STEMtech 2010 Pages in the Official Program Guide

Oceanic 2, Lobby Level
MindMapping: Building Better Foundations for the Thinking Skills Process

MATCHWARE
Software for Creative Minds

Brainstorm and expand on topics that will become the framework for written documents, presentations, and class lectures. MindMaps help facilitate students' analytical thinking, comprehension, creativity, and writing skills across the curriculum. MindMaps also improve reading skills, which increases retention, comprehension, and the organization of main ideas. MindView allows students and teachers to rapidly visualize, organize, and implement ideas and export them to HTML, Word, and PowerPoint.
Dave Hamilton, Educational Advisor, Sales and Training, MatchWare, Inc., FL

Oceanic 1, Lobby Level
Benefits of Active Learning in Online IT Courses

TestOut.

Learn how information technology instructors across the nation teach blended and online courses by employing active learning, including virtual lab simulations, to provide remote students with hands-on experience. When applied in computer technology courses, active learning through hands-on teaching activities is especially useful in helping students learn complex computer skills.
Brian Hartpence, Director, Computer Network Engineering Technology, Polk State College, FL; Peggy Hayes, Manager, Academic Marketing, TestOut, UT

TECHNOLOGY SYSTEMS AND APPLICATIONS

Oceanic 8, Lobby Level
EMC Academic Alliance: Partnering to Bridge the Storage Knowledge Gap

EMC²
where information lives*

Learn how you can enhance student career prospects in the world of IT through the EMC Academic Alliance program. The program offers a free storage course and faculty training to qualified colleges. The presenter explains the program and leads a discussion about how it can be used at your college.
Kim Yohannan, Manager, Education Services, EMC Corporation, MA

E-LEARNING RESOURCES

Oceanic 6, Lobby Level
Web 2.0 and Open Source: Beyond the Ordinar-E Learning
Prince George's Community College and Trenholm State Technical College are using free web-based resources to provide self-paced lesson-based training for e-learning and Web 2.0 technologies. Provided are a unique look at how, with limited human and budgetary resources, these tools are being used to teach these technologies. Web 2.0 and open-source platforms provide faculty with a training resource where they learn, collaborate, and contribute. Colleges can use these models to develop their own resource.
Ken Scott, Senior Instructor and Director, Computer Information Systems, H. Councill Trenholm State Technical College, AL; Lorna Gagneux, Manager, Multimedia Services, Prince George's Community College, MD

Oceanic 5, Lobby Level
Enhancing Online Classes With Simulations Made by Students, Graduates, and Faculty
In 2007, Lorain County Community College created an interdivisional associate's degree program in Computer Game and Simulation Design, in part to help build the pool of STEM simulation programmers. This session describes the program and its tumultuous origins, showcasing e-learning simulations and kits made by our students, faculty, and graduates.
Mike Substelny, Faculty, Distance Learning; Terrence Green, Faculty, Science and Mathematics; John Crooks, Associate Provost, University Partnership, Lorain County Community College, OH

Oceanic 4, Lobby Level
Rescuing Online Underprepared Adult Students With Web 2.0 Technologies

WALDEN UNIVERSITY
A higher degree. A higher purpose.

Online underprepared adult students scramble to mix college into their busy lives. Web 2.0's intimacy and immediacy can aid in their retention. Learn about a framework for incorporating Web 2.0 technologies into the online classroom. Participants discuss techniques to modify this framework to make it suitable for their classrooms.
Africa Archield, Student, Education; Keith Pratt, Faculty, Education and Leadership, Walden University, MN

ROUNDTABLE DISCUSSIONS
All Roundtable Discussions take place in Southern Hemisphere I-V, Fifth Level

MATHEMATICS, ENGINEERING, AND ARCHITECTURE
Robotics: Gateway to Engineering Careers
Scottsdale Community College (SCC) is located on the Salt River Pima Maricopa Indian Community. Learn how SCC partnered with Salt River High School to offer a robotics and engineering summer boot camp. While students thought they were just playing with robots, they actually developed their math, science, and engineering skills.
Daniel Corr, Vice President, Academic and Student Affairs, Scottsdale Community College, AZ

TECHNOLOGY SYSTEMS AND APPLICATIONS
Using Web 2.0 Tools to Enhance Your Courses
Using free Web 2.0 applications, participants create tools for classes and other uses. Examples of applications presented include slide shows and movies, icon and avatar creation, mobile application surveys, question and answer sites, wikis, website templates, and more. Bring your laptops and jump drive to save your work.
Gina Bowers-Miller, Professor and Counselor, Computer Technology, Harrisburg Area Community College, PA

E-LEARNING RESOURCES
Technology Solutions to Support At-Risk Students
College personnel, employers, and students are often unaware of the technologies and resources available to promote success in STEM courses and careers. This roundtable discussion highlights hardware, software, and online resources that benefit at-risk students and covers institutional procedures necessary to optimize benefits for students and employees.
Esther Mason, ADA Coordinator, Support Services for Students With Disabilities, Community College of Allegheny County, PA; Steve Fadden, Vice President, Institute for Research and Training, Landmark College, VT; Sandi Patton, Director, Disability Services, Lone Star College System, TX; Susan Trist, Coordinator, Disability Support Services, Western Nevada Community College, NV

ROUNDTABLE DISCUSSIONS
All Roundtable Discussions take place in Southern Hemisphere I-V, Fifth Level

HEALTH AND SCIENCE

Using Civic Engagement to Increase Retention in Developmental Courses

A multidisciplinary group of faculty members discuss using the SENCER model of civic engagement to increase student involvement, retention, and success in developmental English, math, and science courses. This roundtable discussion about using this model for service learning, honors, capstone, and pre-service teaching allows participants to explore their own uses.

Danielle Kraus, Associate Director, Science Education for New Civic Engagements and Responsibilities (SENCER); Donyel Williams, Dean, Instruction; Dennis Lehman, Special Assistant, Instruction; Mike Davis, Associate Vice Chancellor, STEM, City Colleges of Chicago, IL.

ENERGY, ENVIRONMENT, AND SUSTAINABILITY

College and Industry Partnerships in Energy and Sustainability Education

Four community colleges in Hawaii have partnered with Johnson Controls to step up energy conservation efforts, reduce costs, install and monitor renewable technologies, and provide renewable energy and sustainability education. Join us to discuss how energy and industry professionals can assist you in making yours a climate-neutral campus.
John Rand, Professor, Mathematics and Science, Kapi'olani Community College, HI

MATHEMATICS, ENGINEERING, AND ARCHITECTURE

It's the Math: Collaborative Course for Engineering and Architecture Students

Participants learn how to use a collaborative team to develop a dual enrollment mathematics course that serves as the gateway course for technology and engineering programs. Students often fail to grasp the mathematical concepts needed for postsecondary degree programs in engineering and architecture. Let's see how they can succeed.
Mary Anne Meyer, Project Director, Career Pathways, Queensborough Community College-CUNY, NY

Transferring Knowledge of Trigonometry To and From Precision Machining Blueprints

The National Technical Institute for the Deaf offers a course titled "Trigonometry of Coordinates Analysis." The goal of the course is to assist students use their knowledge of Geometry and Trigonometry, apply those skills when reading blueprints, decipher coordinates of a specific point of the drawing, and transfer those skills to precision machining.
Keith Mousley, Instructional Faculty, Mathematics and Science, National Technical Institute for the Deaf, NY

E-LEARNING RESOURCES

Faculty Online Certification Programs: A Path to Learning Community Excellence

Using Trenholm State's Distance Education Policies, Practices, and Certifications user guide, this session provide first-hand knowledge of e-learning practices that are used to establish a framework to achieve and sustain learning community success through instructional certifications for faculty teaching web-based courses.
Ken Scott, Senior Instructor and Director, Computer Information Systems, H. Councill Trenholm State Technical College, AL

4:45 PM - 5:45 PM

Northern Hemisphere E-1, Fifth Level

TECHNOLOGY, MULTIMEDIA, AND TELECOMMUNICATION TRACK KEYNOTE SESSION

New and Emerging IT and Communications Technologies

INNOVATION STREAM

Michael Qaissaunee, Associate Professor, Engineering and Technology, Brookdale Community College, NJ

Gordon Snyder, Executive Director, National Center for Telecommunications Technologies, Springfield Technical Community College, MA

The U.S. now ranks 15th in broadband penetration in the world. This session reviews information and communication technologies we must implement to better compete in today's global market. Discussed are wireless, cable, and telecommunications provider technology strategies and end-device hardware, operating systems, and applications.

CONCURRENT SESSIONS

HEALTH AND SCIENCE

Asia 5, Lobby Level

The STEM Academy K-12 Program: Improving STEM Literacy for All Students

The STEM Academy's curriculum was designed to improve student achievement and growth, close achievement gaps, increase high school graduation rates, and improve teacher and principal effectiveness. Developed collaboratively by K-12 teachers, university educators, industry partners, and engineering and biomedical professionals, The STEM Academy prepares students to be competent, capable citizens in a technology-dependent society.
Alan Gomez, Lecturer, Engineering, University of Wisconsin-Madison, WI

Oceanic 2, Lobby Level

Nursing Career Pathway Paving the Way With Clinical Simulation

The presenters describe a unique partnership between academia, practice, and community that focuses on the use of clinical simulation to enhance interest in the nursing profession. Participants discuss a very ambitious outreach program that takes the high-fidelity simulator SimMan on the road to high school students throughout Central Florida.
Rita Swanson, Specialist, Corporate Education and Development, Orlando Health, FL; Stephanie Sherman, Specialist, Education Programs, Orlando Science Center, FL; Maureen Tremel, Professor, Nursing, Seminole State College of Florida, FL

ENERGY, ENVIRONMENT, AND SUSTAINABILITY

Asia 4, Lobby Level

The Get Into Energy Career Pathways Initiative

The Center for Energy and Workforce Development is bringing together industry, education, and workforce to create career pathways for energy careers. The pathways are based on an integrated model of industry competencies aligned with stackable credentials. Find out what's in store for the pilot program and a national rollout.
Ann Randazzo, Executive Director, Center for Energy and Workforce Development, DC

11:00 AM - 12:00 PM *(continued)*

Environmental Immersions Develop Quantitative Reasoning, Critical Thinking, and System Sustainability
This presentation displays how environmental immersions influence the understanding of quantitative reasoning, critical thinking, and sustainable systems among STEM college students taking math courses.
Jaime Bestard, Associate Professor, Mathematics, Miami Dade College-Hialeah Campus, FL

MATHEMATICS, ENGINEERING, AND ARCHITECTURE

Using Microsystems and Cantilevers to Enhance STEM Student Learning
The NSF-funded Southwest Center for Microsystems Education offers a series of learning modules including hands-on kits to bring the world in micro technology into STEM classrooms. Participants learn to use a macro model of the cantilever, a key component in micro- and nano-based sensor and actuator systems, to deliver STEM concepts.
Matthias Pleil, Professor, Mechanical Engineering, Southwest Center for Microsystems Education, NM

TECHNOLOGY, MULTIMEDIA, AND TELECOMMUNICATION

The Laser Academy at Queensborough Community College: Project Modules
The Laser Academy informs high school science teachers about lasers and fiber optics during the summer where, in addition to the science and technology, participants learn about effective methods to teach this material. At the end of the summer experience, participants develop and teach a photonics course to students.
Paul Marchese, Assistant Dean, Academic Affairs, Queensborough Community College-CUNY, NY

E-LEARNING RESOURCES

Assessment From Start to Finish
Metropolitan Community College's e-portfolios benefits students and faculty members and impresses prospective employers. The project encompasses students' entire course of study and creates a digital portfolio available for business and faculty assessment. Come see the project and learn how to implement it.
Laurie Olberding, Faculty, Information Technology and E-Learning, Metropolitan Community College, NE

Faculty Online Certification Programs: A Path to Learning Community Excellence
Using H. Councill Trenholm State Technical College's *Distance Education Policies, Practices, and Certifications* user guide, this session provides first-hand examples of e-learning practices that are used to establish a framework to achieve and sustain learning community success through instructional certifications for faculty teaching web-based courses.
Ken Scott, Senior Instructor and Director, Computer Information Systems, H. Councill Trenholm State Technical College, AL

An Overview of the Student Learning Outcomes Assessment Cycle
This session highlights student learning outcomes, how measuring course outcomes can address improvements in courses and curriculum, how to address the assessment needs of institutions, and how the collection of data from student learning outcomes can be collected and disseminated to support accreditation requirements.
Ron McFarland, Dean, Business and Computer Systems, De Anza College, CA

12:00 PM - 1:00 PM   **Lunch Conversations**
Southern Hemisphere I-V, Fifth Level

12:30 PM - 1:30 PM

SPECIAL SESSION   *iSTREAM*

Northern Hemisphere E-1, Fifth Level
MATHEMATICS, ENGINEERING, AND ARCHITECTURE

Why So Few? Women in Science, Technology, Engineering, and Mathematics
Women make up half the U.S. workforce, but are underrepresented in many STEM fields. This presentation, based on a NSF-supported report from the American Association of University Women, highlights key findings about social and environmental factors that act as barriers to women's full participation in these fields. Practical recommendations for change are included.
Andresse St. Rose, Research Associate, American Association of University Women, FL

CONCURRENT SESSIONS

HEALTH AND SCIENCE

Asia 4, Lobby Level
The Evolution of a Biology Class
The Riverland Community College Biology Department has evolved from overhead projectors to streaming lectures in 10 years. Participants learn how technologies have been incorporated into onsite and online classes to create effective learning environments for health science students in a small rural community college.
Al Erdahl, Professor, Biology; William Dowden, Manager, Instructional Technology, Riverland Community College, MN

ENERGY, ENVIRONMENT, AND SUSTAINABILITY

Oceanic 3, Lobby Level
Teaching New Skills for Wicked Energy Careers: Context and Tools
This session, designed for career counselors, curricula planners, and instructors, focuses on systemic changes, new technology, competing stakeholders, and the volatility in renewable energy pushing employers to seek new skills and preparation. Participants apply practice-based decision tools, teaching modules, and simulations and can join a FIPSE cross-institutional industry-academic project.
Jeffrey Strauss, Associate Director, Center for Technology and Innovation Management, Northwestern University, IL

Asia 5, Lobby Level
How to Build an Eco-Oriented STEM Camp
This program is designed to support STEM disciplines in an interactive environmental camp for ninth graders. High school and college faculty working together provided hands on educational activities in the fields of anthropology (ancient DNA), toxicology, earth and water sciences, meteorology, energy resources, electronics and computer sciences.
Linda Nichols, Chair, Science for Health Programs; Eileen Monck, Technology Coordinator, Biotechnology Laboratory; Billie Monroe, Coordinator, Perkins Grants; Barbara Little-Harsh, Specialist, Perkins Grants, Santa Fe College, FL