Monday April 3rd 2006 Technical Sessions

Technical Session 1: 10:15 – 11:55 am

T1-A:	**Instructional Unit**	**Rm**

Chair:

Engineering Student Self-assessment in a Capstone Design Course		2006040LAC
Laura W. Lackey, Richard O. Mines, Jr. and Hodge E. Jenkins, Mercer University		
Using Technological Disasters to Teach Engineering Ethics and Technology in Society		2006001BAT
Robert G. Batson, University of Alabama		
Unified Lecture Software for Mechanics of Deformable Bodies		2006038KRA
Scott L. Hendricks, L. Glenn Kraige and Don H. Morris, Virginia Tech		
A Model for Broadening Participation in Computing		2006039GIL
Juan E. Gilbert, Auburn University		

T1-B:	**Engineering Technology**	**Rm**

Chair:

Using Steam Engines to Teach Parametric Modeling and Prototyping		2006019BAL
Aaron K. Ball, Chip W. Ferguson and William L. McDaniel, Western Carolina University in Cullowhee, North Carolina.		
Electromagnetic Radiation and Scattering of Wire Structures		2006021ZHO
Zhaoxian Zhou and Randy Buchanan, University of Southern Mississippi		
Incorporating Civic Engagement		2006082WOO
A. Mitchell Wood and B. Neil Whitten, East Tennessee State University		
Math Remediation in A First Semester Engineering Technology Course		2006037AHU
Sandeep Ahuja, Virginia State University		

T1-C:	**Mechanical Engineering**	**Rm**

Using Computational Software Root Solvers: A New Paradigm for Problem Solutions?		2006059HOD

B. K. Hodge and Rogelio Luck, Mississippi State University

Senior Capstone Design Experiences at the University of Tennessee: NASA and DOE Student Programs   2006083NAU
     Viatcheslav I. Naumov, David K. Irick, Lawrence A. Taylor and Masood Parang, University of Tennessee

Near-Space and the BAMASAT Program   2006035BAK
     John Baker, Sadie Cole, Emad Abdel-Raouf and Bob Taylor, University of Alabama

Integrating Materials Science into the Mechanical Engineering Curriculum   2006052SCH
     Judy Schneider, Mississippi State University

Frame Analysis and Design Computer Classroom/Laboratory Module for Machine Design   2006005JEN
     Hodge Jenkins, Mercer University

T1-D: **Chemical Engineering**   **Rm**

Chair:

The Experimental Prototype: Critical Thinking and Real-World Problem Solving in Engineering Education   2006043ARC
     Pedro E. Arce, Joseph Biernacki and Perry Melton, Tennessee Tech University

A Freshman Course in Chemical Engineering   2006030VIS
     Donald P. Visco, Jr. and Pedro E. Arce, Tennessee Technological University

Computer Facilitated Mathematical Methods in Engineering – Similarity Solution   2006017SUB
     Venkat R. Subramanian, Tennessee Tech University

Applying Techniques Learned in an ASEE –SE Workshop: Adoption of a High Performance Learning Environment (Hi-PeLE) for Group Experiments   2006065MIN
     Adrienne R. Minerick, Mississippi State University; Pedro Arce, Tennessee Technological University

T1-E: **Civil Engineering**   **Rm**

Chair:

Teaching Design throughout the Civil and Environmental Engineering Curriculum   2006006DIO
     Thomas R. Dion, Kevin C. Bower, Timothy W. Mays and William J. Davis, The Citadel

Transportation Systems Curriculum for High Schools   2006008ELA
     Matthew E. Elam, Daniel J. Fonseca, and Jay K.

Lindly, University of Alabama
State-of-the-Art: Law Enforcement Surveillance Impact   2006097SUL
on Construction Zones
  Tulio Sulbaran and David Marchman, University of
  Southern Mississippi

Technical Session 2: 1:40 – 3:20 pm

T2-A:	**Instructional Unit**	**Rm**
Chair:		

The Feasibility of Online Laboratories	2006051LIP
John W. Lipscomb, Jr., University of Southern Mississippi	
Technology in the Throes of a Paradigm Shift	2006041WAL
B. Wayne Walters, University of Southern Mississippi	
Forget about Teaching: It is all about Learning!	2006042ARC
Pedro E. Arce, Tennessee Tech University	
Online Learning in Engineering Graphics Courses: Research, Tools, and Best Practices	2006047BRA
Ted J. Branoff and Richard A. Totten, North Carolina State University	

T2-B:	**Chemical Engineering**	**Rm**
Chair:		

Using Graduate Students to Teach an Undergraduate Class	2006029VIS
Barath Baburao, Saravanan Swaminathan and Donald P. Visco Jr., Tennessee Technological University	
Faculty Mentoring – a Protégé's Perspective	2006016SUB
Venkat R. Subramanian, Tennessee Tech University	
Creating and Modifying the Fuel Cell Courses for Hydrogen Economy	2006012WAN
Chunsheng Wang, Tennessee Technological University	
Renovation and Upgrades of Chemical and Biological Engineering Unit Operations Lab to Teach Technical Skills in Emerging Engineering Fields	2006048BRA
Christopher S. Brazel, Peter E. Clark, Tonya M. Klein, Alan M. Lane and Stephen M.C. Ritchie; University of Alabama	

T2-C: **Computer Engineering and Technology**   **Rm**

Chair:

Adding practice and realism to Information Technology   2006033JOH
courses
    Gary Johnsey, University of Southern Mississippi
Radio Frequency Identification (RFID) Applications in   2006045SHE
the Medical Field
    Shelton Houston and Wesley Blackwell, University of
    Southern Mississippi
Using FPGAs to Simulate and Implement Digital Design   2006091HAL
Systems in the Classroom
    Tyson S. Hall, Southern Adventist University; James
    O. Hamblen, Georgia Institute of Technology
Hands-On Operating Systems Made Easy   2006066GUZ
    Juan Carlos Guzmán and Patrick O. Bobbie, Southern
    Polytechnic State University

T2-D: **Electrical Engineering**   **Rm**

Chair:

Sparking Interest in Middle and High School Students   2006090MCK
Using a Robotics Competition
    Mark McKinney and Robert Barsanti, The Citadel
A Very Functional Transistor Circuit to Demonstrate   2006024SCO
Biasing, Voltage and Current Gains, and Frequency
Response
    Robert J. Scoff, University of Memphis
Consolidating Design Experience Through Product   2006074EFF
Development
    Chris B. Effiong, Ronny Howard and Allen
    Crittendon, University of Tennessee at Martin

T2-E: **Instructional Unit**   **Rm**

Chair:

Application of Pedagogy or Andragogy: Understanding   2006071PLE
the Differences between Student and Adult Learners
    Keith Plemmons, The Citadel
A Back to the Basics Approach to Teaching Engineering   2006067BOY
Ethics
    Michael D. Boyette, North Carolina State University
The Declining Work Ethic of the American Engineering   2006068WEL

Student
 S. Michael Wells, Tennessee Tech University

Positive Experience with Challenge-Based Instructional   2006069CUR
Modules across Engineering Disciplines
 Amy de Jongh Curry, J. Daniel Strahl, Deborah L.
 Lowther and Eugene Eckstein, The University of
 Memphis

Technical Session 3: 4:10 – 5:30 pm

T3-A:	**Instructional Unit**	**Rm**

Chair:

Learning by Doing—Hands-On Experiments for a   2006089BRO
Middle-School Outreach Program
 Eugene F. Brown, Virginia Tech; Robert A.
 Kavetsky, Office of Naval Research; Robert L.
 Stiegler, Naval Surface Weapons Center, Dahlgren
 Division (NSWCDD); Juanita Jo Matkins, College of
 William and Mary; Gail B. Harding, College of
 William and Mary; Andrea L. Bengier, Stafford
 County Public Schools; Ray Gamache, Naval Surface
 Weapons Center, Dahlgren Division (NSWCDD);
 Jason Kremar, Naval Surface Weapons Center,
 Dahlgren Division (NSWCDD)

Preparing Engineers for the Job Search Through Mock   2006044SHA
Telephone Interviews with Alumni
 Julie E. Sharp, Vanderbilt University

An Online Capstone Project Evaluation System   2006094HAR
 B. Morrison, B. Harbort, S. Bajracharya, L. Barge, W.
 Carlton, W. Phillips and B. Smoot, Southern
 Polytechnic State University

Construction Management Program Curriculum   2006020HAN
Content Derived from Industrial Workflow Processes
 John Jeffrey Hannon, University of Southern
 Mississippi

T3-B:	**Civil Engineering**	**Rm**

Chair:

Ten Years Later: Teaching Mathcad as a Non-   2006098BRA
Traditional Programming Language
 John A. Murden and Kenneth P. Brannan, The Citadel

Student Engagement in Elementary Surveying   2006015CAM

Shane M. Palmquist and C. Warren Campbell,
Western Kentucky University

T3-C:	**Mechanical Engineering**	**Rm**

Chair:

The BEST Approach to Middle and High School Outreach L. Brent Jenkins, Southern Polytechnic State University		2006095JEN
PH Grade Assist: Homework in the Twenty-First Century Gregory H. Nail, University of Tennessee at Martin		2006023NAI
"The New 3-D Printer is Here, What do We Do Now?" Rapid Prototyping in the Undergraduate Engineering Environment H. Joel Lenoir, Western Kentucky University		2006086LEN
A MathCAD Function Set for Solving Thermodynamics Problems Stephen T. McClain, University of Alabama at Birmingham		2006072MCC

T3-D:	**Software Engineering**	**Rm**

Chair: Barbara Bernal Thomas

Project-Based Learning of Engineering Design and Graphical Communication Cecelia M. Wigal, University of Tennessee at Chattanooga		2006034WIG
An Experience of a Course Management System in Construction Scheduling framed within TAC-ABET Accreditation Criteria Tulio Sulbaran, University of Southern Mississippi		2006096SUL

T3-E:	**Industrial Engineering**	**Rm**

Chair:

Using Multimedia Case Studies as Teaching Aids for a Discrete Event Simulation Course Scott R. Schultz, Mercer University		2006004SCH
Financial Analysis of Industrial Engineering Capstone Design Projects William N. Smyer, Mississippi State University;		2006060SMY

Richard F. Smyer, Hanson Building Materials
America, Inc.; and TaMesha R. Conerly, Mississippi
State University

Tuesday April 4th 2006 Technical Sessions

Technical Session 4: 8:50 – 10:10 am

T4-A:	**Instructional Unit**	**Rm**

Chair:

An Art Class for Engineers Arthur David Snider, University of South Florida	2006002SNI

Talking & Working for Diversity When You Don't
Belong to a Minority Demographic
    Adrienne R. Minerick, Ebonye-Rosa T. Allen and
    Bill B. Elmore, Mississippi State University
	2006061MIN

Using Case Studies to Bring Real World Situations into *the Engineering Course Learning Environment* Thomas M. Lawrence, University of Georgia	2006062LAW
Projects and Deliverables used in a Freshman *Engineering Design Course* Philip T. McCreanor, Mercer University	2006063MCC

T4-B:	**Engineering Technology**	**Rm**

Chair:

Using the Great Teachers Model for Engineering
Technology Faculty Renewal: A Strategy that Works
    William L. McDaniel, Western Carolina University;
    Steven L. Smith, Richmond Community College
	2006022MCD

Implementing a National Competition Design Project as
a Capstone Course at Middle Tennessee State University
    Saeed Foroudastan and Michael B. Anderton, Middle
    Tennessee State University
	2006050FOR

Biomedical Engineering Technology As An Option In
EET
    Austin B. Asgill, Southern Polytechnic State
    University
	2006077ASG

T4-C:	**Administrative Unit**	**Rm**

Chair:

Development and Implementation of an Introductory
Course on Engineering and Public Policy
    Robert A. Green and Gerald A. Emison, Mississippi
    State University
	2006013GRE

	Image Summer Bridge: A Model of Recruitment and Retention of Students of Color in Science, Technology, Engineering, and Mathematics	2006032STE
	Tommy Stevenson, Mississippi State University	

T4-D: **Engineering Design Graphics** **Rm**

Chair:

	Multi-Media Interactive Self-directed CAD Application Tool for the Building Construction Student	2006046ABA
	Hussein F. Abaza, East Carolina University	
	Integrated Laboratory Instruction on CAD/CAM and Robotics at MUSE	2006085RAD
	R. Radharamanan, Mercer University	

Technical Session 5: 10:30 – 11:50 am

T5-A: **Instructional Unit** **Rm**

Chair:

	Information Literacy: A Critical Component in Engineering Practice in the Twenty-First Century	2006049MCC
	Claire L. McCullough, University of Tennessee at Chattanooga	
	Aerospace-Focused Multidisciplinary Project-Based Introductory Engineering Course	2006052WIL
	Timothy A. Wilson, Lisa K. Davids, Charles N. Eastlake, James G. Ladesic, Farahzad Behi, Mark D. Fugler, Paul L. Quinn, Steven R. Lehr and Christopher D. Grant, Embry-Riddle Aeronautical University	
	USFKAD: An Expert System for Partial Differential Equations	2006009SNI
	Arthur David Snider, University of South Florida; Sami Kadamani, Hillsborough Community College	

T5-B: **Research** **Rm**

Chair:

	Fulfilling Mentors' Expectations: An REU Site Experience	2006010LAB
	Miguel A. Labrador and Rafael Pérez, University of	

South Florida

Project-Based Learning: An Evaluation from Student Perspective   2006075EFF
    Chris Effiong, University of Tennessee at Martin

Increasing Student Participation in the Technical Program at Professional Conferences   2006080SIL
    David L. Silverstein, University of Kentucky

The Student Perspective on the State of Complex Systems in Australian and American Mechanical Engineering Programs   2006011CRA
    Nadia Kellam, University of South Carolina; Llewellyn Mann, University of Queensland; Veronica Addison, University of South Carolina; Michelle Maher, University of South Carolina; David Radcliffe, University of Queensland; Wally Peters, University of South Carolina

T5-C: **Mechanical Engineering**   **Rm**

Chair:

Effect of Boundary Conditions on Two-Dimensional Temperature Distribution in a Transformer   2006007YEH
    P. S. Yeh, Jacksonville State University

Introducing Space Exploration into Engineering Curricula   2006028BAK
    John Baker, University of Alabama

Effectiveness and LMTD Correction Factor of the Cross Flow Exchanger: A Simplified and Unified Treatment   2006092JET
    Sheldon M. Jeter, Georgia Institute of Technology