

## Monday, April 2, 2007 Technical Sessions

**T1-A: Instructional Division #1**  
**Monday 10:30 - 12:00, Broadway A**

**Moderator: John Brocato**

***Distance Education: Remote Labs Environment***

Bassem Alhalabi, M. K. Hamza, Ali Abu-El Humos, Ashraf El-Houbi; Florida Atlantic, Lamar University, Jackson State University, Lamar University

***Redefining "Distance" Education Increasing Diversity, Accessibility, and/or Classroom Participation in Engineering Courses on a Time, Financial, and Technology***

***Shoestring***

Tom Walker; Virginia Polytechnic Institute

***Tools for Online Instruction***

John W. Lipscomb; University of Southern Mississippi

***What Effect? Studying Technological Changes (Specifically Distance Learning) in the Classroom***

R. Craig Henderson, Jim Murchison; Tennessee Technological University, Columbia State Community College

***Embracing the Middle Ground: Engaging On- and Off-campus Students within the Same "Classroom"***

Leigh S. McCue, Glenda R. Scales; Virginia Tech

**T1-B: Mechanical Engineering #1**  
**Monday 10:30 - 12:00, Broadway B**

**Moderator: Hodge Jenkins**

***Capstan Speed Control in the Optical Fiber Drawing Process: A Case Study for Mechatronics***

Hodge E. Jenkins; Mercer University

***Using Mathcad to Enhance the Effectiveness of the Wind Energy Topic in an Alternate Energy Sources Course***

B.K. Hodge; Mississippi State University

***Using Design-Expert for Enhancing Engineering Experimentation Labs***

Y. Charles Lu, William E. Murphy, and Vincent R. Capece; University of Kentucky

***A TRIZ Tool for Engineering Education***

Shih-Liang Wang; North Carolina A&T State University

***A Structured Approach to Teaching Fluid Power Systems Using Spreadsheets***

Aaron K. Ball, Robert Anderson, Chip W. Ferguson; Western Carolina University

**T1-C: Professional Skills**  
**Monday 10:30 - 12:00, Broadway C**

**Moderator: Don Visco**

***Is the Postage Worth It? Lessons Learned from Grad Surveys***

John H. Page; Virginia Military Institute

***Advising the Advisor: Professional Development of Junior Faculty***

Dirk Schaefer; Georgia Institute of Technology-Savannah

***Ethics Across Electrical and Computer Engineering Curriculum***

Roobik Gharabagi, Kyle Mitchell; Saint Louis University

***Project Management Skills: A Study of Student's Prior Knowledge***

Meghan Gloyd, Marie C. Paretti, Christine Bala Burgoyne; Virginia Tech

***Adult Learners and the Challenges Facing Educators***

Keith Plemmons; The Citadel\*\*\*

**T1-D: Administrative Division #1  
Monday 10:30 - 12:00, Louis XVI**

**Moderator: Ken Brannan**

***A Model for Dual-Level Accreditation of Engineering Programs***

M.R. Wilhelm and J.P. Mohsen; University of Louisville

***Increasing the Numbers of Science, Technology, Engineering and Math Students by Recruiting Students Into Graphic Communication System and Technology Studies***

Elinor Foster-Blackwell, Sonya Draper, Cynthia Gillispie-Johnson, and Alex Uzokwe;  
North Carolina Agricultural & Technical State University

***Established Customs: Changing Roles in Departmental Culture and Impact on New Faculty***

Adrienne R. Minerick and Judy Schneider; Mississippi State University

***A National Model for Engineering Mathematics Education***

N. Klingbeil, R. Mercer, K. Rattan, M. Raymer, and D. Reynolds; Wright State University

***The Development of Social Capital in Engineering Education to Improve Student Retention***

Shaundra Bryant Daily / Wanda Eugene / Anderson D. Prewitt; Massachusetts Institute of Technology / Auburn University / University of Florida

**T2-A: Instructional Division #2  
Monday 1:45 – 3:30, Broadway A**

**Moderator: Chris Emplaincourt**

***The First Year Engineering Program at the University of Southern Indiana***

Laura A. Ruhala, Richard J. Ruhala, Eric P. Sprouls; University of Southern Indiana

***A Five-Year Engineering Program at the University of Southern Indiana***

Laura A. Ruhala, Richard J. Ruhala, Eric P. Sprouls; University of Southern Indiana

***Engineering and Golf: A Professional Development Partnership between Mississippi State University's Center for Engineering Student Excellence and Professional Golf Management Program***

Tommy Stevenson, Alexis Power, Kelly Agee; Mississippi State University

***Lessons Learned from a Single Gender Outreach Program***

Paul Palazolo, Stephanie Ivey; University of Memphis

***An Initial Assessment of the Effectiveness of the Enhancing Assess and Fostering Science, Technology, Engineering and Math (STEM) NSF Summer Workshop Program***

Paul Lam, Julie Zhao, Dennis Doverspike, Jiang Zhe, Craig Menzemer; The University of Akron

***Enhance “Book Learning” with Facebook***

Veronica Addison, Wally Peters; University of South Carolina

**T2-B: Civil Engineering #1**

**Moderator: Shane Palmquist**

**Monday 1:45 – 3:30, Broadway B**

***Integrating Learning Outcomes Throughout the Civil Engineering Curriculum to Meet Site Engineering Prerequisite Needs***

Thomas R. Dion and Kevin C. Bower, The Citadel

***Project-Based Learning: Developing Ductile Concrete***

Shane M. Palmquist, Western Kentucky University

***An Analogy Tool to Visualize Bending-Moment Diagrams***

Gustavo O. Maldonado, Gustavo J. Molina; Georgia Southern University

***Implementing a Problem Based Multidisciplinary Civil Engineering Design Capstone: Evolution, Assessment, and Lessons Learned with Industry Partners***

Scott A. Yost and Derek R. Lane; University of Kentucky

***Adaptation of Groundwater Physical Models and Activities for Enhanced Student Learning***

Amy B. Chan-Hilton; Florida State University

***Sequential Course Outcome Linkage: A New Look at the Structural Engineering Curriculum of a Civil Engineering Program***

Timothy W. Mays, Kevin C. Bower, and William J. Davis; The Citadel

**T2-C: Administrative Division #2**

**Moderator: Ed Hajduk**

**Monday 1:45 – 3:30, Broadway C**

***Use of Indicator Courses in Program Outcomes Assessment***

Timothy A. Wilson; Embry-Riddle Aeronautical University

***ABET EC 2000: How Has it Changed? Has It Accomplished What Was Intended?***

Claire L. McCullough, University of Tennessee at Chattanooga

***SACS, QEP, and Hindsight***

Shelton Houston; University of Southern Mississippi

***The ABET Feedback Cycle Realized Through the Use of Cooperative Education in Curricular Reform***

Bryan Dansberry, Kettel Cedercreutz, and Cheryl Cates ; University of Cincinnati \*\*\*

***Incorporating Leadership into the Engineering Technology Classroom Through Cooperative Learning: Theories Used and Lessons Learned***

William L. McDaniel, Chip W. Ferguson, and Aaron K. Ball; Western Carolina University

***The Satellite Design Course AENG 468 at Tuskegee University as an Example to Implement ABET EC 2000***

A. K. Mazher; Tuskegee University

**T2-D: Computer Engineering & Technology #1  
Monday 1:45 – 3:30, Louis XVI**

**Moderator: Tyson Hall**

***On Line Assignment and Laboratory System for Digital Logic Timing Diagrams***

Daniel Kohn; North Carolina Agricultural and Technical State University

***Answering the Calls to Improve Communication***

Nancy Bearden Howell; University of Southern Mississippi

***Analysis of Student Performance in Programming Subjects of an In-house Exit Exam***

Masoud Nagedolfeizi, Singli Garcia-Otera, Nabil Yousif; Fort Valley State University

***A Project Based Approach for Teaching System Analysis, Design, and Implementation Courses***

Nabil A. Yousif, Masoud Nagedolfeizi; Fort Valley State University

***Teaching Computer Architecture with FPGA Soft Processors***

Andrew Strelzoff; University of Southern Mississippi

***Processor Performance Profiles for RFID Sensor Data Fusion***

Andrew Strelzoff; University of Southern Mississippi

**T3-A: Instructional Division #3**

**Moderator: Hodge Jenkins**

**Monday 3:45 – 5:30, Broadway A**

***Enhancing the Teaching of the Fluid Mechanics Laboratory and Preparation for New and Continuing Teaching Assistants***

Rolando Bravo, Lizette R. Chevalier, Southern Illinois University

***Investigations Concerning Pedagogical Strategies Promoting Engineering Students' Ability to Solve Open-ended Problems***

Christian Hipp, Veronica Addison; University of South Carolina

***Technical Writing for Engineering Students: Using Tenets of the National Writing Project for Effective Writing Instruction***

Kelly Aggee; Mississippi State University

***What Happened to This Course?***

Jerry Newman, Tom Banning; University of Memphis

***The Impact of Engineering Design Projects on Student Understanding of Engineering's Societal Impact***

Cecelia Wigal; University of Tennessee at Chattanooga

***An Innovative Student Engagement Project: Lessons Learned from a Log Cabin***

William L. McDaniel, George D. Ford; Western Carolina University

**T3-B: Mechanical Engineering # 2**  
**Monday 3:45 – 5:30, Broadway B**

**Moderator: Aniruddha Mitra**

***A Study on the Use of Knowledge Representation for Teaching Engineering Problem Solving***

Gustavo J. Molina; Georgia Southern University

***Teaching Heat Transfer Concepts using Thermal Imaging Techniques***

Masoud Naghedolfeizi, Sanjeev Arora, Ugur Tanriver; Fort Valley State University \*\*\*

***An Engineering Capstone Design Course Taught in a Collaborative University/High School Setting***

Mary Kasarda, Brenda Brand, and Eugene Brown; Virginia Tech

***Animation Software for Vibrations Courses***

Glenn Kraige, Saurabh Bisht; Virginia Polytechnic Institute and State University

***Introduction of Dynamics Laboratory in MET Program***

Aniruddha Mitra; Georgia Southern University

***Evaluation of Bessel Functions Using a Computer Program***

P.S. Yeh; Jacksonville State University

**T3-C: Administrative Division #3**  
**Monday 3:45 – 5:30, Broadway C**

**Moderator: Dennis Fallon**

***Global Engineering Education Opportunities: A Survey of Selected ASEE SE Universities***

Allen Greenwood, Mary C. Emplaincourt, and Tiffany Lampkin; Mississippi State University

***International versus US Student Enrollment into Graduate Programs in Computer Science***

Sravanthi Munagala, Sumanth Yenduri, Louise A. Perkins, and Franaz Zand; University of Southern Mississippi

***Gateway into First-Year STEM Curricula: A Community College/University Collaboration Promoting Retention and Articulation***

M. Wheatly, N. Klingbeil / B. Jang, G. Sehi, and R. Jones; Wright State University / Sinclair Community College \*\*\*

***A Regression Model to Predict the Graduation Rates***

Neslihan Alp and Ronald Bailey; University of Tennessee at Chattanooga \*\*\*

***High School Engagement Activity: The Iron Egg Launch Design Competition***

Jo Alice Pierce, Russell A. Aubrey, R.L. Alan Jordan, Dennis O. Owen, and David L. Riegle; Purdue University

***University of Louisville Nanotechnology Fellows Symposium: Extending Engineering Excitement to High School Educators***

Joseph H. Lake, Kevin Walsh, Bruce W. Alphenaar, Mark M. Crain, Robert S. Keynton, Robert W. Cohn, and Michael D. Martin; University of Louisville

**T3-D: Research**  
**Monday 3:45 – 5:30, Louis XVI**

**Moderator: Sally Pardue**

***Graduate Student Mentors in REU Sites***

Cesar D. Guerrero, Miguel A. Labrador, Rafael A. Perez; University of South Florida

***Fostering Research in Aerospace and Mechanical Engineering Undergraduate Curricula***

Viatcheslav Naoumov, Masood Parang; University of Tennessee

***Assessing Outcomes in a Communication-Intensive Course***

Nancy Bearden Howell; University of Southern Mississippi

***Undergraduate Research: Challenges, Rewards and Lessons Learned***

Robert J. Barsanti, The Citadel

***Engineering and Computer Science in Robotic Development***

Cameron Carper; Arkansas Technological University

***Research in Nine Weeks – Can It Be Done?***

S. Pardue, M. Abdelrahman; Tennessee Technological University \*\*\*

**Tuesday, April 3, 2007 Technical Sessions**

**T4-A: Instructional Division #4**  
**Tuesday 8:45 - 10:00, Broadway A**

**Moderator: Ted Branoff**

***Learning the Stiffness Method with FORTRAN, Excel and MathCAD***

Peter W. Hoadley; Virginia Military Institute

***Using MathCAD Debugging Functions as a Teaching Tool***

Kenneth P. Brannan, John A. Murden, The Citadel

***The Role of Computer Based Homework for Engineering Design Courses***

Steven M. Click; Tennessee Technological University

***Engineering Economy: Getting Personal***

Scott R. Schultz; Mercer University

**T4-B: Civil Engineering #2**  
**Tuesday 8:45 - 10:00, Broadway B**

**Moderator: Paul Palazolo**

***Improving the Senior Level Hydraulic Engineering Design Course (CE 474) By Means of Computer Assisted Instruction***

Rolando Bravo; Southern Illinois University

***Constructing and Teaching a New Asphalt Laboratory for the Engineering Department at the University of Tennessee at Martin***

Mohammad Obadat; The University of Tennessee at Martin

***Implementing Field Work in Teaching Transportation Engineering Course***

Mohammad Obadat; The University of Tennessee at Martin

***A Use of HEC-RAS as Instructional Tool***

Gregory H. Nail; The University of Tennessee at Martin

**T4-C: Chemical Engineering & Administrative  
Tuesday 8:45 - 10:00, Broadway C**

**Moderator: Adrienne Minerick**

***Visualization and Computational Techniques for Teaching Polymer Chemistry to Engineering Undergraduates***

C.L. Aronson, J.A. Charbonneau, D. Knack, R.L. Aiken, M.S. Parker, T.D. Rau, E.M. McDermott, D.P. Eddy, L.D. Aronson / M.T. Higgins, and J. Gurst; Kettering University / University of West Florida \*\*\*

***An Online Community for Chemical Engineering Educators***

David L. Silverstein; University of Kentucky \*\*\*

***A Micro-Macro Transportation Sequence for the ChE Curriculum: Role of Up - Scaling***

Pedro E. Arce, J.J. Biernacki, V. Subramanian and I. Carpen; Tennessee Tech University

***Fuzzy Synthetic Evaluation of Engineering Institutions: A Consensus Driven Democratic Approach***

Rajeev Kumar Upadhyay / S.K. Gaur / V.P. Agrawal / K.C. Arora; Anand Engineering College / Dayalbagh Educational Institute / B.I.T.S. Pilani Goa Campus / M.I.T.S

**T4-D: Software Engineering  
Tuesday 8:45 - 10:00, Louis XVI**

**Moderator: Nabil Yousif**

***Online, Pre-Instructional Questioning Strategies: Do Formative Evaluations Correlate to End-of-Course Summative Evaluations in Engineering Graphics Courses?***

Ted J. Branoff

***Unifying the Code-base for a Client-Server E-Government Application***

Vinitha Muraleedharan, Andrew Strelzoff, Tim Rehner, Ray Seyfarth; University of Southern Mississippi

***Model-Based Software Design Practice***

Barbara Bernal Thomas; Southern Polytechnic University

***Understanding Open Source Software***

B. Wayne Walters; University of Southern Mississippi

**T4-E: Computer Engineering & Technology #2  
Tuesday 8:45 - 10:00, Louis XVI**

**Moderator: Barbara B. Thomas**

***First Year Experience as a New BEST Hub***

John W. Pettit, Lipscomb University

***Comparison of Upwind and Central Schemes for Optical Flow Velocity Estimation***

Beddhu Murali, University of Southern Mississippi \*\*\*\*

***Alternative Web-Programming Frameworks for the Classroom***

Gary Johnsey, University of Southern Mississippi

***Improving Student Preparation for Study of STEM Disciplines SPIN Information Night Programs***

Thomas Brachman, Dale Elifrits; Northern Kentucky University \*\*\*

**T5-A: Instructional Division #5  
Tuesday 10:15 - 12:00, Broadway A**

**Moderator: Leigh S. McCue**

***Incorporating Technology into the Traditional Engineering Mechanics Lecture***

Douglas R. Carroll, Hong Sheng; University of Missouri-Rolla

***Interpreting Student-Constructed Study Guides***

S. Swaminathan, D.P. Visco, H. Anthony, L. Zagumny; Tennessee Technological University \*\*\*

***Development of Interdisciplinary Curricula and Labs in EET/MET/CET***

Peter L. Romine, Julius Jow, and Kyle Rose; Alabama A&M University

***Intelligent Web-Based Grading of Multi-Step Problems***

Mel Maron; University of Louisville \*\*\*

***Knowledge Assessment using Online Quizzes***

Terry Weigel, University of Louisville \*\*\*

***Virtual Reality Environments and Authoring Tool for Web Based Training and Education***

Tulio Sulbaran, Justin Nosser; University of Southern Mississippi

**T5-B: Computer Engineering & Technology #3  
Tuesday 10:15 - 12:00, Broadway B**

**Moderator:**

***Using the Moodle Course Management System to Manage Accreditation Tasks***

Ray Seyfarth, University of Southern Mississippi

***SWORD, an Information Server for Juvenile Justice***

Daniel Bond, Andrew Sterlzooff, Tim Rehner, Ray Seyfarth; University of Southern Mississippi

***Networking Students Come to the Aid of Hurricane Victims***

Wayne Walters; University of Southern Mississippi \*\*\*

***Developing a Graphical User Interface to Improve Learning of Stochastic Theory in Hydrosciences in the Classroom***

Faisal Hossain, David Huddleston, Jonathan Schwenk; Tennessee Technological University

**T5-C: Professional Skills #2  
Tuesday 10:15 - 12:00, Broadway C**

**Moderator:**

***Practical English: A Technical Communication Course Developed for Kyungpook National University Based on a Technical Writing Course in Mississippi State University's Bagley College of Engineering***



Alexis D. Powe, Mississippi State University\*\*\*

***Using the Challenger and Columbia Disasters to Discuss Technical Communication and Professional Ethics: A Multifaceted Approach***

John Brocato; Mississippi State University

***Implementing Technical Writing into the Undergraduate Steel Design Course***

Ernie Heymsfield; University of Arkansas

***Writing for Engineering: Benchmarks in the BS in Engineering Program at East Carolina University***

Rita Reaves; East Carolina University

***Teaching Engineering Ethics Through a Nanoscale Case Study***

Christian Hipp; University of South Carolina-Columbia

***Promoting Multidisciplinary Research in Environmental Engineering Among Undergraduates through REU Participation***

Davyda Hammond / Melinda Lalar; University of Michigan / University of Alabama

**T5-D: Electrical Engineering & Engineering Tech  
Tuesday 10:15 - 12:00, Louis XVI**

**Moderator: Zhaoxian Zhou**

***A Microfabrication Laboratory Class Targeted to Freshmen***

Shamus McNamara, Kevin Walsh, James Graham, Kunal Pharas, and Mark Crain;  
University of Louisville

***Teaching Electrical Engineering via Television***

Timothy Pratt, Virginia Tech

***Developing Undergraduate Mentorship Skills Through BEST***

Greg Nordstrom, Anthony Andriano, and Nathan Turner; Lipscomb University

***Design of Innovative Computer Networking Labs for Senior and Graduate Networking Courses and Supporting Research Projects***

Peter S. Lau; University of Memphis

***Using a Two-Cycle Engine to Integrate Manufacturing Engineering Technology Curriculum***

Robert W. Hewitt; University of Memphis

***Integration of Math and Physics into Electronic Engineering Technology Courses***

Zhaoxian Zhou; University of Southern Mississippi