Monday, April 2, 2007 Technical Sessions

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

**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

**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

**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***

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<th>T1-D: Administrative Division #1</th>
<th>Moderator: Ken Brannan</th>
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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 Gillspie-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

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<th>T2-A: Instructional Division #2</th>
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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, Kettil 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   Moderator: Tyson Hall
Monday 1:45 – 3:30, Louis XVI

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 Naghedolfeizi, Singli García-Otera, Nabil Yousif; Fort Valley State University

A Project Based Approach for Teaching System Analysis, Design, and Implementation Courses
   Nabil A. Yousif, Masoud Naghedolfeizi; 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
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

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
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

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

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
Moderator: Adrienne Minerick
Tuesday 8:45 - 10:00, Broadway C

Visualization and Computational Techniques for Teaching Polymer Chemistry to Engineering Undergraduates

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


T4-D: Software Engineering
Moderator: Nabil Yousif
Tuesday 8:45 - 10:00, Louis XVI

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
Moderator: Barbara B. Thomas
Tuesday 8:45 - 10:00, Louis XVI

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 ***

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**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

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**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 Sterlzoff, 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

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**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 Lalor; University of Michigan / University of Alabama

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

*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