faculty members recognize ways they naturally employ engineering processes.

Erin Fitzgerald, Senior Associate, Development and Curriculum, Museum of Science Boston, MA; Louise Mary Nolan, Associate Professor, Science, Middlesex Community College, MA

The Power Is On! Strategies for Creating STEM and Liberal Arts Synergy

Every scientist's academic journey features stories, struggles, and probably soundtracks, too! Come learn why innovative liberal arts and STEM program alliances are critical, not only for educational purposes, but for advocacy as well.

Laura Jones, Instructor, Arts and Sciences; Barry Bates, Coordinator and Instructor, Bioscience and Biotechnology, Atlanta Technical College, GA

TECHNOLOGY SYSTEMS AND APPLICATIONS

Texting, Taking Notes, and Solitaire: Student Behavior and Technology in the Classroom

Faculty members use technological tools to enhance face-to-face and online courses, and technology in the classroom can improve teaching and learning. But, is student use of technology a distraction? Let's explore student use of mobile devices, including laptops and mobile phones, in the classroom.

Norah Kerr McCurry, Director, Teaching and Learning Center; Larry Hartzell, Professor, History, Brookdale Community College, NJ

E-LEARNING RESOURCES

Designing a Blended Learning Computer Information Systems Curriculum

Roundtable discussion participants discuss developing a blended curriculum that focuses on designing, delivering, assessing, and integrating technologies into an existing curriculum. Blended course developers would benefit from this session.

Chan Tung, Instructor, Computer Information Systems and Technology, Kansas City Kansas Community College, KS



❖ 9:15 AM - 10:15 AM

TRACK KEYNOTE SESSION

THE INTEGRATION OF STEM AND THE LIBERAL ARTS

Full Spectrum Learning: STEM + Liberal Arts and the Case for TE(a)MS Model Schools

Liberty, Ballroom Level, Westin

**THORNBURG
CENTER**



Pragmatic Visionaries

Our modern notion of STEM is generally limited to science, technology, engineering, and mathematics courses, disciplines, and jobs. The humanities and arts, however, are rooted in a holistic approach to learning that includes grammar, rhetoric, logic, mathematics, geometry, music, and astronomy in ancient antiquity. Emerging TE(a)MS model schools are evolving the classical and modern notions of the well-rounded student. Participate in this session to learn why the humanities and arts are a necessary and vital part of STEM in the context of innovation, civil society, capitalism, and democracy.



Jim Brazell,
*Technology Forecaster and
Strategist, Thornburg Center, IL*

CONCURRENT SESSIONS

HEALTH AND SCIENCE

A STEM and Allied Partnership: A 21st Century Model

Pershing Place South, Ballroom Level, Westin

Central Alabama Community College's Advanced Visualization Center developed and implemented a model to enhance allied health instructional methodologies by introducing 2D and 3D visual learning objects. Discussed are storyboarding techniques, equipment requirements, presentation techniques, and faculty member reviews.

Tanya Hunnicutt, Faculty, Nursing; Lisa Ellison, Faculty, Nursing, Central Alabama Community College, AL

MATHEMATICS, ENGINEERING, AND ARCHITECTURE

Simplifying the Transfer of Community College Engineering Students to the University

Empire C, Mezzanine Level, Sheraton

Participants discuss the A.S.E. two years after its inception, now that its first graduates have successfully transferred from community colleges to universities. Participants explore lessons learned and propose solutions to remaining challenges.

Marjorie Rawhouser, Assistant Professor, Engineering, Anne Arundel Community College, MD

MANUFACTURING, INDUSTRY, AGRICULTURE, AND AEROSPACE

Replace Direct Instruction Using Inquiry While Enhancing STEM Through Agriculture

Shawnee, Ballroom Level, Westin

Learn how the CASE system of curriculum design uses inquiry-based strategies to engage students in the STEM-

rich context of agriculture. Participants explore how to use a balance of activities, projects, and problems to replace direct instruction.

Jay Jackman, Executive Director, National Association of Agricultural Educators, Curriculum for Agricultural Science Education, KY

TECHNOLOGY, MULTIMEDIA, AND TELECOMMUNICATIONS

Santa Fe and Faith-Based Partnerships: Technology for the Underserved

Pershing Place West, Ballroom Level, Westin

The presenter facilitates a discussion about the partnership between Santa Fe College and the faith-based community. Discussed are their collaborative outreach efforts, especially illustrating their success in meeting the technology needs of residents who are left out of the digital revolution.

Karen Cole-Smith, Executive Director, Community Outreach and EGI, Santa Fe College, FL

RECRUITING, RETAINING, AND TRANSITIONING STUDENTS INTO STEM PROGRAMS

Getting Students Ready for College

Chouteau A, Mezzanine Level, Sheraton

This session involves a three-pronged program in which students were introduced to STEM fields such as biology and chemistry and given math and writing enrichment, as well as college success orientation. Most students demonstrated improvements in math and writing placement tests.

Nagash Clarke, Faculty, Chemistry, Washtenaw Community College, MI



STEM Success in North Carolina Community Colleges

Chicago A, Ballroom Level, Sheraton

The NC Community College System is finishing up a strategic initiative called SuccessNC with goals to improve student access to STEM programs, enhance STEM program quality, and increase student success in STEM programs.

Scott Ralls, President; Matthew Meyer, Vice President, Biotechnology, North Carolina Community College System, NC

Unique Approaches to Retaining NSF STEM Scholars

Chicago B, Ballroom Level, Sheraton

Are you interested in how your institution can retain talented STEM students? This session describes the successes and struggles of effectively retaining students in an NSF-funded STEM scholarship program.

Danielle Ducharme, Assistant Professor, Biology, Waubesa Community College, IL

A Musical Garden: Music, Engineering, and STEM Education

Chicago C, Ballroom Level, Sheraton

Participate in a discussion about a collaboration that integrates engineering design, physics, and music for preK through 5th grade children. The project provides research opportunities for undergraduate education in engineering, liberal arts, and teacher preservice training, while serving as a STEM recruitment strategy that engages underrepresented minorities in engineering.

Judith Sullivan, Associate Professor, Music Education; Sally Pardue, Associate Professor, Oakley STEM Center; Dale Wilson, Professor, Mechanical Engineering, Tennessee Technological University, TN

A NSF Math Science Partnership Grant Between KCKCC and KCK-Public Schools

Empire A, Mezzanine Level, Sheraton

KCK Community College and the KCK-Public School collaborated on an NSF MSP grant to host summer institutes in 2011 and 2012 focused on the content, skills and processes in math and science curriculum where past assessment showed lower student achievement. Participants developed their understanding of how science and math support each other and developed hands on activities to help students engage, explore and explain math and science content. A true partnership formed between faculty at the community college and the district.

Enis Alpakin, Professor, Mathematics; Edward Kremer, Dean, Mathematics Science and Computer Technology; James Lyle, Professor, Biological Sciences, Kansas City Kansas Community College, KS; John Scanlan, Teacher Leader, Mathematics Content, Kansas City Kansas Public Schools, KS

TECHNOLOGY SYSTEMS AND APPLICATIONS

Hands-On Project Planning Using an Agile Approach

Pershing Place East, Ballroom Level, Westin

During this PowerPoint-free session, participants use offline and online agile tools to plan their own projects for classroom or business use.

Dave Dalsveen, Instructor, Information Technology Programming, Chippewa Valley Technical College, WI

Empowering Faculty Members and Staff to Teach and Work From Anywhere

Mission, Ballroom Level, Westin

Learn how to incorporate work life and personal life into a natural ebb and flow by working outside the normal college environment. Strategies for developing an open and flexible working model that maximizes remote work satisfaction are shared, as are the associated risks and rewards.

Charles Perkins, Dean, Information Services; Brenda Schartz, Project Coordinator, Information Services, Barton Community College, KS

Virtual Internships for Information Systems Security Training

Pershing Place North, Ballroom Level, Westin

Learn about a first-of-its-kind approach to IT security training that provides students up to 200 hours of hands-on experience through a program that is mapped to popular industry certifications.

Michael Watkins, Director, Instructional Design and Technology, Toolwire, CA

Place Matters! Campfires in Cyberspace Revisited: The Impact of Physical Learning Spaces on STEM Education

Benton AB, Mezzanine Level, Sheraton

**THORNBURG
CENTER**



Pragmatic Visionaries

Participants explore the four primordial learning spaces—the campfire, watering hole, cave, and life—and discuss how learning is structured in these spaces, how the structures apply to the modern classroom, and how school design and classroom reconfiguration can transform STEM learning and teaching. Come experience what we can learn about space, place, and learning processes from science fiction and the tools at our fingertips today.

David Thornburg, Founder and Director, Thornburg Center, IL

E-LEARNING RESOURCES

Increase Student Success With Dynamic Multimedia Content From NBC Learn

Empire B, Mezzanine Level, Sheraton



NBC LEARN

Today's students are visual learners who comprehend by seeing, hearing, and observing events themselves. Learn how to inspire, engage, and stimulate critical thinking skills using high-quality and timely videos from NBC News that provide historical context and real-world perspective.

Bruce Wilson, Director, Higher Education, NBC Learn, NY



❖ 9:15 AM - 10:15 AM (CONTINUED)

Anytime, Anyplace Learning: Learning on the Go

Chouteau B, Mezzanine Level, Sheraton

Anytime, anyplace learning can be achieved through mobile technologies. But the development of complex apps with intricate user interfaces and data structures is very involved because native apps are device and operating system dependent. Is the solution web-based apps?

Michael Qaissaunee, Professor, Engineering and Technology; Norah Kerr McCurry, Director, Teaching and Learning Center, Brookdale Community College, NJ

ROUNDTABLE DISCUSSIONS

All Roundtable Discussions take place in Gillham Hall, Lobby Level, Sheraton

ENERGY, ENVIRONMENT, NATURAL RESOURCES, AND SUSTAINABILITY

STEM Pathway: The Root That Nourishes Energy Careers

Participants discuss the STEM connection to energy, environment, natural resources, and sustainability, and discover where the branches of knowledge can reach and how STEM roots nourish possibilities. Also discussed are the pathways through secondary schools, community colleges, and four-year institutions to meet industry standards.

Joseph Roche, Faculty, Industrial Technology, Metropolitan Community College, MO

TECHNOLOGY, MULTIMEDIA, AND TELECOMMUNICATIONS

What Games Help Students?

Let's discuss what computer games we have found to be useful for our students to create engagement or understanding or both. Find out about some game surveys that may help in selecting games for your classes.

Carol Redfield, Consultant, Computer Science and Computer Information Systems, WebStudy, Inc., PA

RECRUITING, RETAINING, AND TRANSITIONING STUDENTS INTO STEM PROGRAMS

Can a Spreadsheet Class Hook Workforce Students Into College Math

Many workforce students avoid math. Many workforce students also take spreadsheet application classes as part of their program of study. Come learn how spreadsheet class can be used to encourage students to study math.

Margaret Turcott, Assistant Dean and Faculty, Business Technology Systems, Bellevue College, WA

STEM as a Way of Thinking

Come discuss how a stand-alone magnet STEM Academy in its first year builds dynamic relationships with higher education institutions to create problem solving, critical thinkers for STEM fields.

Mark Smith, Dean, STEM and Outreach, Knox County Schools, TN

TECHNOLOGY SYSTEMS AND APPLICATIONS

Making Computer Instruction Meaningful Via Interdisciplinary Connections and Interactive Projects

Participants discuss an engaging and replicable project-based approach to teaching introductory computer classes that includes other disciplines and allows for a deeper understanding of computer and content courses.

Olga Blinova, Instructor, Health, Science and Technology, Hudson County Community College, NJ

E-LEARNING RESOURCES

Creating and Sharing Virtual Field Trips in Environmental Science

Learn about recently created virtual field trips into Florida ecosystems and what it takes to produce and share them. Participants collaborate to produce video field trips with the goal of providing access for students in all involved institutions.

Peter Germroth, Professor, Biology, Hillsborough Community College, FL

Get Students STEM Ready by Blending Traditional and Online Support

Come learn how you can help your students succeed in their first year of college level math and science by combining traditional support methods with online support services, including online tutoring.

Lily Scholz, Manager, Marketing, Tutor.com, NY

❖ 10:15 AM - 12:15 PM

COFFEE BREAK in the Exhibition Hall

Crown Center Exhibition Hall
Mezzanine Level, Sheraton



❖ 11:00 AM - 12:00 PM

TRACK KEYNOTE SESSION

ENERGY, ENVIRONMENT, NATURAL RESOURCES, AND SUSTAINABILITY

Greening the Workforce: Systemic Change to Integrate Emerging Green Skills

Liberty, Ballroom Level, Westin

Learn how 58 North Carolina community colleges collaborated to revitalize and integrate emerging green skills into over 80 vocational and technical programs. Outcomes of this two-year project are shared with session participants.



Robert Grove,
Dean, Sustainability,
Wake Technical
Community College, NC



Sharon Morrissey,
Senior Vice President and Chief
Academic Officer, Academic
Services and Research, NC



Scott Ralls,
President, North Carolina
Community College
System, NC

MONDAY

CONCURRENT SESSIONS

HEALTH AND SCIENCE

Biotechnology Student Portfolios Fulfill Perkins IV Technical Skills Attainment Requirement

Pershing Place South, Ballroom Level, Westin

Learn how STLCC-FV's Biotechnology Program meets the required Perkins IV Technical Skills Attainment assessment with student laboratory notebook-portfolios and end-of-program technical presentations rigorously scored by bioscience industry experts.

Eilene Lyons, Professor, Mathematics, Science, Engineering, and Technology; Rafael Hernandez, Coordinator, Biology, St. Louis Community College at Florissant Valley, MO

MATHEMATICS, ENGINEERING, AND ARCHITECTURE

Integrating Sustainability Into Math Classes: What We Learned

Empire C, Mezzanine Level, Sheraton

This session is best suited for math teachers interested in integrating sustainability into their curriculum. The presenters share resources found while preparing projects for their students. Participants are asked to share their resources as well.

Caroline Goodman, Assistant Professor, Mathematics; Kathleen Lefert, Assistant Professor, Mathematics, Johnson County Community College, KS

MANUFACTURING, INDUSTRY, AGRICULTURE, AND AEROSPACE

Priming the Pipeline With a Return on Investment

Shawnee, Ballroom Level, Westin

Students receive a relevant education and financial support, partnering companies are actively involved in educating their next workforce while producing revenue, and the college provides a self-sustaining instructional model. Win-win-win!

Stan Shoun, President, Ranken Technical College, MO

TECHNOLOGY, MULTIMEDIA, AND TELECOMMUNICATIONS

Learn to Research, Reference, and Write Research Papers With Ease!

Pershing Place West, Ballroom Level, Westin

NoteControl allows students to capture information, take notes, and create citations on the fly; organize that information into folders; select the appropriate bibliography style; and export the content into a Word document.

Dave Hamilton, Educational Advisor, Sales and Training, MatchWare, Inc., FL

RECRUITING, RETAINING, AND TRANSITIONING STUDENTS INTO STEM PROGRAMS

COMPASS Math and Reading Scores and IT Success

Chouteau A, Mezzanine Level, Sheraton

Participants learn how math and reading scores affect students' success in IT courses and how classes can be redesigned to ensure success.

Gwen White, Associate Professor, General Education, Gateway Community and Technical College - KCTCS, KY



❖ 11:00 AM - 12:00 PM (CONTINUED)

Launching New and Innovative Public/Private STEM Learning Exchanges

Chicago A, Ballroom Level, Sheraton

The State of Illinois will present a Race to the Top funded effort to launch new public/private STEM Learning Exchange partnerships targeted to economic development clusters that can be expanded to regional, national, or global partners.

Jason Tyszko, Deputy Chief of Staff, Directors Office, Illinois Department of Commerce and Economic Opportunity, IL

Engineering a Journey: Creating a P-12 STEM Pipeline

Chicago B, Ballroom Level, Sheraton

Learn how our district has created a P-12 STEM pipeline and infused the Common Core into 21st learning. Participants leave with resources they can use to create or sustain a STEM pipeline.

Mark Harrell, Coordinator and Instructor, STEM, Franklin County Public Schools, KY

Increase Your Completion Rate Using Stackable Certificates

Chicago C, Ballroom Level, Sheraton

Failure to complete academic credentials is a nationwide problem. This session demonstrates how stacking certificates help increase completion numbers and enable students to finish credentials in stages.

Ann Beheler, Executive Director, Emerging Technology Grants, Collin College, TX; Deborah Boisvert, Executive Director, BATEC, University of Massachusetts - Boston, MA

THE INTEGRATION OF STEM AND THE LIBERAL ARTS

What Is Our Curriculum Training Students For?

Mission, Ballroom Level, Westin

This session highlights how the goals of a STEM education are best attained by incorporating liberal arts components. Participants discuss data from economic trends and neuroscience trends in learning, and engage in interactive activities that illustrate the ways that liberal arts can benefit the program and learning and serve as teaching devices.

Darci Doll, Instructor, Humanities and Philosophy, Delta College, MI

Art and the Cosmic Connection: Art Inspiring Science Careers

Pershing Place East, Ballroom Level, Westin

NASA and the space industry require diverse talent, including graphic designers, writers, and educators. Participants discuss careers and unusual approaches to motivating students to engage in STE(A)M fields and experience a novel approach themselves!

Whitney Cobb, Education Consultant, Education and Public Outreach, Mid-continent Research for Education and Learning, CO

TECHNOLOGY SYSTEMS AND APPLICATIONS

Teach Instructors to Digitally Fish and Feed Students for Life

Pershing Place North, Ballroom Level, Westin

This session focuses on the benefits of teaching in open, social, and diverse learning environments. Using and illustrating hundreds of free tools that foster these experiences, support collaborative interaction, and personalize learning experiences, this presentation showcases learning experiences that are meaningful to instructors and students.

Jeff Borden, Vice President, Teaching and Learning; Rob Kadel, Supervisor, Pedagogy and Training Group, Pearson, CO

E-LEARNING RESOURCES

Providing Professional Development 24/7: Restructuring How We Deliver Training

Empire B, Mezzanine Level, Sheraton

Innovative Educators Explore tools that can be used to provide 24/7 online training using podcasts, Web conferencing, and videos, which are all critical to creating a dynamic and engaging learning environment. Also discussed is how to use tools to deliver and enhance face-to-face training, online training, and on-demand training.

Valerie Kiesel, Manager, Marketing, Innovative Educators, CO

Making Learning Accessible Using Technology

Chouteau B, Mezzanine Level, Sheraton

This presentation demonstrates a variety of ways to enhance accessibility using Windows 7/8, Mac OSX, and the iPad.

John Neff, Staff Development Specialist, Center for Teaching and Learning; Anthony Marcasciano, Instructional Technologist, Center for Teaching and Learning, Moraine Valley Community College, IL

Professional Development: No Time in Class, No Time in Life

Empire A, Mezzanine Level, Sheraton

With the ever-increasing demands on STEM curricula and classroom time, students often let professional and personal development fall to the way side. This session examines a series of electronically available professional development modules that are designed to be readily integrated and customized into STEM classes.

Mee Joo Kim, Graduate Research Assistant, Education; Denise Wilson, Associate Professor, Electrical Engineering, University of Washington, WA; Rebecca Bates, Associate Professor, Computer Science, Minnesota State University, MN

10 Shots 2 Caffeinate Your STEM Teaching

Benton AB, Mezzanine Level, Sheraton

**THORNBURG
C E N T E R**



Pragmatic Visionaries

More powerful than a cappuccino, this session shares tidbits from presentation gurus, experiences from practicing educators, and the presenter's practical, replicable insights and strategies that you just won't find anywhere else. Participate in this session and receive free resources for developing high quality images, music, video clips, and engaging activities to wake up your own presentations and lectures!

Lynell Burmark, Associate, Thornburg Center, IL



POSTER SESSIONS

All Poster Sessions take place in Empire Prefunction, Mezzanine Level, Sheraton

HEALTH AND SCIENCE

You Can Do It: Implement Service Learning in Your Class

Explore how service learning that encompasses hospice, the Ronald McDonald houses, food pantries, the YMCA, and more is implemented in a science-based college nutrition course with specific student examples and outcomes.

Anna Page, Assistant Professor, Science, Johnson County Community College, KS

MATHEMATICS, ENGINEERING, AND ARCHITECTURE

Implementing E-STEM+2 in an Elementary School Setting

Participants learn how one elementary school has successfully implemented E-STEM+2 in partnership with a local university and local community partners to develop a sustainability model from which the entire school population benefits.

Kathy Short, Teacher, 5th Grade; Susan Jones, Teacher, 5th Grade, Thurman G. Smith Elementary School, AR

MANUFACTURING, INDUSTRY, AGRICULTURE, AND AEROSPACE

Simulating a cGMP-Regulated Industry Atmosphere in a Biotechnology Classroom

Industry needs employees with an understanding of cGMP-regulated work environments. Come learn about a biomanufacturing curriculum that simulates cooperation between production and quality control teams while developing student documentation and communication skills.

Jeff McFarlane, Teacher, Science, Kansas City Kansas Public Schools, KS

RECRUITING, RETAINING, AND TRANSITIONING STUDENTS INTO STEM PROGRAMS

Using Interdisciplinary Field Studies to Recruit and Retain STEM Students

Interdisciplinary field studies can improve scientific literacy and increase students' pursuit of STEM degrees.

This poster session illustrates how field studies actively engage students and provide them with successful experiences in science.

Benjamin Wolfe, Geology Faculty, Natural and Social Sciences; Todd Martin, Faculty, Biology, Metropolitan Community College, MO

Unlikely Bedfellows

Displayed are the findings from an analysis of undergraduate STEM majors (i.e., migration trends) and focus groups. Faculty members, administrators, and state higher education officials can learn how data inform pathways into STEM and how partnerships are being used to better serve students seeking STEM careers.

Erin Knepler, Program Director, Academic Affairs; Nancy Shaprio, Associate Vice Chancellor, Academic Affairs, University System of Maryland, MD

THE INTEGRATION OF STEM AND THE LIBERAL ARTS

A Two-Year, Multidisciplinary Approach to Nanotechnology Concepts

Rio Salado College is infusing an understanding of nanotechnology principles into its two-year general curriculum. This poster session highlights the process used to establish community support and the challenges faced in designing the program for a nontraditional, mostly online population.

Shannon Corona, Chair, Physical Science, Rio Salado College, AZ

TECHNOLOGY SYSTEMS AND APPLICATIONS

Engaging and Encouraging Students With Clickers

Clickers are a fun way to engage students in lessons. Students love using them, and the program is so user friendly that even the busiest of teachers will have sufficient time to create lessons!

Kelly Ferdinand, Teacher, French and English, Oakwood High School, IL

♣ 1:15 PM - 2:15 PM

REFRESHMENT BREAK in the Exhibition Hall

Crown Center Exhibition Hall
Mezzanine Level, Sheraton



❖ 2:15 PM - 3:15 PM

TRACK KEYNOTE SESSION

MANUFACTURING, INDUSTRY, AGRICULTURE, AND AEROSPACE

ASEE Engages Two-Year College Engineering Programs

Liberty, Ballroom Level, Westin

This session summarizes recent efforts by the American Society for Engineering Education to better serve community college faculty and students. An emphasis is placed on facilitating pathways for two-year college students to attain baccalaureate degrees and on assisting community college faculty members to be more competitive at obtaining and managing federal grants.



Norman Fortenberry,
*Executive Director, American Society
for Engineering Education, DC*

CONCURRENT SESSIONS

HEALTH AND SCIENCE

Health IT: New Landmarks in a Difficult to Navigate Profession

Pershing Place South, Ballroom Level, Westin

Significant American Recovery and Reinvestment Act investment in community college health IT program development has resulted in a wealth of curricula, best practices, and new industry relationships. Come join a frank discussion about this promising career pathway.

Patricia Dombrowski, Director, Life Science Informatics Center, Bellevue College, WA; Norma Morganti, Executive Director, Midwest Community College Health Information Technology Consortium, Cuyahoga Community College, OH; Kim Sayles, Director, Region B Health IT Workforce Training, Los Rios Community College District, CA; Kay Gooding, Project Director, Region D HITECH Workforce Training, Pitt Community College, NC; Gretchen Lefever, Director, Health Information Consortium, Tidewater Community College, VA; Chitra Mohla, Director, Community College Workforce Program, Office of the National Coordinator for Health Information Technology, DC

MATHEMATICS, ENGINEERING, AND ARCHITECTURE

Critical Thinking: A Multidisciplinary STEM Requirement

Empire B, Mezzanine Level, Sheraton

The focus of industry, government, and educational institutions on STEM inherently implies multidisciplinary content. Examples of critical thinking and hands-on activities for high school through college students that cross many traditional disciplines are presented to

enhance participants' understanding of these approaches and how to apply them.

Deb Newberry, Director, Nano Science, Dakota County Technical College, MN

A Public-Private Collaboration for Improving Middle Grades Mathematics

Empire C, Mezzanine Level, Sheraton

Learn how the SunBay Math partnership leveraged technology through its curricular activity system to impact student learning of key concepts in middle grades mathematics and change middle grades teaching.

Vivian Fueyo, Professor, Childhood Education; George Roy, Assistant Professor, Mathematics Education; Zafer Unal, Assistant Professor, Childhood Education, USF St. Petersburg, FL; Philip Vahey, Senior Research Scientist, SRI International, CA

TECHNOLOGY, MULTIMEDIA, AND TELECOMMUNICATIONS

Using Cell Phones and Existing Technology to Eliminate Wait Lines

Pershing Place West, Ballroom Level, Westin

Wherever lines form, from financial aid and health clinics to advising and counseling, students use their cell phones. Participants consider a strategy for eliminating student and staff stress, waiting lines, and waiting rooms using student cell phones, thereby providing students with more time to study. Actual QLess clients discuss their implementation and usage and provide a real-time, internet-based demonstration.

Alex Backer, Founder and CEO, Executive; Dick Rubinstein, Director, Marketing, QLess Inc, CA



RECRUITING, RETAINING, AND TRANSITIONING STUDENTS INTO STEM PROGRAMS

Recruiting Women Into STEM programs

Chouteau A, Mezzanine Level, Sheraton

Recruiting women into STEM programs, where they are significantly underrepresented, can be accomplished through the use of technology for the benefit of faculty, industry, and the community.

Joann Gushue, Associate Professor, Business and Technology, Suffolk County Community College, NY

Creating Accessible Field Experiences for Students With Disabilities

Chicago A, Ballroom Level, Sheraton

This session focuses on the technical and practical issues related to making field work, a high impact practice in STEM, accessible to students with complex physical disabilities.

Elizabeth Watson, Director; George Clokey, Instructor, Biological Sciences, University of Wisconsin - Whitewater, WI

Beyond Articulation: STEM Transition Guides for a Smooth Transfer Experience

Chicago B, Ballroom Level, Sheraton

Learn how STEM faculty on both ends of the transfer bridge benefit from the Biology Transition Guide (2011) and the new Chemistry Transition Guide written by teams of community college and university faculty for successful student transfer.

Jeffrey Weld, Director, Iowa Mathematics and Science Education Partnership, University of Northern Iowa, IA

The Role of Noncognitive Variables on Community College Student Success

Chicago C, Ballroom Level, Sheraton

This session examines the application of noncognitive variables in a study of student success in mathematics. Come find out how the affective domain can be used to help identify at-risk students.

David Keller, Professor, Mathematics, Kirkwood Community College, IA

THE INTEGRATION OF STEM AND THE LIBERAL ARTS

Architectural Technology and the Performing Arts: A Model of Collaboration

Mission, Ballroom Level, Westin

Come see the marriage of the world's two oldest professions! Combining the technological innovations in architecture and theatre has enabled us to create an exciting new opportunity for students.

Michelle Rebollo, Professor, Communications and Theatre; Mary Huelsmann, Associate Professor, Architecture; Angela Grupas, Acting Dean, Mathematics and Communications, St. Louis Community College at Meramec, MO

Integrated STEM: Building Transdisciplinary Programs

Shawnee, Ballroom Level, Westin

Learn how to integrate STEM into your programs using a tool developed by the Silicon Valley Education Foundation and by engaging the community through partnerships and volunteerism. Participants discuss integrating their programs focused mostly on math and science with technology and engineering programs by focusing on real-world relevant problems and project-based learning.

Amy Wong, Director, STEM Integration; Muhammed Chaudhry, President and CEO, Silicon Valley Education Foundation, CA

Literature as a Geology Guide

Pershing Place East, Ballroom Level, Westin

Learn why the rich descriptions of Texas landscape provided in the novels by writers such as McMurtry and Michener are the perfect backdrops to lessons about geology.

Pamela Auburn, Adjunct Faculty, Chemistry, Lone Star College System, TX

The MastersTree: Transforming Learning Through STEM+ARTS Integration

Benton AB, Mezzanine Level, Sheraton

**THORNBURG
CENTER**



Pragmatic Visionaries

The MastersTree model uses digital learning to connect students with field professionals and streamline pathways for the real-world application of common core standards and college and career readiness. Participants learn about career academies and career pathways focused on broadening participation in STEM+ARTS, as well as how to effectively leverage the professional expertise of the private sector to support educational initiatives.

Ferdi Serim, Associate, Thornburg Center, IL

TECHNOLOGY SYSTEMS AND APPLICATIONS

Using Curriculum Mapping to Improve Learning

Pershing Place North, Ballroom Level, Westin

Curriculum mapping is a process well recognized as part of the assessment cycle. During this session, participants are introduced to several uses for curriculum mapping beyond just the alignment of curriculum.

Rachel Cubas, Academic Consultant, Pearson eCollege, CO

E-LEARNING RESOURCES

More Coding, Less Grading

Chouteau B, Mezzanine Level, Sheraton

Using CodeLab, an online application for beginning programmers, students type in code and receive immediate feedback. After a brief overview of the application and discussion about how it is being used, a demonstration of the student experience is provided. After the student-side demonstration, the teacher-side functionality is demonstrated, including customizations made by JCCC.

James Van Horn, Assistant Professor, Computing Sciences and Information Technology; Steve Hansen, Professor and Co-Chair, Information Systems, Johnson County Community College, KS



❖ 2:15 PM - 3:15 PM (CONTINUED)

E-Portfolios for Early Student Success

Empire A, Mezzanine Level, Sheraton

Come explore how electronic portfolios can be used to target and address risk factors in students' early college experiences.

Carol Redfield, Consultant, Computer Science and Computer Information Systems; Gisele Larose, President, Marketing, WebStudy, Inc., PA

ROUNDTABLE DISCUSSIONS

All Roundtable Discussions take place in Gillham Hall, Lobby Level, Sheraton

HEALTH AND SCIENCE

How Effective Is the Anatomy Glove Learning System (AGLS)?

AGLS is an educational tool used to improve student's three-dimensional comprehension of hand anatomy. Learn how AGLS is used in the classroom and how its effectiveness is measured.

Kristina Wakimoto, Professor, Hospitality Recreation and Tourism, Humber College Institute of Technology and Advanced Learning, ON, Canada

TECHNOLOGY, MULTIMEDIA, AND TELECOMMUNICATIONS

Humanizing Online Instruction

Online learning can be a wonderful way of learning or an isolating experience. This session explores the ways instructors can put the personal or human factor back into online instruction.

Robert Klepper, Professor, Chemistry, Iowa Lakes Community College, IA

RECRUITING, RETAINING, AND TRANSITIONING STUDENTS INTO STEM PROGRAMS

Growing the Pipeline: One College's Commitment to Institutionalizing STEM Programming

In 2011, Georgia Perimeter College established an Office of STEM Initiatives to oversee all STEM activities collegewide. The executive director of that office leads a discussion about its accomplishments and challenges of institutionalizing STEM programs across five campuses.

Cynthia Lester, Faculty, STEM Initiatives, Georgia Perimeter College, GA

Lessons Learned From The Bi-State Bioscience Consortium

Century C, Ballroom Level, Westin

This presentation focuses on the partnership developed between JCCC, KCKCC, and MCC for faculty development. Faculty from area schools collaborated on curriculum development and professional development in the

bioscience, forensic science, and safety areas. The lessons learned, steps taken, and ways to pursue future consortiums are presented.

Elisabeth Kasckow, Associate Professor, Biological Sciences; Edward Kremer, Dean, Mathematics Science and Computer Technology, Kansas City Kansas Community College, KS

THE INTEGRATION OF STEM AND THE LIBERAL ARTS

The Humanities in STEM: An Interdisciplinary Approach for Student Success

Explore the premise that targeted humanities courses enhance and invigorate the STEM curriculum for greater student interest, retention, and success. See model syllabi and experience a sample unit project. Share ideas and best practices for humanities course integration into your college's STEM program.

Joan Erben, Professor, Communications, New Mexico State University - Grants, NM

BEST: Boosting Engineering, Science, and Technology

Participants learn how State Fair Community College inspires students to pursue careers in engineering, science, and technology through participation in a sports-like science and engineering based robotics competition.

Kevin Dinsdale, Director, Career and Technology Center, State Fair Community College, MO

TECHNOLOGY SYSTEMS AND APPLICATIONS

LMS Transitions: Faculty Test Pilots Fly High and Land Smoothly

LMS transitions can be turbulent. Raritan Valley Community College's recent successful transition was piloted by faculty members for faculty members. Come learn how, with faculty-driven training, the transition was managed smoothly over a single semester.

Lynne Kowski, Professor, Mathematics; Melanie Morris, Associate Professor, Business Law, Raritan Valley Community College, NJ

❖ 3:30 PM - 4:30 PM

CONCURRENT SESSIONS

HEALTH AND SCIENCE

Tips for Student Independent/Capstone Projects

Pershing Place South, Ballroom Level, Westin

Participants discuss how to convince advisory members to become mentors and to be actively involved in student learning. Topics include contacting members of the community for assistance, research, and presentation tips. Also included is a discussion about how to grade projects that involve considerable diversity.

Nimisha Sweetman, Instructor, Biomedical Sciences, Pioneer Technology Center, OK; Jackie Archer, Instructor, Biomedical Sciences, Great Plains Technology Center, OK; Tina Fugate, Specialist and Cluster Leader, Mathematics, Science, and STEM, Oklahoma Department of Career & Technology Education, OK



MATHEMATICS, ENGINEERING, AND ARCHITECTURE

Discovering Nonlinear Dynamics Flavor in Precalculus Courses

Empire B, Mezzanine Level, Sheraton

Composition of functions is essential in intermediate algebra and college algebra courses. Mathematica allows students to study self compositions so that some aspects of nonlinear dynamics can be visualized. Facilitators of precalculus courses will find this session useful.

Andreas Soemadi, Faculty, Mathematics and Science, Kirkwood Community College, IA

Improving Engineering Education Using More Inclusive and Relevant Course Sequencing

Empire C, Mezzanine Level, Sheraton

This presentation proposes alternative methods for course sequencing that are more inclusive, improve retention, and provide for a greater duration of engineering-focused education. Described are the motivations for and theory behind restructuring the course sequencing, and the advantages and disadvantages are discussed. Participants also discuss how this new structure can be applied to their own disciplines.

James Poe, Assistant Professor, Engineering, Miami Dade College - Wolfson Campus, FL

MANUFACTURING, INDUSTRY, AGRICULTURE, AND AEROSPACE

Manufacturing Career Pathways: Why Exemplary Career Pathway Programs Work

Shawnee, Ballroom Level, Westin

Educators, business and industry representatives, and administrators learn what makes exemplary career pathways programs work. Variables discussed include employer involvement, instructional transformation, support services, partnerships, continuous improvement, and sustainability.

Federico Zaragoza, Vice Chancellor, Economic and Workforce Development, Alamo Colleges, TX; Beverly Hilderbrand, Director, Consortium for Alabama Regional Center for Automotive Manufacturing, Gadsden State Community College, AL; Stanley Chase, Consultant, AMTEC, Kentucky Community and Technical College System, KY; Katherine Manley, Professor, Teacher Education, Ferris State University, MI

RECRUITING, RETAINING, AND TRANSITIONING STUDENTS INTO STEM PROGRAMS

Leveraging Partnerships to Provide Comprehensive Community-Based STEM Recruiting Events

Chouteau A, Mezzanine Level, Sheraton

Using a Gantt chart, itineraries, public relations materials, surveys, and welcome speeches, participants plan a STEM event that incorporates partnering with school districts, higher education institutions, and business and industry partners. Each component is aimed at a different audience to encompass a community.

Jo Duncan, Director, Center of Excellence in Science; Carmen Navca-Fischer, Associate Director, Center of Excellence in Science, St. Philip's College, TX

Stimulating an Interest in STEM in Economically Disadvantaged High School Students

Chicago A, Ballroom Level, Sheraton

This discussion provides high school and college instructors with an innovative and collaborative method for stimulating STEM interest in high school students and transitioning them into college and STEM careers.

Lenore Mangles, Dean, Health Occupations, Nicolet Area Technical College, WI

Engage and Retain More STEM Students Through Experiential Learning

Chicago B, Ballroom Level, Sheraton

Learn how online experiential learning solutions enable institutions to provide virtual internships for learners seeking real-world experiences across healthcare, engineering, and IT while still in school.

Michael Watkins, Director, Instructional Design and Technology, Toolwire, CA

Entice and Excite: Using Hands-On Activities to Promote STEM

Chicago C, Ballroom Level, Sheraton

This presentation highlights our college's outreach programs that have been designed to provide K-12 students with the opportunity to explore nontraditional STEM careers through hands-on activities. Successful themes and activities are presented in hopes that you will be inspired to host similar events on your campus.

Tanya McGhee, Chair, Science and Mathematics, Craven Community College, NC

THE INTEGRATION OF STEM AND THE LIBERAL ARTS

National Best Practices K-12 STEM Curriculum for All Students

Pershing Place East, Ballroom Level, Westin

The STEM Academy is a national nonprofit organization dedicated to improving STEM literacy for all students. The Academy represents a nationally recognized, next-generation, high-impact academic model. The practices, strategies, and programming are built upon a foundation of identified national best practices.

Alan Gomez, Chief Academic Officer, Engineering, The STEM Academy, MO

Integrating Critical Thinking Practices Into Science Education

Mission, Ballroom Level, Westin

The session begins with a visual presentation of fundamental critical thinking concepts, followed by a discussion about how to use curriculum expectations to develop unifying questions that are conducive to critical thinking. Examples of this strategy are presented and a template for the strategy is distributed.

Bernard Ho, Professor, Liberal Arts and Science, Humber College Institute of Technology and Advanced Learning, ON, Canada



✿ 3:30 PM - 4:30 PM (CONTINUED)

The Art of Storytelling and STEM: Fostering STEM Thinking and Project Design Through Storytelling

Benton AB, Mezzanine Level, Sheraton

**THORNBURG
CENTER**



Pragmatic Visionaries

Bring the power of storytelling to bear in your STEM classroom by helping students develop their own stories, create their own projects, and engage in critical thinking, problem solving, collaboration, and effective communication.

Sara Armstrong, Associate, Thornburg Center, IL

TECHNOLOGY SYSTEMS AND APPLICATIONS

Building Syllabi Off of Approved Competencies

Pershing Place North, Ballroom Level, Westin

Participants explore a course approval process that allows for the creation and submission of syllabi. Come discuss how syllabi connect to larger program and institutional outcomes and how instructors are free to customize components as college-approved core competencies remain intact.

Robin Nickel, Associate Director, Marketing, Worldwide Instructional Design System, WI

E-LEARNING RESOURCES

Providing 24/7 Student Services

Empire A, Mezzanine Level, Sheraton

Innovative Educators

Supporting Academic & Professional Growth In Higher Ed

Participants explore a series of online tools faculty members and staff can use to provide 24/7 resources for students, including the use of podcasts, Web conferencing, and videos. Come learn innovative and cost-effective strategies that will help your students achieve their academic, personal, and career goals.

Valerie Kiesel, Manager, Marketing, Innovative Educators, CO

Making STEM Grow With Web 2.0

Chouteau B, Mezzanine Level, Sheraton

Web 2.0 transforms STEM instruction by encouraging student discovery and creativity. This presentation illustrates some free Web 2.0 tools and best practices for their use.

Gail Krovitz, Director, Academic Training and Consulting, Pearson eCollege, CO

Creating MindMaps and Concept Maps to Improve Critical Thinking Skills

Pershing Place West, Ballroom Level, Westin

MindView helps facilitate students' analytical thinking, comprehension, creativity, and writing skills. Learn how to rapidly visualize and organize ideas and integrate them with Word, PowerPoint, and Excel. Also discussed are creating timelines and Gantt charts.

Dave Hamilton, Educational Advisor, Sales and Training, MatchWare, Inc., FL

ROUNDTABLE DISCUSSIONS

All Roundtable Discussions take place in Gillham Hall, Lobby Level, Sheraton

HEALTH AND SCIENCE

Using Team-Based Learning to Flip the Allied Health Classroom

Learn how the team-based learning approach has increased pre-allied health student success and allowed for more class time spent on critical thinking and interdisciplinary work.

Heather Seitz, Assistant Professor, Science, Johnson County Community College, KS

RECRUITING, RETAINING, AND TRANSITIONING STUDENTS INTO STEM PROGRAMS

Cockroach Neural Recordings to Explore Basic Neuroscience

Discussed is using low cost amplifiers in a series of exciting and affordable entry level brain recording kits that provide the ability for students of all ages to learn about neurons.

Ulises Ricoy, Director, Biology and Chemistry, Northern New Mexico Community College, NM

THE INTEGRATION OF STEM AND THE LIBERAL ARTS

Visualization and Movie Making: An Extension of Formative Assessment

Ready, set, action! Come learn how the Science Concept Visualization Movie Making Project used as a type of formative assessment improved students STEM knowledge, skills, and literacy. Popcorn is provided!

David Majerich, Research Scientist, Design and Intelligence Laboratory, Georgia Institute Of Technology, GA

5Ws + H Applied Online: Old-School Journalism Newly Defined

Participants seeking objective analytical tools discover new cross-disciplinary digital research applications for old-school journalism's who, what, where, when, why, and how.

Katherine Watson, Professor, Distance Learning, Coastline Community College, CA

Demystifying Database Technology With Interdisciplinary Computer Science-Business Curriculum Development

Database study is often perceived as requiring programming and networking skills, thus discouraging many students from enrolling in database courses. Participants discuss how interdisciplinary curriculum integrating productivity software attempts to change that perception.

Susumu Kasai, Professor, Computer Science and Information Systems, Salt Lake Community College, UT



E-LEARNING RESOURCES

Humanizing Online Instruction

Online learning can be a wonderful experience or an isolating experience. The design of the course materials and the interaction with the instructor determines the outcome early in the course. Roundtable participants discuss various ways to bring the human aspect back into online instruction.

Robert Klepper, Professor, Chemistry, Iowa Lakes Community College, IA

❖ 4:45 PM - 5:45 PM

SPECIAL SESSION

RECRUITING, RETAINING, AND TRANSITIONING STUDENTS INTO STEM PROGRAMS

Replacing Ready, Aim, Fire With Research, Inform, Action!



Liberty, Ballroom Level, Westin

The Kansas City STEM Alliance and the Kansas City Area Education Research Consortium collaborate with schools and nonprofits to recruit and transition youth into STEM programs across the metropolitan area. Come explore how research with local students, schools, out-of-school programs, and community volunteers informs program decisions and illustrates a return on investment of resources leveraged by businesses, K-12 schools, higher education, and foundations. Also participate in discussions about how what Kansas City is learning can be translated to inform efforts in your region.

Laura Loyacono, Executive Director, Kansas City STEM Alliance, MO; Leigh Anne Taylor Knight, Executive Director, Kansas City Area Education Research Consortium, KS

CONCURRENT SESSIONS

HEALTH AND SCIENCE

STEM on a Plate: Using Nutrition for Learning STEM

Pershing Place South, Ballroom Level, Westin

During this session, participants engage in a number of activities that were part of the 2012 i-STEM summer institute, including how nutrition can be used to integrate STEM for teaching and learning.

Louis Nadelson, Associate Professor, Education; Sandra Nadelson, Associate Professor, Health Science, Boise State University, ID; Anne Seifert, STEM Education Coordinator, Education Outreach, Idaho National Laboratory, ID

ENERGY, ENVIRONMENT, NATURAL RESOURCES, AND SUSTAINABILITY

How Can We Help You Educate the Next Energy Practitioners

Chicago C, Ballroom Level, Sheraton

Gain inspiration from a program that successfully combines top Lane Community College instructors, materials, and technology with a remote community college program cohort where downlink students also benefit from their own local campus instructors, systems, and materials.

Josh Manders, Project Specialist, Science and Energy Management; Roger Ebbage, Director, Energy and Water Programs, Lane Community College, OR

MATHEMATICS, ENGINEERING, AND ARCHITECTURE

Build Your Own Quadcopter: A High School Engineering Camp

Empire B, Mezzanine Level, Sheraton

Participants learn how community colleges can engage high school students in STEM using quadcopters as a platform in a contextual learning summer engineering camp.

Terence Fagan, Chair, Engineering Technology, Central Piedmont Community College, NC

New Resources for New Approaches to Mathematical Literacy

Empire C, Mezzanine Level, Sheraton

Learn how pilot colleges are leveraging digital resources from the nonprofit NROC project as they explore new instructional models to support and engage students reaching for college and career opportunities.

Terri Rowenhorst, Director, Membership, National Repository of Online Courses, CA; Bruce Johnson, Director, Mathematics; Shana Neeley, Program Director, Mathematics, Central Piedmont Community College, NC; Patricia Burke-Williams, Facilitator Coach Mentor, College Readiness Centers, Sinclair Community College, OH

MANUFACTURING, INDUSTRY, AGRICULTURE, AND AEROSPACE

Cradle to Career: One College's Holistic Path to STEM Employment

Shawnee, Ballroom Level, Westin

This session highlights how St. Louis Community College developed and supports an on-campus building for STEM-focused workforce development. Learn how college resources, talent, and time can efficiently and effectively support workforce development.

Jean Pollard, Manager, Engineering and Technology; Ashok Agrawal, Vice President, Mathematics, Science, Engineering, and Technology, St. Louis Community College at Florissant Valley, MO



4:45 PM - 5:45 PM (CONTINUED)

TECHNOLOGY, MULTIMEDIA, AND TELECOMMUNICATIONS

Fallin' in Love With Prezi

Pershing Place West, Ballroom Level, Westin

Do you hate PowerPoint? Come fall in love with Prezi, an eye-appealing tool for zooming and sharing ideas on a virtual canvas versus traditional slides. Participants learn how to create a Prezi presentation, see examples of presentations, and discuss the proper time and place to use Prezi. Participants are encouraged to bring their laptops to this session.

Steve Sinclair, Consultant, Talent Development, Northeast Wisconsin Technical College, WI

The Role of Mobile Technologies in STEM Education

Benton AB, Mezzanine Level, Sheraton

THORNBURG CENTER



Pragmatic Visionaries

The explosion of mobile technologies provides amazing opportunities for educators at all levels to transform their practice in support of student projects and inquiry. This session explores the rapid growth of these technologies, some of the infrastructure issues they cause, and concrete connections to STEM subjects facilitated by the devices students bring with them in their pockets and backpacks.

David Thornburg, Founder and Director, Thornburg Center, IL

Going Mobile! Inside the recent updates to CompTIA's A+ Certification

Mission, Ballroom Level, Westin

CompTIA's updated A+ certification was released in early October and has been updated and restructured to include performance based questions, as well as content on the latest technologies, including mobile devices. Successful graduates will need to have their skills documented skills by industry recognized credentials as they face the daunting task of finding that first post-college job. The CompTIA Academy program was designed to assist innovative schools and educators offer those valuable credentials to their students at the lowest costs possible. Classroom educators and administrators should attend this session to get the latest information on VUE Testing, CompTIA's Academy program and its family of globally recognized vendor neutral certifications.

Alan Rowland, Business Development Manager, Education; Brian Matzelle, Sales Manager, Program Management, CompTIA, IL

RECRUITING, RETAINING, AND TRANSITIONING STUDENTS INTO STEM PROGRAMS

STEM High Schools That Engage and Motivate Students

Chouteau A, Mezzanine Level, Sheraton

Preview New Tech Network STEM high schools in over 20 states using one-to-one technology, project-based

learning, and community partnerships to successfully engage students in STEM across the curriculum.

Alan Veach, Director, New School Development and Planning, New Tech Network, CA

Choose Ohio First: A Comprehensive Model for STEM Success

Chicago A, Ballroom Level, Sheraton

Participants consider the state of Ohio's model for STEM education. Local university-based programs, including an access and completion approach and a focused workforce-based approach, are analyzed.

Briana Hervet, Director, Choose Ohio First, Ohio Board of Regents, OH; Jeff Handley, Technical Consultant, Choose Ohio First, Ohio University, OH

Quality Dual Credit: What Choices Do You Have?

Chicago B, Ballroom Level, Sheraton

When designing a dual credit program, when should the college have control and when should the high school be in control? Come find out how, after some atypical choices, our college algebra partnership is still growing.

Steven Wilson, Professor, Mathematics; Mary Deas, Associate Professor, Mathematics; Craig Jaggard, Adjunct Professor, Mathematics, Johnson County Community College, KS

TECHNOLOGY SYSTEMS AND APPLICATIONS

Integrating Computer Science Undergrads Into DOD IT challenges

Pershing Place North, Ballroom Level, Westin

IT professionals are sought from overseas because U.S. students lack the skills to compete for certain jobs. The presenters discuss why mentoring and coaching young computer science students to work on par with IT professionals in DOD-related challenges takes planning, effort, and time.

Tony Kendall, Faculty, Computer Science; Arijit Das, Research Faculty, Computer Science, Naval Postgraduate School, CA

Free Web 2.0 Applications to Foster Student Engagement

Pershing Place East, Ballroom Level, Westin

Participants learn quick and easy ways to incorporate Web 2.0 applications into online and face-to-face courses to more effectively engage students and increase their enthusiasm.

Paulette Comet, Associate Professor, Applied and Information Technology; Susan Maggio, Instructor, Applied and Information Technology, The Community College of Baltimore County, MD

E-LEARNING RESOURCES

Cell Phones in the Classroom: Collaborative or Calamitous?

Empire A, Mezzanine Level, Sheraton

Through comedy, surprising statistics, and audience participation, learn to harness the power of SoftChalk and a wide variety of free technologies that make effective use of smartphones as learning tools.

James May, Professor and Chair, English as a Second Language, Valencia College, FL



Closing the Revolving Door: A Paradigm Shift in Remedial Math

Chouteau B, Mezzanine Level, Sheraton

Discussed is a pilot project that couples comprehensive teacher professional development with innovative computer-guided math instruction that may be the answer for addressing the issue of the revolving door in math remediation.

Christos Valiotis, Professor, Mathematics, Science, and Engineering;
Tooraj Gordi, Professor, Mathematics, Science, and Engineering,
Antelope Valley College, CA

ROUNDTABLE DISCUSSIONS

All Roundtable Discussions take place in Gillham Hall, Lobby Level, Sheraton

HEALTH AND SCIENCE

Paving Student Success in STEM Through Research Learning

The main goal of the Biotechnology Research Learning Collaborative relies on the training of underrepresented undergraduate STEM students using research learning as the main tool. Participants learn how this model has been applied and how this could be used with your students.

Edwin Gines-Candelaria, Professor, Natural Sciences, Health, and Wellness, Miami Dade College - Wolfson Campus, FL

MATHEMATICS, ENGINEERING, AND ARCHITECTURE

Teaching and Assessing Mathematical and Scientific Communication

Many institutions have a collegewide learning outcome that focuses on effective communication. This roundtable discussion focuses on how to teach and assess the communication outcome in math and chemistry.

Lori Slavin, Associate Professor, Chemistry; Brenda Edmonds, Associate Professor, Mathematics, Johnson County Community College, KS

STEM Is More Than S and M for Technology Students

Participants discuss innovative and interesting ways to make technology and engineering the hub of well-rounded STEM curriculum.

Dorian McIntire, Program Coordinator, General Engineering Technology, Tri-County Technical College, SC

RECRUITING, RETAINING, AND TRANSITIONING STUDENTS INTO STEM PROGRAMS

How I Learned About Computer Science Without Even Trying

Many students declaring majors in computer science have little understanding about the discipline. Participants discuss ways students can be introduced to computer science topics while supporting existing curriculum and standards.

J. Ben Schafer, Associate Professor, Computer Science, University of Northern Iowa, IA

THE INTEGRATION OF STEM AND THE LIBERAL ARTS

A World Not Flat: Think Spherically and Beyond

Participants engage in spherical thinking to address academic problems with four dynamic means for arguing from alternative transdisciplinary perspectives to achieve actionable consensus.

Katherine Watson, Professor, Distance Learning, Coastline Community College, CA

E-LEARNING RESOURCES

Digital Literacy: A STEM Online Foundation Course

Through professional learning community collaborations, the innovative Digital Literacy Personal Learning Network course serves as the technology foundation for the STEM environment. Course content and design are shared with K-12 educators.

Susan Hall, Media Specialist, Library Media, National Inventors Hall of Fame School, OH

Project-Based Learning of Engineering: Students' Perspectives

Roundtable discussion participants examine examples of students' projects on various aspects of engineering. The benefits of project-based service learning are discussed, especially projects involving inter-college collaboration.

Davaughn Jackson, Student, Engineering, Northwest Arkansas Community College, AR

♣ 5:45 PM - 7:00 PM

RECEPTION
in the Exhibition Hall

Crown Center Exhibition Hall
Mezzanine Level, Sheraton



TUESDAY, OCTOBER 30, 2012

7:00 AM - 7:00 PM Registration
Grand Ballroom Prefunction
Ballroom Level, Sheraton

✦ 8:00 AM - 9:00 AM

TRACK KEYNOTE SESSION

HEALTH AND SCIENCE

MoHealthWINS: Today's Training for Today's Jobs

Liberty, Ballroom Level, Westin

Come learn about the innovation behind building a talent pipeline with TAA-eligible, unemployed, underemployed, and low-skilled adult students for Missouri's healthcare industry in accelerated grant-funded job training programs.



Dawn Busick,
Project Director, MOHealthWINS, MO

CONCURRENT SESSIONS

ENERGY, ENVIRONMENT, NATURAL RESOURCES, AND SUSTAINABILITY

Upper Cumberland Rural STEM Initiative: Transforming STEM Career Paths

Empire A, Mezzanine Level, Sheraton

Come explore a Tennessee STEM Innovation Network project focused on infusing PreK-8 schools with place-based, integrated STEM learning modules in energy, water, agriculture, and health via a rural 21-county industry/community, postsecondary education, and K-12 education hub partnership covering more than 5,600 square miles.

Sally Pardue, Associate Professor, Oakley STEM Center, Tennessee Technological University, TN

MATHEMATICS, ENGINEERING, AND ARCHITECTURE

Ready, Set, Go! Building Developmental Mathematics Readiness Through Adaptive Technology

Empire B, Mezzanine Level, Sheraton

Nationally, students struggle with developmental mathematics. This session explores how innovative solutions using adaptive mathematics software has improved student preparedness at the University of Phoenix.

Clifton Luke, Vice President, Apollo Group, AZ; Brianna Bendotti, Vice President, Community College Partnerships, University of Phoenix, AZ

TECHNOLOGY, MULTIMEDIA, AND TELECOMMUNICATIONS

Digispired ii: Workforce Investigation Inspiration for STEM (WiiSTEM)

Pershing Place East, Ballroom Level, Westin

Digispired ii is a novel strategy to develop students' understanding and appreciation of STEM careers.



Participants learn what game development methods work and discuss the challenges associated with using game development to increase interest in STEM careers.

Seung Yang, Associate Professor, Information Technology, Georgia Gwinnett College, GA

Elements of a Mobile Faculty Strategy

Pershing Place South, Ballroom Level, Westin

This presentation will share the process of building infrastructure at Johnson County Community College to provide support for faculty using mobile technologies, and how faculty have begun to take advantage of these services.

Sandra Warner, Deputy CIO and Director, Administrative Computing Service; Vincent Miller, Director, Educational Technology; Matthew Holmes, Director, Network Services, Johnson County Community College, KS

TECHNOLOGY LOVES DESIGN: VITAL RELATIONSHIPS IN DEVELOPING INTERACTIVE MEDIA

Pershing Place West, Ballroom Level, Westin

Interactive media plays a critical role in the development of online instruction. When technology, particularly programming, and designing multimedia applications work in harmony, they support student success. Participants discuss how, when done correctly, this seamless union goes virtually unnoticed, and why that's a good thing!

Krissy Mayes, Graphic Designer and Instructional Technologist, Distance Learning and Instructional Support; Matt Brestelli, Web Designer and Instructional Technologist, Distance Learning and Instructional Support, Sinclair Community College, OH

Jazz of Innovation: Tuning Creative Skills for Meeting Technology Challenges

Chouteau A, Mezzanine Level, Sheraton

Science and technology leaders focusing on innovation must create an environment where the best ideas create value. Similar to the elements of jazz that include varying degrees of improvisation, this session examines how you can jazz up your organization's ability to innovate by liberating people, triggering accidental discoveries, and encouraging improvisation.

Karen Ivy, Assistant Professor, Business and Professional Studies, Ashford University, IA

RECRUITING, RETAINING, AND TRANSITIONING STUDENTS INTO STEM PROGRAMS

Feeding the Pipeline: Community Approach to Engaging Girls in STEM

Chicago A, Ballroom Level, Sheraton

With women's representation low at all levels of the STEM career pipeline, the Girl Scouts shares a model for

partnering with schools and local industry to inspire girls to consider STEM careers.

Emily Webb, Program Manager, STEM Program, Girl Scouts of Northeast Kansas and Northwest Missouri, MO

Collaboration for Successful College Math Preparation

Chicago B, Ballroom Level, Sheraton

The presenters lead a discussion about how State Fair Community College and the Sedalia School District 200 work together to improve college math preparation with a special high school project. Participants receive a copy of the Successful College Math Preparation booklet.

Patricia Gillman, Director, College and Career Readiness; Brent Bates, Vice President, Academics and Student Services Support, State Fair Community College, MO; Kristee Lorenz, Director, District Educational Support, Sedalia School District 200, MO

THE INTEGRATION OF STEM AND THE LIBERAL ARTS

Teach STEM With Social Interactive Reading and Readers Theater!

Mission, Ballroom Level, Westin

Laugh while you learn how social interactive reading and reader's theater engage students and are valuable for teaching STEM material memorably! This fun workshop provides tools for successful implementation.

Dianna Cleveland, President, Read to Achieve, CA

TECHNOLOGY SYSTEMS AND APPLICATIONS

Nano Experiences: High School to Community College to Nanotechnology Workforce

Pershing Place North, Ballroom Level, Westin

Explore an education model that is building a school to workforce pipeline by introducing engaging high-end nanoscience and technology content that also connects students with business mentors while building presentation and communication skills.

Whitney Cobb, Education Consultant, Education and Public Outreach, Mid-continent Research for Education and Learning, CO

E-LEARNING RESOURCES

A Novel System for Project-Based Service Learning

Chouteau B, Mezzanine Level, Sheraton

A new web-based system leveraging student works beyond the grade is demonstrated using examples of project-based service learning from various disciplines. Participants are encouraged to bring a laptop to learn new educational tools that engage students in learning, reward creativity, and provide support for student projects.

Michael Zelin, Professor, Mathematics and Science; Chris Huggard, Professor, Social and Behavioral Sciences, Northwest Arkansas Community College, AR



♣ 8:00 AM - 9:00 AM (CONTINUED)

Pathways to the Future: Six Strategies for Evaluating Tomorrow's Educational Tools Today

Benton AB, Mezzanine Level, Sheraton

**THORNBURG
CENTER**



Pragmatic Visionaries

Educational institutions spend money on technology that often fails to meet expectations or to be used at all. It may surprise you to learn that 50 percent of all software implementations in industry fail to meet cost, time, and/or effectiveness standards as well. This session is based on a doctoral-level course on the subject of effectively using technology. Discover six tools you can use to increase the odds that your educational technology investments will return value over time.

David Thornburg, Founder and Director, Thornburg Center, IL

POSTER SESSIONS

All Poster Sessions take place in Empire Prefunction, Mezzanine Level, Sheraton

ENERGY, ENVIRONMENT, NATURAL RESOURCES, AND SUSTAINABILITY

Composting at JCCC: Farm to Plate to Compost

Discuss developing and implementing a 400 pound per day food composting operation on a small footprint. Participants explore who is involved in the effort, the dollar and resource costs, and the benefits of the food composting operation.

Rea Michael, Coordinator, Recycling and Waste Minimization, Johnson County Community College, KS

Students' Knowledge, Attitudes, Expectations, and Designs for Energy and Environment

Displayed are data that compare and analyze 15-year-old students' knowledge, attitudes, expectations, and design for environmental issues in 20 countries. Also shared are related factors, including city, school, home, and students' science study habits.

Renmin Ye, Senior Researcher, Houston ISD, TX

MATHEMATICS, ENGINEERING, AND ARCHITECTURE

Engaging Engineering Students by Collaborating With Business and Industry

Participants learn how to collaborate with business and industry to engage students and increase the number of STEM field graduates. The collaboration uses multidiscipline

design teams that reflect the interdependence of the four STEM subjects.

James MacCariella, Professor, Engineering Science, Mercer County Community College, NJ

RECRUITING, RETAINING, AND TRANSITIONING STUDENTS INTO STEM PROGRAMS

Developing STEM Leaders: Assessing Success

Capitol College established a comprehensive outreach program that engages students through the Center for Space Science Education and Public Outreach. This poster session exhibits a summary report and assessment of STEM outreach programs.

Michael Wood, President; Dianne Veenstra, Vice President, Planning and Assessment, Capitol College, MD

Building Self-Concept: A Secret for Academic Success

This poster session displays the impact of students' self-concept on their academic success. Study results and recommendations for practice and policy guide the conversation with participants.

Yu Chen, Graduate Assistant, Educational Leadership and Policy Studies; Soko Starobin, Assistant Professor, Educational Leadership and Policy Studies; Linda Hagedorn, Associate Dean and Professor, Educational Leadership and Policy Studies, Iowa State University, IA

Success Through Review: Recruitment and Assessment Via Portfolios

This session highlights the technical tools that promote hiring. Skills that help graduates pursue employment can be used as recruiting tools. CDs showing the process of creating portfolios and digital materials, resumes, and choosing appropriate artwork are provided.

Kendall Adams, Chair, Commercial Art, Piedmont Technical College, SC

E-LEARNING RESOURCES

E-Portfolios: Methodology to Validate/Promote Critical Workforce STEM Skills

Participants will learn how the e-portfolio is used to validate and promote workforce readiness in the STEM areas of concentration. This session is particularly valuable to community college faculty members.

Ken Scott, Senior Instructor, Computer Information Systems, and Director, Cisco Networking Academy/SkillsUSA - Trenholm, H. Councill Trenholm State Technical College, AL



✦ 9:15 AM - 10:15 AM

TRACK KEYNOTE SESSION

RECRUITING, RETAINING, AND TRANSITIONING STUDENTS INTO STEM PROGRAMS

Increasing Opportunities for Low-Income Women and Student Parents in STEM at Community Colleges

Liberty, Ballroom Level, Westin

Expanded access to STEM careers has the potential to improve the well-being of low-income families specifically, while also generally strengthening U.S. competitiveness. However, women have traditionally been underrepresented in STEM careers and collegiate programs of study, a pattern replicated on community college campuses, as well. The presenters examine trends in women's pursuit of STEM degrees and certificates at community colleges as well as promising institutional approaches designed to encourage better access, persistence, and completion rates in sub-baccalaureate STEM programs for women in general and student parents in particular.



Kevin Miller,
Senior Research Associate,
Institute for Women's
Policy Research, DC



Mimi Lufkin,
Chief Executive Officer, National
Alliance for Partnerships in Equity, PA

CONCURRENT SESSIONS

HEALTH AND SCIENCE

Creative Ways to Enhance Learning in Biosciences Without Sacrificing Rigor

Pershing Place South, Ballroom Level, Westin

Increase student retention, engagement, and comprehension in biological science classes without sacrificing rigor. Dozens of easy, fun, and effective teaching tools for bioscience faculty members are shared by an instructor who actually uses them.

Paul Luyster, Associate Professor, Biology, Tarrant County College District, TX

MATHEMATICS, ENGINEERING, AND ARCHITECTURE

ASEE Seeks Input to Better Serve Two-Year College Faculty

Empire B, Mezzanine Level, Sheraton

Be a part of the discussion about how the American Society for Engineering Education can better recognize and support community college faculty who play a critical role in educating engineers and engineering technologists.

Norman Fortenberry, Executive Director, American Society for Engineering Education, DC

Be LEGO Smart

Empire C, Mezzanine Level, Sheraton

Bring creativity and innovation to the classroom with LEGO Education. It's more than building with LEGO bricks.

It's having the ability to work in teams, solve problems, and create solutions.

Steffanie Forbes, Education Consultant, Lego Education, LEGO Education, KS

TECHNOLOGY, MULTIMEDIA, AND TELECOMMUNICATIONS

Inventive Career Pathways in Technology and Telecommunications

Pershing Place West, Ballroom Level, Westin

Learn how EmployIndy developed innovative approaches to increase student success in STEM education to strengthen the labor pool in electronic systems technology.

Chelsea Meldrum, Associate Director, Strategic Development, EmployIndy, IN

RECRUITING, RETAINING, AND TRANSITIONING STUDENTS INTO STEM PROGRAMS

Developing a Partnership Between Industry and Higher Education

Chicago B, Ballroom Level, Sheraton

The National Academy of Railroad Sciences (NARS) is a partnership between BNSF Railway and Johnson County Community College which provides and college credit certificates and AAS degrees in railroad crafts.

Terry Murphy-Latta, Director, Railroad Operations, Johnson County Community College, KS

TUESDAY



✿ 9:15 AM - 10:15 AM (CONTINUED)

THE INTEGRATION OF STEM AND THE LIBERAL ARTS

Liberal Arts and the Curriculum of STEM-Focused English Composition

Mission, Ballroom Level, Westin

In the development of STEM-focused English composition courses, it is imperative to integrate the liberal arts and humanities with science and technology in order to bridge the pragmatism and specialization of professional career pursuits with what can be learned from literature, poetry, art, languages, history, philosophy, and, yes, science.

Andy Rusnak, Assistant Professor, Liberal Arts; Gregory Campbell, Instructor, English and Liberal Arts, The Community College of Baltimore County, MD

Common Corazón: Getting to the Heart of Learning

Benton AB, Mezzanine Level, Sheraton

**THORNBURG
CENTER**



Pragmatic Visionaries

Shifting from percentages to performance need not exclude the cultural, emotional, and creative aspects of learning. We achieve higher levels of performance by honoring who students are, where they come from, and what they and their communities bring to our society. Learning and STEM are culturally bound, and to transform learning, you must connect the local culture and the process of STEM. Strategies shared are based upon eight years of research and development resulting in the presenter's latest book, *Digital Learning: Strengthening and Assessing 21st Century Skills*.

Ferdi Serim, Associate, Thornburg Center, IL

TECHNOLOGY SYSTEMS AND APPLICATIONS

EMC Academic Alliance and Virtual Labs With NETLAB+ by NDG

Shawnee, Ballroom Level, Westin

Come learn what technology-based courses, training, and benefits are available through the EMC Academic Alliance program and discuss the virtual storage labs available through our partner, the Network Development Group.

Karen Mancini, Global Program Manager; Rich Weeks, Partner, EMC Corporation, MA

QR Codes as Part of Your Campus

Pershing Place East, Ballroom Level, Westin

JCCC representatives lead a discussion about the process of using QR codes on campus to provide information to mobile users in a location-based context.

Barry Bailey, Associate Professor and Librarian, Library and Digital Projects; Vincent Miller, Director, Educational Technology, Johnson County Community College, KS

The Digital Learning College: A Catalyst for Success

Pershing Place North, Ballroom Level, Westin

Come explore Bowling Green Technical College's world-class Interactive Digital Center that creates faculty-driven, customized, mobile applications for anywhere, anytime learning. Delivered via computer, tablet, or smartphone, these low-cost interactive tools promote engaged learning and content mastery.

Phil Neal, Provost; Kristina Tackett, Instructor, Mathematics and Sciences; Mary Hendrix, Director, Business, Bowling Green Technical College - KCTCS, KY

E-LEARNING RESOURCES

2012 Digital Community College Survey: Winners and Results Showcase!

Empire A, Mezzanine Level, Sheraton

**CENTER FOR
DIGITAL
EDUCATION**

What are the latest technology trends in mobile devices, distance learning, infrastructure, and more? Learn the results from the 2012 Digital Community College Survey and hear from this year's winners.

John Halpin, Vice President, Strategy and Programs, Center for Digital Education, CA

Educating to Reach the Top IT Cluster

Chicago A, Ballroom Level, Sheraton

Via a renewed focus on education in the core STEM subjects, Illinois is making great strides in preparing students for the best possible jobs. Beyond the initial education, workforce development programs like Get America Back to Work and Troops to Tech Careers are in place for continued learning and advancement opportunities.

Gretchen Koch, Director, Education, CompTIA, IL

Creating Interactive Syllabi and Newsletters for Web and Mobile Devices

Chicago C, Ballroom Level, Sheraton

Learn to create digital syllabi and newsletters with interactive elements, including 360 degree scenes, video, and panoramas. Learn about the benefits, possibilities, and process of developing interactive content for the Web and iPads.

Michael Burks, Manager, Digital Arts and Technology Alliance; Yvonne Johnson, Dean, Humanities and Social Sciences; Tim Linder, Associate Professor, Art, St. Louis Community College at Meramec, MO

Learning Enhancement Systems: Decentering the LMS

Chouteau A, Mezzanine Level, Sheraton

It's time to decenter the LMS in distance education. Emerging technologies offer opportunities to use the right instructional tool for the right purpose. With enhanced media classrooms and emerging technologies such as lecture capture, Web conferencing, and virtual desktops, instructors have a full set of online tools available.

David Durr, Dean, Information Technology; Bryan Frazer, Instructor, Digital Media Production, Pulaski Technical College, AR

Ready for E-Texts? How One University Is Thriving

Chouteau B, Mezzanine Level, Sheraton

Participants discuss a case study about how one higher education institution transitioned to a unique e-text aggregation and reader platform, and simultaneously lowered educational costs and enhanced the learning experience for students and faculty.

John Falchi, Senior Vice President, Business Development, Courselead, Inc., IN



ROUNDTABLE DISCUSSIONS

All Roundtable Discussions take place in Gillham Hall, Lobby Level, Sheraton

ENERGY, ENVIRONMENT, NATURAL RESOURCES, AND SUSTAINABILITY

Integrating Sustainability Into Technical Courses

Learn techniques to incorporate sustainability topics into technical career courses. Explore not only the technical aspects of sustainability in your field, but also the societal attitudes and critical thinking required.

Susan Johnson, Professor, Engineering Technology, Johnson County Community College, KS

MATHEMATICS, ENGINEERING, AND ARCHITECTURE

Deepening Understanding Through Dialogue in Mathematics

Participants learn how dialogue can be carried out in the mathematics classroom so that students and instructors learn self-knowledge along with a deeper understanding of mathematics.

Wallace Lassiter, Associate Professor, Mathematics, Prince George's Community College, MD

WSU Engineering Technology: Bridging the Community and Technical College STEM Gap

Learn how Wichita State University's new engineering technology program helps bridge the STEM gap by providing additional and flexible higher learning opportunities for community and technical college students.

Mel Whiteside, Director, Engineering Technology, Wichita State University, KS

TECHNOLOGY, MULTIMEDIA, AND TELECOMMUNICATIONS

Using Cyber Competitions in the Classroom Provides Real-World Experience

Come discover how supplementing instruction combined with cyber competition exercises provides a venue for high school and college students to gain authentic experience, assess their career interests, and apply knowledge gained in their coursework.

Dawn Blanche, Instructional Specialist, Computing Technologies and Cybercenter, Anne Arundel Community College, MD

THE INTEGRATION OF STEM AND THE LIBERAL ARTS

Doing Green Chemistry at a Black University

Any STEM faculty member can reach and engage any minority student by respecting them; using the titles Mr., Miss, and Ms.; inspiring them to read and work hard; being strict; and showing that you care.

Rose Stiffin, Chair, Health And Natural Sciences, Florida Memorial University, FL

Importance of Cultural Understanding for Engineering Students Performing Humanitarian Aid

Using role playing, participants encounter the obstacles to success that humanitarian aid workers encounter.

Participants learn methods for demonstrating liberal arts appreciation to STEM students.

Laura Sullivan, Professor, Mechanical Engineering, Kettering University, MI

Using Project-Based Learning to Create Interdisciplinary Learning Communities

Faculty members and administrators from NorthWest Arkansas Community College lead a discussion about best practices for successfully implementing interdisciplinary learning projects across a broad college curriculum.

Dianne Phillips, Coordinator, Mathematics and Science; Marvin Galloway, Dean, Mathematics and Science, Northwest Arkansas Community College, AR; Regina Thomason, Faculty, Curriculum and Instruction, Arkansas Tech University, AR

E-LEARNING RESOURCES

Developing Online Learning Opportunities for Wage Progression

Seattle Community Colleges and its partners support aerospace employees entering apprenticeships and earning credit towards their AA degree. This session features online learning strategies for students with limited technology experience.

Lauren Hadley, Program Administrator, Georgetown Apprenticeship Education Center; Karen Whitney, Administrative Assistant, Seattle Community Colleges, WA; Holly Moore, Executive Dean, Georgetown Campus, South Seattle Community College, WA

The Mobile Paradigm Shift and Paradox

Participants examine the paradigm shift being caused by mobile devices and how it impacts businesses, education, and homes, and discuss the paradoxical concerns that accompany the positive aspects of mobile devices.

John Neff, Staff Development Specialist, Center for Teaching and Learning, Moraine Valley Community College, IL

❖ 10:15 AM - 11:15 AM

COFFEE BREAK in the Exhibition Hall

Crown Center Exhibition Hall
Mezzanine Level, Sheraton

❖ 10:15 AM - 12:00 PM

EXHIBITION HALL Open

Crown Center Exhibition Hall
Mezzanine Level, Sheraton



❖ 11:00 AM - 12:00 PM

TRACK KEYNOTE SESSION

TECHNOLOGY SYSTEMS AND APPLICATIONS

SharePoint Planning Tool: Designed to Streamline Community College Processes

Liberty, Ballroom Level, Westin

Heartland Community College implemented a customized planning tool using Microsoft SharePoint. Come learn about its development, implementation, lessons learned, operational efficiency gains, and how it supports accreditation, as well as participate in a live demonstration of the tool.



Douglas Minter,
Chief Information
Officer, Heartland
Community College, IL



Lydia Cochran, Coordinator,
Software Support Services, Heartland
Community College, IL

CONCURRENT SESSIONS

HEALTH AND SCIENCE

Start Early and Involve Everyone: PreK Science and Universal Design for Learning

Pershing Place North, Ballroom Level, Westin

Investigations using scientific inquiry not only can happen in preschool classrooms, but they can also be designed to meet the principles of Universal Design for Learning. Science, technology, engineering, and mathematics thrive in purposeful early education environments.

M.J. Ziemba, Coordinator, Florida Inclusion Network, FL; Sallie Payne, Facilitator, Florida Inclusion Network - FSU, Florida State University, FL

Differentiated Instruction: Easier Than You Think

Pershing Place South, Ballroom Level, Westin

Work through some ideas to bring personalized and individualized instruction and learning to your classes. See an example inside of a learning management system called WebStudy Learn.

Gisele Larose, President, Marketing; Carol Redfield, Consultant, Computer Science and Computer Information Systems, WebStudy, Inc., PA

MATHEMATICS, ENGINEERING, AND ARCHITECTURE

Putting the Capstone First: Turning the STEM Curriculum Upside Down

Empire B, Mezzanine Level, Sheraton

What would happen if college freshmen were first introduced to their chosen STEM discipline in a year-long course with no lectures, textbooks, or tests? Student

panelists engage the audience in a dialog about their unique experiences in just such a class.

Joe Pow, Associate Director, Center for Imaging Science; Megan Iafrati, Student, Center for Imaging Science; Susan Kratzer, Student, Center for Imaging Science; Rose Rustowicz, Student, Center for Imaging Science; Malachi Schultz, Student, Center for Imaging Science, Rochester Institute of Technology, NY

MANUFACTURING, INDUSTRY, AGRICULTURE, AND AEROSPACE

Changing Perceptions About Manufacturing Careers

Shawnee, Ballroom Level, Westin

Participants review successful strategies to change how students and parents view manufacturing careers. This session will be beneficial to faculty members and administrators who oversee manufacturing and related industrial programs.

Karen Birch, Executive Director, Regional Center for Next Generation Manufacturing, Connecticut Community Colleges, CT

TECHNOLOGY, MULTIMEDIA, AND TELECOMMUNICATIONS

The Technology Fluency Competency Requirement at Anne Arundel Community College

Pershing Place East, Ballroom Level, Westin

Based on research, AACC is considering four abilities to replace the current internal general education requirement of technology fluency and competency. Research findings are presented along with the proposed abilities.

Kelly Sell, Associate Professor, Computing and Technical Studies; Laura Presnell, Professor, Computing and Technical Studies, Anne Arundel Community College, MD



HOTS Stuff With Cool Tools: STEM for the Transmedia Generation

Benton AB, Mezzanine Level, Sheraton

**THORNBURG
CENTER**



Pragmatic Visionaries

Want to boost student recall by 42 percent and their learning by 89 percent? Come learn mind-bending ideas to access higher-order thinking skills (HOTS) through learning that's applied, not just regurgitated. Come discover the coolest free tool ever and learn where problem-based learning, creativity, and student involvement fit on the new digital taxonomy of thinking skills!

Lynell Burmark, Associate, Thornburg Center, IL

RECRUITING, RETAINING, AND TRANSITIONING STUDENTS INTO STEM PROGRAMS

Best Practices With Experiential Learning, Career Cruising, and STEM

Chouteau A, Mezzanine Level, Sheraton

Analyze and discuss the common goals and mutually beneficial experiential learning opportunities in the classroom that transition into employment readiness. Learn about the tools available in career services to guide students to their career path.

Trina Lynch-Jackson, Associate Professor, Business, Ivy Tech Community College, IN

Improving the Success of Deaf Students in STEM

Chicago A, Ballroom Level, Sheraton

Participants discuss the challenges faced by deaf and hard-of-hearing students in STEM programs and how the NSF ATE National Center, DeafTEC, provides resources to increase their success.

Donna Lange, Center Director, DeafTEC; Myra Plez, Co-Principal Investigator, DeafTEC; Gary Long, Co-Principal Investigator, DeafTEC, Rochester Institute of Technology, NY

Dayton Urban STEM Teacher Academy

Chicago B, Ballroom Level, Sheraton

Learn how to address the STEM teacher shortage by establishing a STEM teacher preparation pathway through collaboration with local high schools and higher educational institutions to ensure a seamless transition of students from high school through college. Discussed are strategies to recruit, motivate, and engage students in this endeavor.

Lalitha Locker, Associate Professor, Physics; Jane Myong, Professor, Chemistry, Sinclair Community College, OH

Introducing STEM Disciplines Early: Engineers Aren't Born, They're Made

Pershing Place West, Ballroom Level, Westin

Participants examine rockets, radio-controlled aircrafts, and their associated electronics. This session will benefit educators interested in developing hands-on activities that increase interest in STEM fields and make mathematics more relevant to students.

Andrei Perkhounkov, Assistant Professor, Iowa City Campus, Kirkwood Community College, IA; Lucas Miller, NSF-TCUP Co-PI and Co-PD, Mathematics, Haskell Indian Nations University, KS

The Art of Teaching Science: An Unscientific Approach

Chicago C, Ballroom Level, Sheraton

Retaining students in technical subjects while strengthening nontechnical skills and competencies can be challenging. Combining STEM and liberal arts learning outcomes engages learners through collaborative team teaching, active learning, and innovative evaluation. Participants examine existing models, discuss their effectiveness, and explore new possibilities.

Carl Oliver, Professor, Applied Technology, Humber College Institute of Technology and Advanced Learning, ON, Canada

THE INTEGRATION OF STEM AND THE LIBERAL ARTS

Approaching STEM Curriculum Through an Interdisciplinary Student-Centered Model

Mission, Ballroom Level, Westin

Learn how a localized science sustainability curriculum creates a framework for students to look for solutions in the social, cultural, ecological, and political spheres of life. This session will benefit and encourage STEM and liberal arts teachers, faculty members, and program staff to start thinking and doing collaboratively.

Tasha Kawamata Ryan, Education Specialist, CTE Center; David Goldberg, Lecturer, American Studies, University of Hawai'i - Manoa, HI

Calculated Risk With High Yield: Writing in Math, Engineering, and Physics

Empire C, Mezzanine Level, Sheraton

Considered are four radically different STEM courses with distinctive goals, learning outcomes, student populations, and course projects. The common denominator? Each features writing as a key mechanism for learning, from the design of a green home to the mathematical analysis of a literary text.

Mary McMullen-Light, Coordinator, Writing Across the Curriculum; Janet Wyatt, Faculty, Mathematics; Dan Justice, Faculty, Engineering; Leann Lotz-Todd, Faculty, Mathematics; Anne Nienhueser, Faculty, Physics, Metropolitan Community College, MO

E-LEARNING RESOURCES

Buried Treasure: Discovering the Value of the Academic Library

Empire A, Mezzanine Level, Sheraton

Technology budgets are shrinking. Academic libraries are the often overlooked solution. Faculty members and administrators learn about the vast services and value they ought to expect from today's academic librarians.

Dan Overfield, Librarian, Cuyahoga Community College, OH



❖ 11:00 AM - 12:00 PM (CONTINUED)

Diffusion of E-Textbooks and OER

Chouteau B, Mezzanine Level, Sheraton

Participants learn how Sinclair Community College (SCC) is using e-textbooks and open educational resources (OER). Using SCC's experience as a starting point, the facilitator leads a discussion about what the college is doing to support e-textbooks and OER. Participants access an e-textbook online using their mobile devices.

Greg Deye, Manager, Learning Technology Support, Sinclair Community College, OH

POSTER SESSIONS

All Poster Sessions take place in Empire Prefunction, Mezzanine Level, Sheraton

HEALTH AND SCIENCE

Antibiotic Production by Cave Bacteria

Displayed is information about the ecology of the subterranean karst environment in a semi-arid ecosystem, as well as information about the antibiotic synthesis by its bacterial inhabitants.

Elizabeth Montano, PhD Candidate, Biology, University of New Mexico - Main Campus, NM

Putting the Biochemistry First in an Organic Biochemistry Course

This poster session displays a unique pedagogical approach to teaching an undergraduate organic/biochemistry course required for health science majors. The approach revolves around keeping biochemistry as the central topic while giving organic chemistry a supporting role.

Deanna Warner, Assistant Professor, Chemistry, Salem State University, MA

ENERGY, ENVIRONMENT, NATURAL RESOURCES, AND SUSTAINABILITY

Biofuels Education and Training

This poster session highlights the field of biofuels and displays the content of an Introduction to Biofuels course with an NBC2 textbook, laboratory manual, and online support website.

Sonia Wallman, Executive Director, NBC2, Montgomery County Community College, PA

TECHNOLOGY, MULTIMEDIA, AND TELECOMMUNICATIONS

Data Visualization: Linking Programming Technique With Science Content

Learn from examples that engage programming students in the creation of scientific visualizations. If you're

teaching programming or supporting undergraduate science research, you will find this interdisciplinary approach interesting and useful.

Gerald Reed, Associate Faculty, Architecture Engineering and Computer Technology; Brenda Schumpert, Professor, Biology, Valencia College, FL

RECRUITING, RETAINING, AND TRANSITIONING STUDENTS INTO STEM PROGRAMS

Math: Driving Force for College Success

Success in core-level college mathematics classes enables students to continue their academics in a timely manner and graduate, rather than relinquishing and abandoning college aspirations. Discussed is a list of possible predictors of college success and whether they are significant.

Lynne Kowski, Professor, Mathematics, Raritan Valley Community College, NJ

Planting Engagement: Understated Seeds for Successful Recruitment and Retention

The critical links between engagement, performance, fulfillment, and persistence are explored. Techniques for measuring and evaluating engagement are presented as tools for STEM practitioners to understand and improve classroom experiences.

Denise Wilson, Associate Professor, Electrical Engineering; Mee Joo Kim, Graduate Research Assistant, Education, University of Washington, WA; Don Peter, Associate Professor, Electrical Engineering, Seattle Pacific University, WA

THE INTEGRATION OF STEM AND THE LIBERAL ARTS

A STEAM-Powered Flight to the Edge of Space

Engineering students, scientists, and musicians come together in a collaborative STEAM-based project (science, technology, engineering, arts, and math) to fly high-altitude balloons carrying cameras and data loggers for collecting imagery and data for use in a live musical performance.

Bob Riddle, Adjunct Faculty, Mathematics Engineering and Science, Metropolitan Community College, MO; Trevor Sutcliffe, Instructor, CAPS, Blue Valley School District, KS

A Musical Garden: Music, Engineering, and STEM Education

Displayed is information about a collaboration that integrates engineering design, physics, and music. How preK through 5th grade children are able to play with and manipulate designs to learn more about music, physics, and engineering is demonstrated.

Judith Sullivan, Associate Professor, Music Education; Sally Pardue, Associate Professor, Oakley STEM Center; Dale Wilson, Professor, Mechanical Engineering, Tennessee Technological University, TN



❖ 12:30 PM - 1:30 PM

TRACK KEYNOTE SESSION

E-LEARNING RESOURCES

Great Minds Don't Think Alike: Innovative Thinking in STEM Learning

Liberty, Ballroom Level, Westin

Our education system puts too much emphasis on success. Educators can help students explore STEM interests with hands-on lessons that encourage them to fail to succeed, which leads to innovative problem-solving solutions. This session explores techniques that educators can use to take students from theory to practice in STEM related learning, ultimately encouraging them to consider the possibility of future careers in STEM. Rich case studies and independent university study data help the audience realize the importance of getting students involved in STEM programs at a young age and to understand how effective a fail-to-succeed, hands-on approach to learning can be.



Jon Dudas,
President, For Inspiration and
Recognition of Science and
Technology (FIRST), NH

CONCURRENT SESSIONS

HEALTH AND SCIENCE

Teaching Physics With the Socratic Method Coupled With Clickers

Pershing Place North, Ballroom Level, Westin

Learn techniques that couple the Socratic teaching of physics with clickers. Get all of your students involved in guided discussions that lead them to formulating solutions rather than seeking answers from the professor. *Rihab Sawah, Assistant Professor, Physics, St. Louis Community College at Florissant Valley, MO*

A Powerful Interdisciplinary Model That Inspires Thinking Across Academic Disciplines

Pershing Place South, Ballroom Level, Westin

Students in Introduction to Secondary Education classes at Arkansas Tech University partner with Russellville Junior High School to create and implement projects in science, health, and technology. Projects discussed include several in the area of health, including a project based on the food pyramid and a health and nutrition student activity guide. *Regina Thomason, Faculty, Curriculum and Instruction, Arkansas Tech University, AR; Marvin Galloway, Dean, Mathematics and Science; Dianne Phillips, Coordinator, Mathematics and Science, Northwest Arkansas Community College, AR*

MATHEMATICS, ENGINEERING, AND ARCHITECTURE

Models, Technology, and Symbolism: Success in Community College Algebra 1

Chouteau A, Mezzanine Level, Sheraton

During this session, participants work with activities that show how technology can link the modeling and symbolism of Algebra 1 while also providing a springboard for increased algebraic thinking for community college students.

Maria DeLucia, Professor, Mathematics, Middlesex County College, NJ; Frank Gardella, Associate Professor, Curriculum and Teaching, Hunter College - CUNY, NY

Math and Physics in Video Game Development

Chouteau B, Mezzanine Level, Sheraton

The presenters developed an algebra-based course that provides the basic mathematics and physics concepts needed by game programmers and share their successes and challenges in teaching this unique population of students.

Robert Grondahl, Associate Professor, Mathematics, Johnson County Community College, KS

Using Dynamic Web Tools for Math and Biology Courses

Empire A, Mezzanine Level, Sheraton

Discussed during this session are free and dynamic Web tools used primarily for undergraduate mathematics and biology courses, including the results of using the tools for interactive and dynamic learning and exploration.

Mike Martin, Professor, Mathematics, Johnson County Community College, KS

TUESDAY



❖ 12:30 PM - 1:30 PM (CONTINUED)

Vernier Sensors for Hands-On STEM

Empire B, Mezzanine Level, Sheraton

This session demonstrates the use of Vernier sensors in science, engineering, and LEGO robotics. These affordable sensors are used for data acquisition and analysis to introduce engineering concepts and LabVIEW programming, and to create LEGO NXT robots.

Sam Swartley, Test Engineer, Vernier Software and Technology, OR

Bringing Virtual Learning to Life in Electrical Engineering

Empire C, Mezzanine Level, Sheraton

For complicated topics, students need a change in presentation style. The virtual desktop environment provides just-in-time learning. This environment facilitates the organization of material, tutorials, and custom assessments.

Andrew Bell, Program Chair, Engineering Technology, Ivy Tech Community College, IN

MANUFACTURING, INDUSTRY, AGRICULTURE, AND AEROSPACE

Blueprint for Collaboration: Bringing Communities Together to Support STEM

Shawnee, Ballroom Level, Westin

Does your community struggle to effectively partner between education and business and industry? The Southeast Tennessee STEM Initiative built a powerful coalition of community leaders spanning higher education, school districts, businesses, and philanthropies. Learn how they did it and how your community can benefit from their lessons learned.

Ronna-Renee Jackson, Partner, Collaboration; Tracey Carisch, Partner, Collaboration, Southeast Tennessee Stem Initiative, TN

TECHNOLOGY, MULTIMEDIA, AND TELECOMMUNICATIONS

Bridging the Skills Gap: Connecting New Workers to Cybersecurity Careers

Pershing Place West, Ballroom Level, Westin

Come learn how the National STEM Consortium is designing an innovative cybersecurity technician certificate program to bridge the STEM skills gap, respond to regional industry needs, and train and retrain workers for cybersecurity careers.

Krysten Hall, Associate Professor, Computer Science; Kasia Taylor, Associate Professor, Computer Technologies, Anne Arundel Community College, MD; Kathy Finn, Project Coordinator, National STEM Consortium Grant, Florida State College at Jacksonville, FL; John Knight, Assistant Professor, Business, Ivy Tech Community College, IN

RECRUITING, RETAINING, AND TRANSITIONING STUDENTS INTO STEM PROGRAMS

Engaging K-12 Students in STEM Activities at Community Colleges

Chicago A, Ballroom Level, Sheraton

This session highlights three activities STLCC-FV uses to enhance STEM interest: robotics, summer camp, and its Project Lead the Way Competition. Also discussed are hosting math contests and after-school tutoring programs. What other ways can we engage our future students?

Amy Sonderman, Coordinator, Engineering and Manufacturing; Ashok Agrawal, Vice President, Mathematics, Science, Engineering, and Technology, St. Louis Community College at Florissant Valley, MO

Using Research- and Evidence-Based Programs to Increase Nontraditional Student Success in STEM

Mission, Ballroom Level, Westin

The National Alliance for Partnerships in Equity (NAPE) has developed two unique programs (STEM Equity Pipeline and Micromessaging to Reach and Teach Every Student) that use research- and evidence-based models to increase access, participation, program completion, and ultimately job placement of females and other underrepresented students in high-wage, high-tech, and high-skill STEM careers.

Benjamin Williams, Coordinator, Admissions, Columbus State Community College, OH

PASSport: A Roadmap to Resources and Discoveries of Academic Success

Chicago C, Ballroom Level, Sheraton

Learn as we travel the globe of experiences, resources, and information strategically designed to promote college success and transition minority students into varied vocational and technical programs.

Erin Rice, Recruitment Specialist, Office of Admissions; Aminah Nichols, Director and Coordinator, CROP, Santa Fe College, FL

THE INTEGRATION OF STEM AND THE LIBERAL ARTS

Moving From the Why and the What to the How: Linking Practice in Common Core Standards, College, and Career

Benton AB, Mezzanine Level, Sheraton

**THORNBURG
CENTER**



Pragmatic Visionaries

The presenter delivers case analyses of highly effective schools, teachers, and leadership cultures illustrating the how of educational transformation. His background in the sociology of science and educational technology contributes to his analyses, including a shift in the definition of the well-rounded student in the 21st Century; a shift in pedagogy; the centrality of technology processes, languages, and architectures across and among disciplines; and the organizing principle of innovation and design across disciplines in the P-20 system of education. Also included is an analysis of how model schools meet high academic standards for all students.

Jim Brazell, Technology Forecaster and Strategist, Thornburg Center, IL



TECHNOLOGY SYSTEMS AND APPLICATIONS

Improving Student Achievement in Mathematics Using Technology

Pershing Place East, Ballroom Level, Westin

Participants discuss improving student achievement by using technology-based instructions, identifying variables that affect student performance, and creating a plan to address them. This session provides an opportunity for mathematics faculty members to apply the techniques that improve student achievement.

Amit Dave, Faculty, General Studies, Georgia Piedmont Technical College, GA

❖ 1:30 PM - 2:30 PM

REFRESHMENT BREAK in the Exhibition Hall

Crown Center Exhibition Hall
Mezzanine Level, Sheraton

❖ 2:30 PM - 3:30 PM

CONCURRENT SESSIONS

HEALTH AND SCIENCE

Cadavers for Your Courses: Virtual, Innovative Approaches for Teaching Anatomy

Pershing Place North, Ballroom Level, Westin

Learn how to combine technology and interactive anatomy to create engaging instruction for your students. Participants receive a free trial of A.D.A.M. Interactive Anatomy and a human body systems poster.

John Lucich, Associate Professor, Health Sciences, Butler University, IN; Bridget Benware, Manager, Education, A.D.A.M. Education, GA

MATHEMATICS, ENGINEERING, AND ARCHITECTURE

Stimulating STEM Education With the CEENBoT Educational Robot

Empire B, Mezzanine Level, Sheraton

With NSF funding, the CEENBoT Educational Robot has been developed by the University of Nebraska to stimulate students' interest in STEM education. Over a hundred lessons have been developed to support science and math teachers.

Bing Chen, Professor and Chair, Computer and Electronics Engineering, University of Nebraska-Lincoln, NE; Neal Grandgenett, Professor, Teacher Education, University of Nebraska-Omaha, NE

A Motion Analysis Laboratory That Promotes Interdisciplinary Engineering Research and Education

Empire C, Mezzanine Level, Sheraton

At the University of South Florida, various methods of motion analysis are used for collaborative research in

fields such as prosthetics, robotics, rehabilitation, and injury prevention. Come learn how the motion analysis laboratory is also used in coursework in a variety of fields promoting interdisciplinary exchanges among students and faculty.

Stephanie Carey, Assistant Professor, Mechanical Engineering, University of South Florida, FL

MANUFACTURING, INDUSTRY, AGRICULTURE, AND AEROSPACE

STEM Education: A Global Perspective

Shawnee, Ballroom Level, Westin

Gain a global perspective on how other countries are integrating and advancing STEM education throughout their curriculum in order to compete in the global marketplace.

Mel Whiteside, Director, Engineering Technology, Wichita State University, KS

TECHNOLOGY, MULTIMEDIA, AND TELECOMMUNICATIONS

Using Multi-Delivery Methods in a Technical Program

Pershing Place West, Ballroom Level, Westin

This session will benefit administrators and faculty at community colleges who desire to introduce technical programs to secondary students. Participants learn the advantages of synergistically incorporating interactive television, online, and in-person course delivery methods.

Jack Osier, Instructor, Renewable Energy Technology; Duane Doyle, Assistant Professor, Mathematics and Science, Arkansas State University - Newport, AR

RECRUITING, RETAINING, AND TRANSITIONING STUDENTS INTO STEM PROGRAMS

Building an Engineering and STEM Pipeline for Underrepresented Students

Chicago A, Ballroom Level, Sheraton

Come engage in learning how to develop effective partnerships, funding, activities, and programs to build and sustain an engineering and STEM pipeline from 6th grade through graduate school. The workshop is a crisp, high-energy activity that models interactive learning.

Terry Freeman, Faculty, Engineering and Technology; Wendell Covington, Program Director, Gateway to College; Genesis Steele, Campus Coordinator, African American Male Initiative, St. Louis Community College at Florissant Valley, MO; Ron Moore, Principal Director, Pre-College Initiative (PCI), NSBE-AE, MO

STEM Ambassadors: A Community Outreach Program

Chicago B, Ballroom Level, Sheraton

Learn about the STEM Ambassadors, students who are in the STEM fields at Reedley College who create and organize fun and educational STEM-related activities and visit local K-12 schools to share their excitement for their career fields.

Sharon Wu, Instructor, Computer Science Physics and Mathematics, Reedley College, CA



✦ 2:30 PM - 3:30 PM (CONTINUED)

Engineering is Elementary: It's Never Too Young to Start

Chicago C, Ballroom Level, Sheraton

The Museum of Boston has developed Engineering is Elementary to bring the world of engineering to grades 1-6. Through 20 different units, topics are introduced through a reader and related to science and engineering activities.

Pamela Truesdell, Albert Einstein Distinguished Educator Fellow, Engineering Education and Centers, National Science Foundation, VA

THE INTEGRATION OF STEM AND THE LIBERAL ARTS

You're Teaching Biology and English Together? Seriously?

Mission, Ballroom Level, Westin

Presenters discuss pairing biology and English composition courses to create an innovative environment that integrates science and liberal arts content. Participants should bring materials from their courses for discussion and activities.

Chris Romero, Faculty, Science; Amy Forgue, Faculty, English, Front Range Community College, CO

TECHNOLOGY SYSTEMS AND APPLICATIONS

Network Virtualization, Workstation Virtualization, and Cloud Operations

Pershing Place East, Ballroom Level, Westin

Discussed are the development, integration, and use of virtual servers, workstations, and SharePoint servers to develop cloud operations and interaction between students and faculty members inside and outside the classroom.

Tracy Purchase, Instructor, Business, North Iowa Area Community College, IA

E-LEARNING RESOURCES

Ready or Not, Here I Come

Empire A, Mezzanine Level, Sheraton

Participants discuss how student performance is affected by variations in readiness for learning in an online or technology-rich environment. Also discussed is how to quantify and address levels of student readiness.

Tara Boozer, Account Manager, Accounts, SmarterServices, AL

iCPALMS: A Portal for Standards-Based Instruction and Collaboration

Chouteau A, Mezzanine Level, Sheraton

Discussed are methods used in iCPALMS for recommending just-in-time, high-quality, and highly relevant digital instructional and educational resources to K-12 educators. iCPALMS include apps with a variety of tools for instructional planning, collaboration, and a rigorous peer and expert review process. The session will benefit educators and K-12 researchers.

Rabieh Razzouk, Associate Director, Learning Systems Institute; Laron Walker, President, Learning Systems Institute, Florida State University, FL

How to Succeed: The Next Step in Online Learning Preparation

Chouteau B, Mezzanine Level, Sheraton

Sinclair Community College has implemented a mandatory prerequisite course for online learning with the purpose of increasing student success. Participants learn how the course was designed and developed, the process of implementing it as a prerequisite, and its ongoing support and facilitation.

Jana Lehman, Manager, Distance Learning Programs and Support; John Tomoser, Program Coordinator, Distance Learning Programs and Support, Sinclair Community College, OH

Critical Thinking and Information Fluency for STEM Research and Learning in a World of Information Overload

Benton AB, Mezzanine Level, Sheraton

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Pragmatic Visionaries

Suffering from TMI (too much information)? Aren't we all! Asking the right questions before, during, and after online searches encompasses a set of skills most students don't have.

Let's explore some new tools that help us to help them search effectively so they can benefit from the sea of information available today. Participants learn about employing critical thinking skills for STEM research on the internet, tools and methods of inquiry for validating informational sources from internet research, and fostering student information literacy.

Sara Armstrong, Associate, Thornburg Center, IL

✦ 3:45 PM - 4:45 PM

SPECIAL SESSION

RECRUITING, RETAINING, AND TRANSITIONING STUDENTS INTO STEM PROGRAMS

Collaboration: A Powerful Tool for Success



Liberty, Ballroom Level, Westin

Complex issues require a multi-pronged approach. Explore best practices for building collaboration between formal and informal organizations focused on strengthening efforts to engage and support girls and women in STEM programs.

Karen Peterson, CEO; Vicky Raya, Manager, Diversity, EdLab Group, Washington



CONCURRENT SESSIONS

HEALTH AND SCIENCE

Exercise Is Medicine, But How Do We Prepare the Practitioners?

Pershing Place North, Ballroom Level, Westin

What can we do to help combat obesity, diabetes, and heart disease? Learn how we are preparing exercise science students to manage these conditions through an innovative and career-focused postgraduate program that encompasses service learning, interprofessional collaboration, internships, and active engagement.

Kristan Lingard, Professor and Program Coordinator, Hospitality Recreation and Tourism; Denise Gardner, Professor, Hospitality Recreation and Tourism, Humber College Institute of Technology and Advanced Learning, ON, Canada

ENERGY, ENVIRONMENT, NATURAL RESOURCES, AND SUSTAINABILITY

A Long-Term Environmental Study Helps Students Learn Scientific Methodology

Pershing Place West, Ballroom Level, Westin

An eight-year study of a watershed on the Longview Campus has introduced hundreds of general education students to scientific methodology. Participation in the study has improved student learning of expected outcomes.

Stephen Reinbold, Instructor, Biology, Metropolitan Community College, MO

MATHEMATICS, ENGINEERING, AND ARCHITECTURE

The Ensemble of Emporium Math: Increasing Rigor and Student Success

Empire B, Mezzanine Level, Sheraton

The emporium model has promise for developmental mathematics, but only with underlying principles. Participants share their current efforts in developmental math, create a set of foundational principles that drive developmental math reform, and leave with a roadmap for implementing an emporium math model that increases rigor and student success.

Mirra Anson, Director, Developmental Education; Thora Broyles, Specialist, Mathematics, Missouri State University-West Plains, MO

STEM Teachers: Ready, Set, Research!

Empire C, Mezzanine Level, Sheraton

Through universities across the county, the National Science Foundation provides opportunities for teachers to do real engineering research in real labs and make a real difference in their classroom instruction.

Pamela Truesdell, Albert Einstein Distinguished Educator Fellow, Engineering Education and Centers, National Science Foundation, VA

MANUFACTURING, INDUSTRY, AGRICULTURE, AND AEROSPACE

Supporting Student Learning and a Growing Biotechnology Industry Simultaneously

Shawnee, Ballroom Level, Westin

Using an innovative approach, the STLCC biotechnology program is enhancing student learning through an integrated industry partnership that simultaneously supports growing companies within the life sciences industry.

Richard Norris, Director, Center for Plant and Life Sciences, St. Louis Community College, MO; Elizabeth Boedeker, Senior Scientist, Life Science, St. Louis Community College at Florissant Valley, MO

TECHNOLOGY, MULTIMEDIA, AND TELECOMMUNICATIONS

Using the Agency Model to Promote Professional Technical Skills

Pershing Place South, Ballroom Level, Westin

Using an innovative agency model, JCCC and the Blue Valley School District collaborate to provide students with professional work experiences in interactive media and building client relationships.

James Hopper, Chair, Computer Science and Information Technology, Johnson County Community College, KS; Leah Karchin, Instructor, Interactive Design, Blue Valley School District, KS

RECRUITING, RETAINING, AND TRANSITIONING STUDENTS INTO STEM PROGRAMS

i-STEM: A Comprehensive Teacher STEM Professional Development Program

Chicago A, Ballroom Level, Sheraton

The facilitators take participants through a few program activities to help them develop a deeper understanding of the i-STEM program. In addition, participants discuss data that detail the impact of teacher preparation on the teaching of STEM content and concepts.

Louis Nadelson, Associate Professor, College of Education, Boise State University, ID; Anne Seifert, STEM Education Coordinator, Education Outreach, Idaho National Laboratory, ID

Increasing the Number of Minority Students Pursuing STEM in College

Chicago B, Ballroom Level, Sheraton

Come explore components of dual enrollment programs that have the greatest success in getting more minority students to graduate in STEM disciplines. Also considered are the findings from a mixed-methodology research effort.

David May, Project Director, P-20 Partnerships and STEM Initiatives; Erin Knepler, Program Director, Academic Affairs, University System of Maryland, MD



❖ 3:45 PM - 4:45 PM (CONTINUED)

Tap Into Success: A Program for First-Generation STEM Students

Chicago C, Ballroom Level, Sheraton

The Transition and Advising Program is designed to help first-generation students in health sciences and applied technology programs find success in higher education. Join us as we discuss program design, implementation, achievements, lessons learned, and plans for expansion.

Chantal Joy, Director, Student Life, Student Success and Engagement; Melanie Chai, Peer Facilitator, Student Success and Engagement, Humber College Institute of Technology and Advanced Learning, ON, Canada

From Passive to Active: Tying the STEM Educational Pathway to a STEM Career

Chouteau B, Mezzanine Level, Sheraton

Current passive academic information systems are inhibiting community colleges from capitalizing on demand for STEM graduates. Hear how students, parents, or advisors use innovative SaaS solutions to create personalized career pathways featuring monitoring. See how your students can interactively identify their aptitudes, explore satisfying STEM careers, and use these resources to fuel student success.

Richard Cerkovnik, Director, AACC Regional STEM Center, Anne Arundel Community College, MD; Julia Ridgely, Director, Product Management, Owen Software Corp., MD

THE INTEGRATION OF STEM AND THE LIBERAL ARTS

Children's Innovation Project: Circuits and Growing Early Childhood Language

Mission, Ballroom Level, Westin

The presenters share students' work taking apart toys and repurposing them for new expressions. Participants explore circuit-building materials and discuss building young children's language development. This session will interest educators interested in the connections between the sciences, art, and language.

Melissa Butler, Teacher, Early Childhood, Pittsburgh Public Schools, PA; Jeremy Boyle, Teacher and Artist, Create Lab, Carnegie Mellon University, PA

TECHNOLOGY SYSTEMS AND APPLICATIONS

Summer ROCKS: Using Moodle to Stop Summer Learning Loss

Chouteau A, Mezzanine Level, Sheraton

Summer learning loss is a continuous problem for educators. The Summer ROCKS program, which is free to students, uses Moodle to create a program to help reduce summer learning loss.

Maria Esterline, Instructional Technology Coordinator, Administration; Jodi Dubovich, Teacher, 4th Grade, Westfield Washington Schools, IN

The Digital Learning Process: Strengthening and Assessing 21st Century Skills

Benton AB, Mezzanine Level, Sheraton

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Experience the power of blended learning through inquiry-driven projects.

The Digital Learning Process provides a way out of having to choose whether to teach core subjects or 21st Century skills.

Learn how to link common core subjects and NETS standards through the inquiry process. Learn techniques for making thinking visible through reflection, as well as how to link online and offline teaching and learning.

Ferdi Serim, Associate; Sara Armstrong, Associate, Thornburg Center, IL

❖ 5:00 PM - 6:00 PM

SPECIAL SESSION

E-LEARNING RESOURCES

E-Portfolios: Methodology to Validate and Promote Critical Workforce STEM Skills



Liberty, Ballroom Level, Westin

Participants learn how e-portfolios are used to validate and promote workforce readiness in STEM education. This session is particularly valuable to community college faculty members.

Ken Scott, Senior Instructor, Computer Information Systems, and Director, Cisco Networking Academy/SkillsUSA - Trenholm, H. Councill Trenholm State Technical College, AL

CONCURRENT SESSIONS

HEALTH AND SCIENCE

Connecting Online Students to Science: How Lab Kits Enhance Learning

Pershing Place North, Ballroom Level, Westin

Participants experience the engaging learning opportunity science lab kits can provide and gain ideas to maximize learning while minimizing risk and avoiding common mistakes in online lab design.

Jennifer Baggett, Faculty, Biology, Dallas County Community College District, TX



MATHEMATICS, ENGINEERING, AND ARCHITECTURE

The MPS Program: 11+ Years of Success

Empire B, Mezzanine Level, Sheraton

Mathematics remains a daunting challenge for many community college students. The Math Performance Success Program embraces a collaborative approach to helping students complete their math requirements from pre-algebra through university level statistics. Learn how the MPS Program helps students achieve their goals in math.

Herminio Hernando, Counselor and Instructor, Counseling; Kathryn Plum, Professor, Mathematics; Khosravi Mehrdad, Professor, Mathematics, De Anza College, CA

Using Video Technology to Teach and Learn Calculus With WebAssign

Empire A, Mezzanine Level, Sheraton

Classroom video technology provides better presentations of course material to onsite and remote students. The presentation includes recording a short video clip; producing, uploading, and linking the video to WebAssign; and a demonstration of student access to classroom video clips. The presentation provides points of views from student and instructor perspectives.

Aharon Dagan, Professor, Mathematics, Santa Fe College, FL

TECHNOLOGY, MULTIMEDIA, AND TELECOMMUNICATIONS

Thought-Controlled Computing: The Future Is Here

Pershing Place South, Ballroom Level, Westin

Using the Emotiv EPOC neuroheadset, the presenters demonstrate thought and facial expression controlled computing and lead a conversation about its implications for computer science curriculum.

David Brunick, Program Chair, Information Technology; Heith Hennel, Professor, Information Technology, Valencia College, FL

RECRUITING, RETAINING, AND TRANSITIONING STUDENTS INTO STEM PROGRAMS

Summer Science Exploration: Using Your Community to Boost Science Interest

Chicago A, Ballroom Level, Sheraton

Secondary STEM educators learn how to develop, organize, implement, and recruit for science enrichment summer camps that involve students, community members, government organizations, and university partnerships.

Susan Chabot, Science Program Planner, Science; Gayle Boyle, Teacher, Science, Charlotte County Public Schools; Lemon Bay High School, FL

Regional Strategies for Transforming K-16 STEM (Thieves Welcome)

Chicago B, Ballroom Level, Sheraton

Come pirate strategies from Rockland Community College's NSF grant to help improve K-16 STEM education in your community and help end the nation's K-16 STEM crisis one region at a time.

Laurie Miller McNeill, Director, Grants Development for Strategic Initiatives; Cliff Wood, President, Rockland Community College - SUNY, NY

A Learning Culture of Success: A Cultural Approach for Increasing Diversity and Inclusion in STEM

Chicago C, Ballroom Level, Sheraton

Learn about the MESA Program and the cultural approach that has been successfully piloted at San Diego City College and San Diego State University to increase the success of first-generation and underrepresented students in STEM.

Rafael Alvarez, Director, Engineering, San Diego City College, CA

Science Learning and Careers: A Cross-Cultural Study

Shawnee, Ballroom Level, Westin

Participants discuss a database used to analyze middle school students' science learning and their future career expectations in Australia, Chinese Taipei, France, Germany, Japan, Russia, the United Kingdom, and the United States, and how to improve STEM and science education around the world.

Renmin Ye, Senior Researcher, Houston ISD, TX

THE INTEGRATION OF STEM AND THE LIBERAL ARTS

Effects of Poetry Formative Assessments on STEM Content and Skills

Mission, Ballroom Level, Westin

Imagination takes center stage in STEM and all other fields. Learn about the effects of poetry formative assessments on students' STEM-content skills in a variety of disciplines. Experience a poetry writing formative assessment!

David Majerich, Research Scientist, Design and Intelligence Laboratory, Georgia Institute of Technology, GA

Humanities Plus STEM: Transformational Stories to Lead Change

Benton AB, Mezzanine Level, Sheraton

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Participate in this session to have some fun with the Thornburg Center for Professional Development and your fellow colleagues. Come learn the arts way of learning through storytelling and pick up a few tips and tools applicable to educational transformation initiatives.

Jim Brazell, Technology Forecaster and Strategist; David Thornburg, Founder and Director; Sara Armstrong, Associate; Ferdi Serim, Associate; Lynell Burmark, Associate, Thornburg Center, IL

TECHNOLOGY SYSTEMS AND APPLICATIONS

We're Changing Our LMS Again!

Pershing Place East, Ballroom Level, Westin

How many learning management systems has your college been through? Is your college considering another change? This session introduces steps that you can implement at your institution to ensure the transition is as smooth as possible!

Kathy Eitzmann, Dean, Business, Southeast Community College, NE



♣ 5:00 PM - 6:00 PM (CONTINUED)

E-LEARNING RESOURCES

Using Web 2.0 in Nursing Education

Chouteau A, Mezzanine Level, Sheraton

Participants learn about free tools available via Web 2.0 that they can use in the classroom to engage millennial learners. Tools discussed include wikis, blogs, Broadtexter, Twitter, 4shared, digital dropbox, and more.

Marsha Woodall, Associate Professor, Nursing; Rachel Terry, Professor, Nursing, Madisonville Community College - KCTCS, KY

Web-Based Clicker Systems: A Review

Chouteau B, Mezzanine Level, Sheraton

Using web-enabled student-owned devices is a less expensive alternative to using dedicated clicker remotes. Come learn how the web-based clicker systems stack up against one another.

Sue Frantz, Professor, Psychology, Highline Community College, WA

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Carole A. McCoy, President,
Jefferson Community College

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WEDNESDAY, OCTOBER 31, 2012

✦ 8:00 AM - 9:00 AM

CONCURRENT SESSIONS

HEALTH AND SCIENCE

Integrating Elementary Physical Science Content With Information and Technology Literacy*Pershing Place North, Ballroom Level, Westin*

Emporia State library school and physical science faculty members teach the experimental method to preservice elementary education teachers. Come learn about the partnership, implementation of instruction, and assessment of student learning.

Mirah Dow, Associate Professor, Library and Information Management; Kenneth Thompson, Professor, Physical Sciences, Emporia State University, KS

MATHEMATICS, ENGINEERING, AND ARCHITECTURE

A Place Where Dreams Begin: Reedley Colleges Math Study Center*Empire B, Mezzanine Level, Sheraton*

Learn about Reedley College's Math Study Center, where students and instructors work together to increase success in math and in the STEM fields. Highlighted are the Math Study Center's design, online tutorial services via iPads, the cool Groupbook App, and workshops.

Kathleen Landon, Coordinator, Mathematics and STEM; Becky Reimer, Coordinator, Mathematics and STEM, Reedley College, CA

TECHNOLOGY, MULTIMEDIA, AND TELECOMMUNICATIONS

=EQUALS= An Exciting Club*Shawnee Ballroom Level, Westin*

What do fractals, simulation, statistics, chaos and complexity, engineering, math, astronomy, tornados, earthquakes, Easter, Einstein, Mandelbrot, and neat designs have in common? Each are subjects covered in a local club, from the perspective of the simple spreadsheet! =EQUALS= is a math, science, programming, and critical thinking club for all students, teachers, and interested people. The goal of this club is to introduce people to different methods of actually doing the programming to analyze a subject. Session attendees will be shown many examples of how this simple learning environment is easy to navigate, and how it provides authentic entry points to exploring and understanding a subject. Additionally, participants will be given sample workbooks created by the club.

Michael Round, Educator, Interdisciplinary Studies, Center for Autosocratic Excellence, KS

YouTube in the Classroom: Or Is It Just for Kids?*Pershing Place South, Ballroom Level, Westin*

Students at every level need to be engaged in learning. Over two billion people a day view YouTube. Educators should learn how to take advantage of this popular, free, and timely technology in the classroom from kindergarten through college.

Suzan Perry, Chair, Design Technology, Ivy Tech Community College, IN

RECRUITING, RETAINING, AND TRANSITIONING STUDENTS INTO STEM PROGRAMS**What's Next? Making Commonly Disregarded Educational Practices Relevant***Chicago A, Ballroom Level, Sheraton*

Explore unconventional educational practices with staff members from PA Cyber, one of the nation's largest unconventional schools. Participants engage in activities and discussion about PA Cyber's STEM Epicenter, an educational incubator focusing on the development of unique STEM initiatives to attract, retain, and prepare 21st century learners.

Mike Hissam, Coordinator, STEM Initiatives and Partnerships; Vincent Trombetta, Principal, K-12; Joel Cilli, Research and Development, Special Education - GATE/STARR, Pennsylvania Cyber Charter School, PA

The Voices of STEM: Partnerships to Increase STEM Program Matriculation*Chicago B, Ballroom Level, Sheraton*

Learn how Harmony Public Schools are using their STEM Conference to engage students, P-16 educators, and STEM professionals in critical dialogue. The presenter shares a roadmap for expanding STEM-based curriculum and building critical partnerships to increase program matriculation.

Dan Houston, Research Coordinator, District Administration, Harmony Public Schools, TX

Their STEM Experience: STEM Scholarships and Undergraduate Research*Chicago C, Ballroom Level, Sheraton*

Faculty members and students share information about the NSF-funded St. Louis STEM Scholars Academy Scholarship Program and student-initiated activities, including a multidisciplinary aquaponics undergraduate research project.

Patricia Suess, Chair, Mathematics; Ben Telthorst, Intern, St. Louis Community College at Florissant Valley, MO

WEDNESDAY



✦ 8:00 AM - 9:00 AM (CONTINUED)

TECHNOLOGY SYSTEMS AND APPLICATIONS

Keeping Students on Track in an Emporium-Style Math Course

Pershing Place East, Ballroom Level, Westin

This presentation describes how technology is used to instruct, assess, and track students in a modified emporium-style developmental math class, including results to date, lessons learned, and implementation tips. *Curtis Mitchell, Director, Mathematics and Science, Kirkwood Community College, IA*

E-LEARNING RESOURCES

Technology in the Classroom: Audio Technology to Support Student Learning

Chouteau A, Mezzanine Level, Sheraton

Learn how to provide verbal feedback to your students using Jing. Smartpens provide several opportunities for learning outside the classroom, including providing instructor-presented information and recording lecture notes and audio. Discussed are how the technology works, how to use it in distance education courses, and where to get the technology.

Sybil Chandler, Faculty, Technology, Metropolitan Community College, MO

A Technology Quartet: Harmony Between Technology Integration and Instructional Design

Chouteau B, Mezzanine Level, Sheraton

This session showcases a unique model that integrates technology that has the capacity to solve problems on a local level, support creation of strategic partnerships, and advance instructional design capacity.

Kris Frady, Research Associate, Workforce Development, Clemson University, SC

✦ 9:15 AM - 10:15 AM

CONCURRENT SESSIONS

ENERGY, ENVIRONMENT, NATURAL RESOURCES, AND SUSTAINABILITY

Assuring Collaborative Communities in Environmental Education Research

Pershing Place West, Ballroom Level, Westin

Come learn how to incorporate a variety of professionals in the classroom. Participants learn how to manage their volunteers' time and how to share their own expertise with their communities.

Teresa Thornton, Instructor, Environmental Science, Oxbridge Academy of the Palm Beaches, FL

MATHEMATICS, ENGINEERING, AND ARCHITECTURE

Strategies for Expanding and Strengthening the Community College STEM Pipeline

Empire A, Mezzanine Level, Sheraton

Discussed are the results of successful strategies, including an intensive math review, a residential engineering institute, technology-enhanced instruction, a summer research internship program, integrated research, and a bridge to engineering for veterans.

Polin Yadak, Faculty, Physics, Cañada College, CA

Project-Based Service Learning: Leverage the Value of Student Work

Empire B, Mezzanine Level, Sheraton

The benefits of project-based service learning are discussed using examples of student work, including the EMPACTS projects. Specific projects for inter-college collaboration are presented.

Michael Zelin, Professor, Mathematics and Science, Northwest Arkansas Community College, AR

TECHNOLOGY, MULTIMEDIA, AND TELECOMMUNICATIONS

STEM Resource Center for 21st Century Students: Twelve Essential Considerations

Pershing Place South, Ballroom Level, Westin

Developing a STEM resource center is easier said than done. Twelve essential considerations for creating an effective STEM resource center are revealed and discussed.

Deborly Wade, Professor, Biology, Central Baptist College, AR

RECRUITING, RETAINING, AND TRANSITIONING STUDENTS INTO STEM PROGRAMS

Vision and Change: Bringing Undergraduate Research Into the Community College

Chicago C, Ballroom Level, Sheraton

This session incorporates audience participation using a case study. The Community College Undergraduate Research Initiative case model introduces students to thinking scientifically as freshmen and engages them in a research experience in their sophomore year.

Nancy Hensel, Executive Officer, New American Colleges and Universities, CA; James Hewlett, Professor, Science and Technology, Finger Lakes Community College - SUNY, NY

STREAM the Future: Recruiting Middle School Students Into STEM Careers

Chicago A, Ballroom Level, Sheraton

The presentation describes a community college event focused on 8th graders emphasizing reading as a foundation for STEM and collaborative STEM programs. The presenters share project implementation and a collaborative activity.

Kelly Mizell, Faculty, Biology; Karen Hattaway, Professor, English, San Jacinto College - North Campus, TX



The Extreme STEM Tour: Career Awareness Through Business and Education Partnership

Chicago B, Ballroom Level, Sheraton

Discover how 1,330 eighth graders got into business and industries to learn about STEM careers, as well as the local postsecondary education and training options available to them. Five extreme days of STEM...the experience, priceless!

Tracy Hall, Director, Student and Community Engagement, Catawba Valley Community College, NC; Karen Cale, Director, Career and Technical Education; Carol Moore, Specialist, Curriculum and Instruction, Catawba County Schools, NC

THE INTEGRATION OF STEM AND THE LIBERAL ARTS

What Social Sciences Teach Us About Teaching About Climate Change

Empire C, Mezzanine Level, Sheraton

Come learn about how what people think and how they feel their way to decisions about nature and climate change can improve our teaching of these issues.

Samuel Wallace, Assistant Professor, Geography, Montgomery County Community College, PA

TECHNOLOGY SYSTEMS AND APPLICATIONS

Farther, Faster, and Surprisingly Cheaper! Ion Propulsion

Pershing Place East, Ballroom Level, Westin

NASA's Discovery Program mission, Dawn, currently cruising in the main asteroid belt, attains its science objectives thanks to a dynamic propulsion system. Explore the way cool technology behind the scenes.

Whitney Cobb, Education Consultant, Education and Public Outreach, Mid-continent Research for Education and Learning, CO

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Charlotte Downing, Director
Monroe Community College



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CLOSING GENERAL SESSION

♣ 10:30 AM - 12:00 PM ♣

GRAND BALLROOM, BALLROOM LEVEL, SHERATON



CHAIR AND INTRODUCTION

Stella Perez,

Executive Vice President and COO, League for Innovation in the Community College



WELCOME

Dana Grove,

*Executive Vice President and COO,
Johnson County Community College*

KEYNOTE SPEAKER

Dr. Julio R. Blanco is Dean of the School of Natural Sciences, Mathematics, and Engineering, and Associate Provost for Grants, Resource Management, and Planning at California State University, Bakersfield (CSUB). He has over 30 years of academic, administrative, aerospace research, and management experience. He has supervised 14 master's theses and 11 honor undergraduate theses, as well as research and post-doctoral fellows. He has over 30 peer-reviewed research articles and has participated in lead roles in research projects over his career in excess of one hundred million dollars. Currently, his interests include co-chairing the CSUB graduation rate initiative, a CSU system project and part of a national effort to increase the number of students graduating within six years with a baccalaureate degree and reduce the graduation rate gap between unrepresented minorities and the general population. Dr. Blanco is actively engaged with the Kern County community in establishing a pathway into STEM that starts in K-12 and leads through community college and CSUB. Dr. Blanco was the recipient of the 2011 Beautiful Bakersfield Education Award offered by the Greater Bakersfield Chamber of Commerce.



DR. JULIO R. BLANCO

JOHN & SUANNE ROUECHE *Excellence Awards*

*I*n recognition of the long tradition of excellence in community college teaching and leadership, the League is proud to announce the establishment of the John & Suanne Roueche Excellence Awards in 2012. These awards are open to League Alliance member institutions to celebrate outstanding contributions and leadership by community college faculty and staff. Recipients will be recognized in a series of activities and promotions, and honored at special events at the League's *Innovations* conference each spring.

We invite all League Alliance member colleges and systems to nominate those at their institutions who exemplify exceptional teaching and leadership for Excellence Awards.

The League will accept submissions for the 2012 John & Suanne Roueche Excellence Awards beginning September 4, 2012.

- ❖ Submit names online at www.league.org/award.
- ❖ The deadline to submit names is December 8, 2012.

A special John & Suanne Roueche Excellence Awards program will list the names, titles, and colleges of all honorees and feature congratulatory ads from League member colleges.

- ❖ Submit a congratulatory ad online at www.league.org/award/ad.
- ❖ The deadline to submit ads is January 26, 2013.



For more information please visit www.league.org/exawards.



The League is an international association dedicated to catalyzing the community college movement. CEOs from the most influential, resourceful, and dynamic community colleges and districts in the world comprise the League's board of directors and provide strategic direction for its ongoing activities. These community colleges and their leaders are joined by more than 800 institutions that hold membership in the League's Alliance.

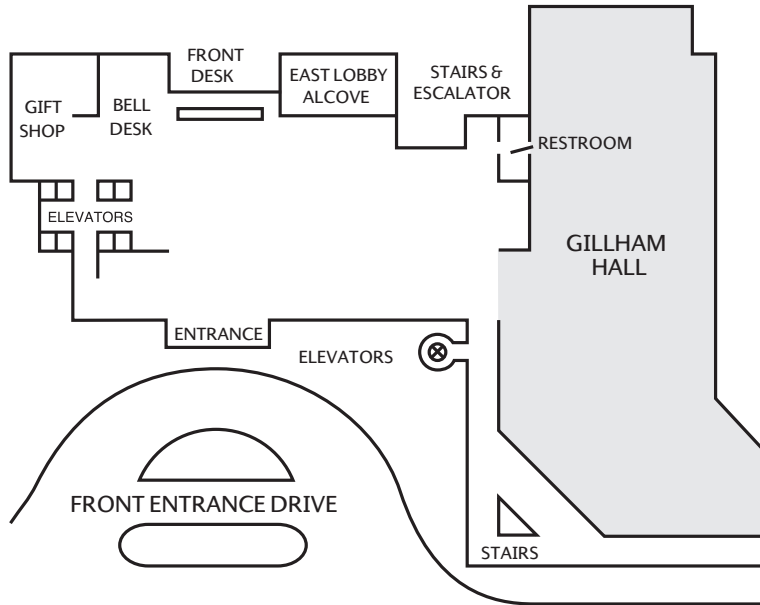
The League—with this core of powerful and innovative community colleges and more than 160 corporate partners—serves nationally and internationally as a catalyst, project incubator, and experimental laboratory for community colleges around the world. We host conferences and institutes, develop Web resources, conduct research, produce publications, provide services, and lead projects and initiatives with our member colleges, corporate partners, and other agencies in a continuing effort to make a positive difference for students and communities. These current programs, along with the League's 44-year history of service to community colleges, explain why in 2001, Theodore Marchese, the veteran executive editor of *Change*, observed, "The League is the single most vital organization in higher education today."



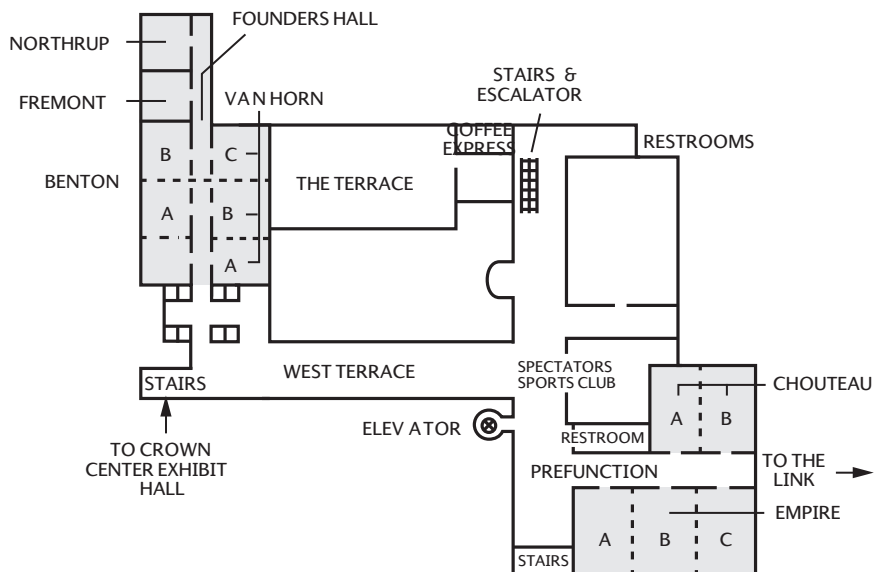


SHERATON

LOBBY LEVEL



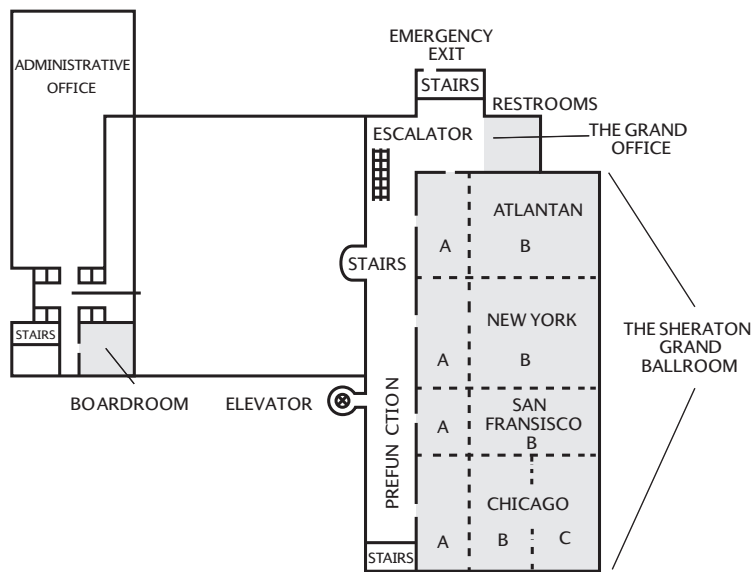
MEZZANINE LEVEL



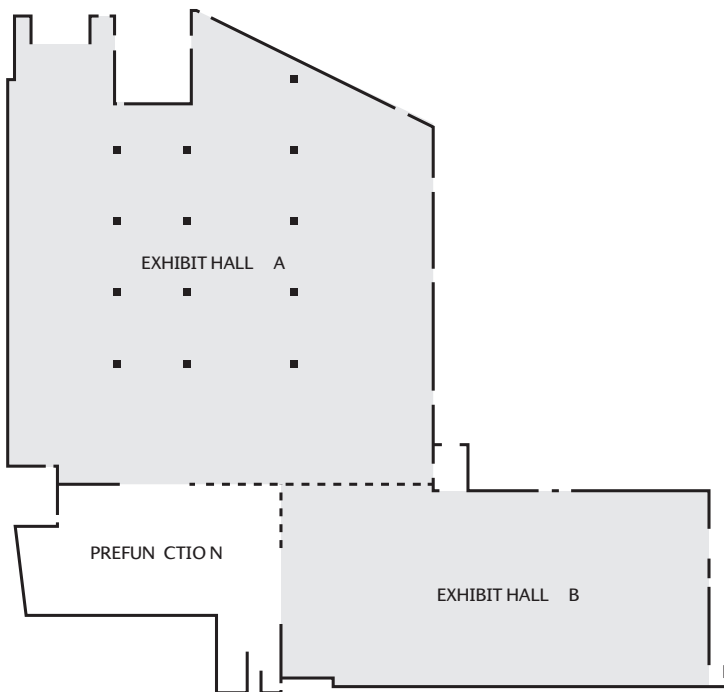


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BALLROOM

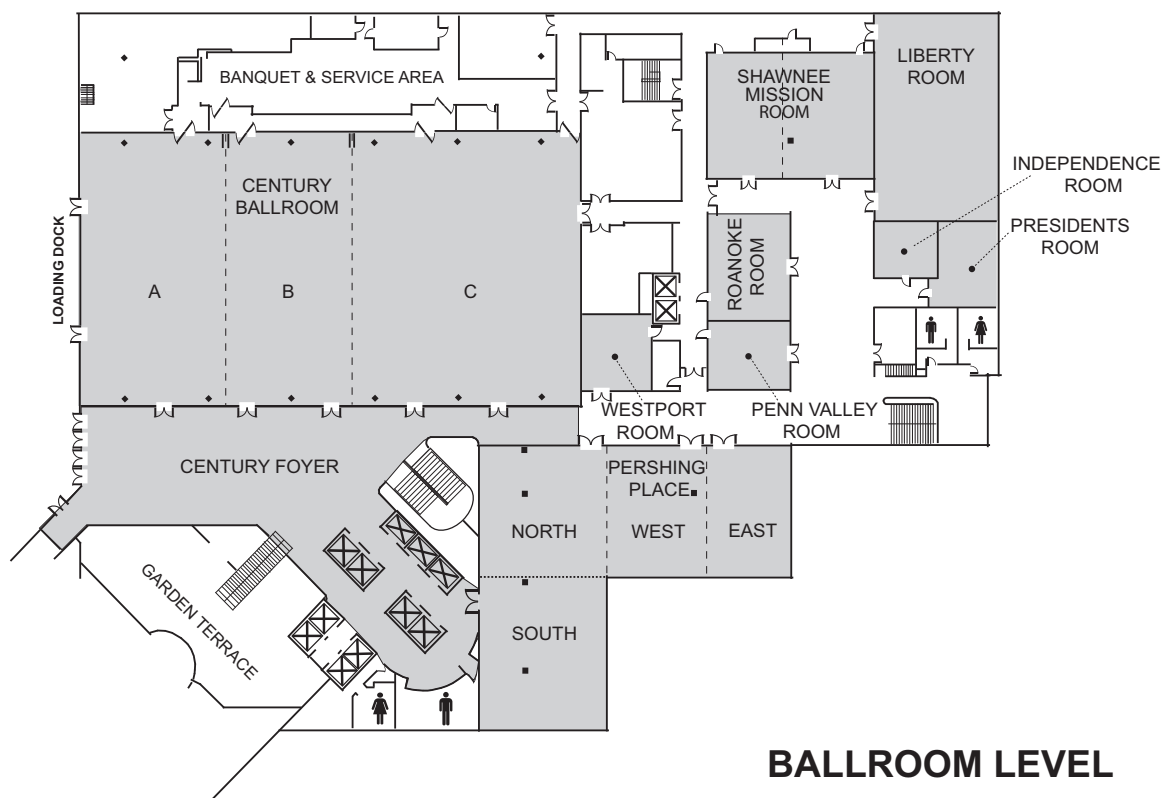


CROWN CENTER EXHIBIT HALL





WESTIN BALLROOM LEVEL





2012 Executive Leadership Institute
December 2-7, 2012

Arizona Biltmore
Phoenix, Arizona

Sponsored by the League for Innovation in the
Community College in cooperation with The
University of Texas at Austin and the American
Association of Community Colleges

www.league.org/eli

INNOVATIONS
MARCH 10-13 2013
Conference in Dallas

Innovations 2013
March 10-13, 2013

Hilton Anatole
Dallas, Texas

Sponsored by the League for Innovation
in the Community College
Hosted by Dallas County Community
College District

www.league.org/i2013



Learning Summit

Learning Summit 2013
June 9-12, 2013

Sheraton Wild Horse Pass
Chandler, Arizona

Sponsored by the League for Innovation
in the Community College
Hosted by Maricopa County Community
College District

www.league.org/l2012



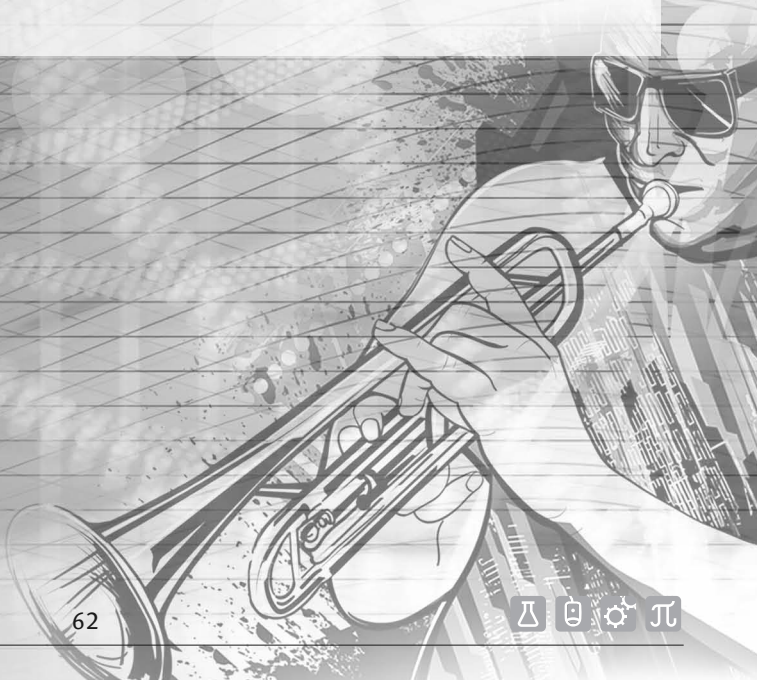
STEMtech

2013 STEMtech Conference
October 27-30, 2013

Hyatt Regency
Atlanta, Georgia

Sponsored by
the League for Innovation
in the Community College

www.league.org/2013stemtech





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For more information, please contact **Cheri Jessup** at jessup@league.org

NOTES



2012 STEMTECH CONFERENCE PERSONAL PLANNER



Use this planner to design your 2012 STEMtech conference agenda.
Jot down page numbers of session descriptions for quick reference.
Pencil in meetings with colleagues.

	Sunday, Oct. 28	Monday, Oct. 29	Tuesday, Oct. 30	Wednesday, Oct. 31
8:00 a.m. - 9:00 a.m.			8:00 a.m. - 9:00 a.m. Track Keynote Session	
9:00 a.m. - 10:00 a.m.		9:15 a.m. - 10:15 a.m. Track Keynote Session	9:15 a.m. - 10:15 a.m. Track Keynote Session	
10:00 a.m. - 11:00 a.m.		10:15 a.m. - 12:00 p.m. Coffee Break in the Exhibition Hall	10:15 a.m. - 11:15 a.m. Coffee Break in the Exhibition Hall	10:30 a.m. - 12:00 p.m. Closing General Session
11:00 a.m. - 12:00 p.m.		11:00 a.m. - 12:00 p.m. Track Keynote Session	10:15 a.m. - 12:00 p.m. Exhibition Hall Open 11:00 a.m. - 12:00 p.m. Track Keynote Session	
12:00 p.m. - 1:00 p.m.				
1:00 p.m. - 2:00 p.m.		1:15 p.m. - 2:15 p.m. Refreshment Break in the Exhibition Hall	12:30 p.m. - 1:30 p.m. Track Keynote Session	
2:00 p.m. - 3:00 p.m.		2:15 p.m. - 3:15 p.m. Track Keynote Session	1:30 p.m. - 2:30 p.m. Refreshment Break in the Exhibition Hall	
3:00 p.m. - 4:00 p.m.	3:15 p.m. - 4:15 p.m. Refreshment Break in the Exhibition Hall	3:30 p.m. - 4:30 p.m. Track Keynote Session		
4:00 p.m. - 5:00 p.m.				
5:00 p.m. - 6:00 p.m.	4:30 p.m. - 6:00 p.m. Opening General Session			
6:00 p.m. - 7:00 p.m.	6:00 p.m. - 7:30 p.m. Opening Reception in the Exhibition Hall	5:45 p.m. - 7:00 p.m. Reception in the Exhibition Hall		
7:00 p.m. - 8:00 p.m.				



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