



Southeastern Section Newsletter

August 2012

Editor: Ken Brannan, The Citadel 843-953-5083 ken.brannan@citadel.edu

Fall Edition

Tennessee Technological University to Host 2013 Conference

Cookeville, Tennessee and the surrounding Upper Cumberland area provide an idyllic setting for the 2013 Annual Meeting of the Southeast Section of the American Society for Engineering Education.



interest include innovative courses and curricula, first year and common core programs, interdisciplinary engineering,

Hosted by Tennessee Tech University's College of Engineering, the conference will be held March 10-12th, 2013 on the campus. Conference papers will focus on this year's theme of Efficient and Effective Engineering Education and will help to provide insight into how engineering programs are being challenged to do more with less. Topics of particular

capstone design, teaching and learning, distance learning, learning communities, K-12 outreach, retention, partnerships, and professional development. Past participants can attest to the benefits of attending the Southeast Section Regional Conference which include opportunities to share results from both pilot and longstanding programs, to gain inspiration from innova-

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President Hall's Message

Thank you for actively participating in the Southeastern Section! Your work as authors, presenters, reviewers, student advisors, campus reps, division and unit officers, and section officers makes the ASEE Southeastern Section a great organization to join and support. Seven years ago, I attended my first ASEE-SE conference at the University of Tennessee at Chattanooga. The enthusiasm for engineering education and the welcoming attitude of conference veterans immediately attracted me to this



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ASEE Vision Statement

"ASEE will serve as the premier multidisciplinary society for individuals and organizations committed to advancing excellence in all aspects of engineering and engineering technology education."

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SE Section Web Address:

<http://www.asee-se.org>

Call for 2013

ASEE Southeastern Section Annual Conference

March 10-12, 2013

Tennessee Technological University



In an era of declining resources and increasing curricular demands, engineering programs are challenged to do more with less. Accreditation requirements, industry concerns, emerging technologies, and contemporary topics such as sustainability, entrepreneurship, and humanitarian service demand time and resources in an already packed curriculum. How can we efficiently and effectively educate engineers in this environment?

CALL FOR PAPERS AND PRESENTATION ABSTRACTS

Authors are invited to submit full-length manuscripts for presentation at the conference and inclusion in its proceedings. Papers addressing the conference theme, Efficient and Effective Engineering Education, will have first priority and may include topics related to the following:

- Innovative Curricula or Courses
- First Year Engineering Programs
- Organizational Structures to Promote Interdisciplinary Engineering
- Engineering Common Cores
- Teaching/Learning Practices: Past, Present, and Future
- Distance Learning in Engineering
- Technologies for Efficient Learning
- Engineering K-12 Outreach Programs
- Engineering Learning Communities
- ABET Accreditation Projects
- Engineering Recruitment and Retention
- Partnerships
- Capstone Design Courses or Projects
- Engineering Professional Development

Authors may also address other topics of interest to the engineering education community. Guidelines for manuscript preparation are available via the Author Instructions link at www.asee-se.org/Conference/. Papers will be accepted based on a peer review of manuscripts. Authors are expected to present their papers at the conference to facilitate the transfer of knowledge through discussion and debate. All accepted papers presented by a timely-registered author will be included in the conference proceedings. A limited number of abstracts may be accepted for presentation. These abstracts will be published in the book of abstracts but will neither be peer-reviewed nor included in the conference proceedings. An author/co-author can be associated with as many papers/presentations as is appropriate, but a registrant can serve as the presenter of record on a maximum of three presentations. A poster session in which undergraduates discuss their experiences in engineering education (design projects, research, etc.) is anticipated. Information about this session will be available in the fall.

Schedule for Submission of Papers and Abstracts

Friday, September 28, 2012	Abstracts submitted by authors for consideration
Friday, October 5, 2012	Authors notified regarding acceptance
Monday, November 19, 2012	Manuscripts due from authors for review
Friday, December 21, 2012	Reviewed manuscripts returned to authors
Friday, January 18, 2013	Final manuscript and extended abstract due from authors
Friday, February 8, 2013	Deadline for presenters to register for conference

Submit a 250-300 word abstract in doc, docx, or pdf file format by September 28, 2012, to <http://asee.spsu.edu/>.

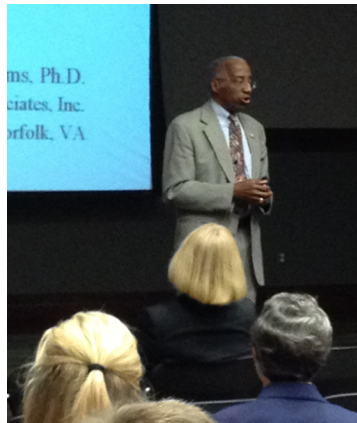
Contacts: Hodge Jenkins, Technical Program Chair, jenkins_he@mercer.edu
Steven Click, Conference Chair, sclick@tntech.edu

Highlights of 2012 Conference at Starkville

The 2012 Southeastern Section Meeting was hosted by Mississippi State University in Starkville, Mississippi on April 1-3. There were 170 conference registrants from 44 schools/organizations, including 31 students participating in the student poster competition. Approximately 97 technical papers and 20 student posters were included on the conference program, which had as its theme, "The Global Reach of Engineering."

Three workshops were available on Sunday for those attending the conference. *Developing the NAE-2020 Engineer (The Composer- vs. the Conductor-Style Engineer)* was presented by J. R. Sanders and Pedro E. Arce of Tennessee Tech University. *Highlights of the ASCE Excellence in Civil Engineering Education (ExCEED)* was presented by Tanya Kunberger and Robert O'Neill of Florida Gulf Coast University. The third workshop, *Developing Spreadsheet-Based Decision Support Systems*, was presented by Sandra D. Eksioglu of Mississippi State University.

On Sunday, prior to the official conference start, Mississippi State University hosted a new ASEE workshop, "Making the Transition to Active learning: Selecting and Implementing Appropriate Active Learning Techniques in Engineering Courses." This one day workshop, led by Dr. Michael Prince of Bucknell University, provided an overview of the instructional strategies for actively engag-



Keynote address delivered by Dr. Howard Adams

ing students in the learning process. Fifteen of the 40 workshop attendees also registered for and attended the conference, including several who were not members of the Southeastern Section and thus would likely not have attended our conference without the adjacent workshop opportunity.

Sunday afternoon, a group of conferees were treated to a tour of the Center for Advanced Vehicular Systems (CAVS). Following the tour, the Welcome Reception was held at the Raspet Flight Research Laboratory. After enjoying a buffet dinner, there was ample time for conferees to tour the university flight research center and interact with MSU engineering students who were conducting demonstrations and discussing their projects.

Monday's Keynote Address was delivered by educator, author, consultant, and motivational speaker Dr. Howard G. Adams.

Among Dr. Adams' three books is *Get up with Something on your Mind! Lessons for Navigating Life*. In addition, he has written over 15 self-help guides and handbooks and has received numerous awards.

The Thomas C. Evans Instructional Paper Award for the most outstanding paper pertaining to engineering education was delivered by Mary Katherine Watson of Georgia Institute of Technology during the Monday luncheon. The title of her paper was "*Development of a Structured-Inquiry Module for Teaching Sustainability 'Around the Cycle'*," coauthored with Caroline Noyes and Michael Rodgers.



Nash Street performs at Awards Banquet

An exciting performance by Nash Street, a group originally from Starkville, Mississippi, closed out the awards ceremony and banquet.

Upcoming Conference Locations

2013	Tennessee Tech	Cookeville, TN
2014	Mercer University	Macon, GA
2015	University of Florida	Gainesville, FL

Student Poster Competition Winners

2012 ASEE-SE Conference

First and Second Year Engineering and/or Engineering Technology Design

First place – Bryan Danley (“Determining Accuracy of ModelSmart v1.72 Bridge Modeling Software”) - Mercer University
Second Place – Matthew Yin (“Drag Force Analysis of Tractor-Trailer Aerodynamics”) - Mercer University
Third Place – Joshua Deremer and Carl Aquino (“A-maze-ing Robot”) - Mercer University

Junior/Senior Engineering and/or Engineering Technology Design Teams

First place – Kristin Marko, Mario do Nascimento, and Jamie Oakley (“Design and Creation of a Temperature and Moisture Controlled Three-Dimensional Tracheobronchial Lung-Airway”) - Mercer University
Second Place – DoHyun Daniel Yoon and Anthony Fratino (“Aerosol Deposition Study of Subject-specific Upper Respiratory Model”) - Mercer University
Third Place – Paromita Mitra and Manish Borse (“Large Eddy Simulation of Channel and Jet Flows”) - Mississippi State University
Honorable Mention – Robert Bennett, Jessica Pippard, and Tim Samson (“Arterial Pulse Velocity Instrument”) - Mercer University

Undergraduate Research Individual

First place – David Bassi (“Analyzing the hydraulics and sediment transport of a vegetative swale using HEC-RAS”) - Mississippi State University
Second place – Bradley Jacob Davis (“Investigating the effects of grain boundary energy anisotropy and second-phase particles on the grain growth of HCP metals”) - Mississippi State University
Third Place – Emily Brett (“Biomechanics of Isotonic Exercises”) - Mercer University
Third Place – Erin Brett (“The Anti-microbial Affects of Several Forms of Copper”) - Mercer University

Recognition of 3 Years of Consecutive Participation

Jessica Pippard, Mercer University
Kristen Wycoff, Mercer University

Best Overall Student Poster

David Bassi, Mississippi State University

President’s Message

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organization. I quickly found myself joining a division as Secretary and have come to appreciate that newcomers are actively encouraged to get involved. The fact that I am addressing you today as the 2012-2013 President is a testament to the mentorship, professional development, collegiality, and spirit of volunteerism that the Southeastern Section fosters.

Last year, the Section enjoyed a wonderful experience at Mississippi State University. My sincerest appreciation and gratitude go to John Brocato and his team for providing a great conference venue! Special thanks also go to each section officer, division officer, reviewer, and author for your contributions to the technical program and the organization. I want to particularly thank Brent Jenkins, last year’s ASEE-SE President, for the many tireless hours that he devoted to directing the Section throughout the year. All who follow in his footsteps are indebted to Brent for his dedication, attention to detail, and outstanding service to ASEE-SE.

Shrinking budgets have become a cliché for most within higher education. Salary freezes, dissolving travel budgets, hiring caps, and many other budgetary mandates have had a direct and often personal impact on faculty and programs. Yet amid the constant belt tightening, our states, regional accrediting organizations, and ABET are increasing demands for proof of continuous improvement and effectiveness within engineering education. While this dichotomy may seem untenable for many of our colleagues, engineers are quite familiar with the tension between performance and cost. We have long been experts at finding efficiencies that yield systems which meet both performance and cost targets.

With a focus on both the efficiency and effectiveness needed in today’s engineering education, this year’s ASEE Southeastern Section conference will be hosted by Tennessee Technological University in Cookeville, TN. Please note that the conference is occurring on March 10-12, 2013. This is several weeks earlier in the year than previous conferences, and the abstract, manuscript, and reviewer deadlines have been adjusted to reflect the early March conference. Be sure to keep this year’s deadlines in mind, and do not let the opportunity to participate slip by. Thank you in advance to Steven Click and his Tennessee Tech team as they ready campus for our arrival and to Hodge Jenkins, Technical Program Chair, as he organizes another great ASEE-SE technical session.

See you in Cookeville!

Section Awards for Excellence

At the 2012 Annual Meeting in Starkville, a number of awards were given for excellence in engineering education. The list of recipients and the awards are:

Section Outstanding Teaching Award	Tanya Kunberger	Florida Gulf Coast University
Section Outstanding New Teacher Award	Amir H. Behzadan	University of Central Florida
Section Outstanding Mid-Career Teaching Award	Philip T. McCreanor	Mercer University
Section New Faculty Research Award	Prabir Barooah	University of Florida
Outstanding Campus Representative Award	Larry G. Richards	University of Virginia

Thomas Evans Instructional Paper Award: Mary Katherine Watson, Caroline Noyes, Michael Rodgers of Georgia Institute of Technology for their paper "*Development of a Structured-Inquiry Module for Teaching Sustainability 'Around the Cycle'.*"

Outstanding Paper Award for 2012 ASEE-SE Conference: Claire L. McCullough of the University of Tennessee at Chattanooga; for her paper "*Ethics for the Information Age.*"

ASEE-SE Selects New Officers

The new officers for the 2012-2013 year are:

President	Tyson Hall	Southern Adventist University	423-236-2916
President Elect	Priscilla Hill	Mississippi State University	662-325-8249
Secretary-Treasurer	Tulio Sulbaran	University of Southern Mississippi	601-266-6419
Immediate Past President	Brent Jenkins	Southern Polytechnic State University	678-915-7433
Vice Presidents			
Programs Unit	Scott Schultz	Mercer University	478-301-2840
Awards and Recognition Unit	Richard O. Mines, Jr.	Mercer University	478-301-2347
Publications and Promotion Unit	John Brocato	Mississippi State University	662-325-1493
Division Chairs			
Administrative Division	Atin Sinha	Albany State University	229-430-4820
Bioengineering Division	David Domermuth	Appalachian State University	828-262-6359
Chemical Engineering Division	Priscilla Hill	Mississippi State University	662-325-8249
Civil Engineering Division	Tanya Kunberger	Florida Gulf Coast University	239-590-7644
Computer Engineering and Technology Division	Ahmed Abukmail	The University of Southern Mississippi	601-266-4864
Electrical Engineering Division	Zhaoxian Zhou	University of Southern Mississippi	601-266-4482
Engineering Graphics Division	Robert A Chin	East Carolina University	252-328-9648
Engineering Technology Division	Jerry Newman	University of Memphis	901-318-5614
Industrial Engineering Division	Laura Moody	Mercer University	478-301-2349
Instructional Division	George Ford	Western Carolina	828-227-2519
K-12 Division	Sally Pardue	Tennessee Tech University	931-372-3792
Mechanical Engineering Division	Monika Bubacz	Mercer University	478-301-2565
Professional Skills Division	Willard Munge	Southern Adventist University	423-313-3387
Research Division	Tom Fallon	Southern Polytechnic State University	678-915-7431
Software Engineering Division	Randy Smith	University of Alabama	205-348-6363
Campus Representative Coordinator			
Proceedings Editor	Barbara Bernal	Southern Polytechnic State University	678-915-4283
Newsletter Editor	Ken Brannan	The Citadel	843-953-7685

A complete listing of the section officers may be found on the ASEE-SE web site at <http://www.asee-se.org>

Tennessee Tech to Host 2013 Conference

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tive efforts, to discuss emerging issues in engineering education, and to network with peers across the southeast. Originally approved in 1909 as the church-sponsored school popularly known as Dixie College, the campus opened to students in 1912. In a strategic move for the Upper Cumberland, the school's founders deeded the campus to the governments of Cookeville and Putnam County in 1915. Despite protests that the college be located in another part of the state, the act creating Tennessee Polytechnic Institute in Cookeville was signed into law by Gov. Thomas Rye on March 27, 1915. Since Tennessee Tech was established, the university has blossomed from three buildings located on the fringes of a daisy field to an 87-building complex situated on 235 acres. The faculty have grown from the original 13 to about 370 today. From the first class of 19 students, Tennessee Tech's enrollment has grown to more than 11,500.

Prescott Hall - Part of the Engineering Quad



The College of Engineering provides seven bachelor's degree programs, five master's degree programs and four Doctorate of Philosophy programs. The College has three Centers of Excellence: the Center for Management, Utilization, and Protection of Water Resources; the Center for Energy Systems Research; and the Center for Manufacturing Research. These Centers help provide research opportunities and resources for both undergraduate and graduate students. Another College resource is the Millard Oakley STEM Center, a cutting-edge STEM-education facility at Tennessee Tech. The Millard Oakley STEM Center actively promotes and supports quality STEM education outreach programs in the Upper Cumberland region and throughout the state of Tennessee.

The Millard Oakley STEM Center



As a comprehensive university, Tennessee Tech offers more than 40 bachelor's and 23 graduate degree programs within six academic divisions: Agricultural and Human Sciences, Arts and Sciences, Business, Education, Engineering, and Interdisciplinary Studies and Extended Education. A university that the Princeton Review consistently calls one of the best in the Southeast, Tennessee Tech offers students the true college experience. The University is committed to the life-long success of students in its undergraduate, master's, specialist, and doctoral degree granting programs through high-quality instruction and learning experiences.

Located in Cookeville, Tennessee, a town of about 25,000 residents, TTU offers the best of both rural and urban living. We're situated near scenic state parks like Burgess Falls and Fall Creek Falls, yet around an hour from three of the state's biggest metro areas - Nashville, Knoxville, and Chattanooga.