



# Southeastern Section Newsletter

July 2005

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Summer Edition

## University of Alabama to Host 2006 Conference

The University of Alabama will be hosting the 2006 Annual Meeting of the Southeastern Section of the American Society for Engineering Education. The conference will be held at the Bryant Conference Center on the University of Alabama campus in



Tuscaloosa, Alabama. Included in the conference center complex are the Sheraton Four Points Hotel, the Moody Music Building, and the Paul W. Bryant Museum. **Best Practices in Engineering Education**, the conference theme, and a number of other topics pertinent to engineering education will be explored at the conference. Addi-

tional information on the conference is found in the President's message and Call for Papers.

Since the conference center is located on the University of Alabama campus, it is convenient to several points of interest. In addition to the nearby Moody Music Building, which contains the Southeast's largest pipe organ, and the Paul W. Bryant Museum, which features over 100 years of Alabama football history, other notable campus attractions include Denny Chimes, the President's Mansion, Gorgas House, and the Alabama Museum of Natural History.



*(Continued on Page 3)*

## President Lackey's Message

It is evident by your involvement in the ASEE and in particular the Southeastern Section, that we share a common goal. Although we emerge from a variety of institutions and from different engineering disciplines, our goal is unified—excellence in engineering education. Seven years ago as I began my career as an academic, I was introduced to the ASEE and now fortunately have many colleagues and friends associated with the Southeastern Section. Since that time, I have attended all the ASEE-SE annual conferences and as a result have been introduced to a variety of practical pedagogical concepts that have influenced and improved my teaching. I

*(Continued on page 5)*

### 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."*

### In This Issue...

|                                    |   |
|------------------------------------|---|
| Host for 2006 Conference .....     | 1 |
| President's Message .....          | 1 |
| Call for Papers .....              | 2 |
| Highlights of UTC Conference ..... | 3 |
| 2005-2006 Officers .....           | 4 |
| Student Poster Winners .....       | 4 |
| Awards .....                       | 5 |
| Campus Rep Corner .....            | 6 |

**SE Section Web Address:**

<http://cee.citadel.edu/asee-se/>

# ***Best Practices in Engineering Education*** ASEE Southeastern Section Annual Conference

April 2-4, 2006

**THE UNIVERSITY OF ALABAMA**

Tuscaloosa, AL

## **Call for Papers and Presentation Abstracts**

Authors are invited to submit full-length manuscripts for presentation at the conference and inclusion in the conference proceedings. Papers addressing the conference theme “***Best Practices in Engineering Education***” have first priority and may include topics such as

1. Curriculum creation and revision
2. Innovative classroom practices
3. Multi-media, computers, and technology in the classroom
4. Teaching design throughout the curriculum
5. Capstone and multi-disciplinary design courses and projects
6. Engineering education for non-engineers
7. Survival as an engineering professor
8. Outcomes assessment and ABET
9. Role of K-12 initiatives
10. Diversity and the “pipeline”
11. Tying industry and the community to engineering education
12. Retention issues
13. Distance education
14. Impact of life-long learning
15. Research and graduate programs
16. Ethics
17. Continuing engineering education
18. Other topics of interest to the engineering education community

Authors may address other topics of interest to the engineering education community as well. Guidelines for preparing the manuscripts are available at <http://cee.citadel.edu/asee-se/>. This is a peer-reviewed conference. Papers will be accepted on the basis of peer review of the complete manuscript. All accepted papers will be included in the conference proceedings. Authors of accepted papers are expected to present their papers at the conference to facilitate the transfer of knowledge through discussion and debate.

In addition to full manuscripts, 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 reviewed proceedings.

We also anticipate having a session of student posters discussing their experiences in engineering education (design projects, research, etc.). Information on student posters will be available in the fall.

### **Schedule for submission of papers and abstracts**

- September 23, 2005 – Abstracts submitted for consideration
- October 7, 2005 – Authors notified regarding acceptance
- December 2, 2005 – Manuscript due from authors for review
- January 6, 2006 – Reviewed manuscripts returned to authors
- February 3, 2006 – Final manuscript and extended abstract due from authors

### **Electronically submit a 250–300 word abstract by September 23, 2005 to**

Michael H. Woo, Ph.D., P.E.  
michael.woo@citadel.edu

### **For further information about the conference site, please contact:**

Joey Parker, Ph.D., P.E.  
jparker@coe.eng.ua.edu

# Highlights of Conference at UTC



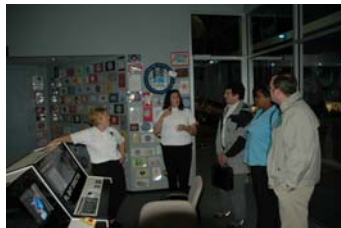
**Special interactive session in UTC Power Lab**

The University of Tennessee at Chattanooga hosted the 2005 Annual ASEE-SE Section meeting on April 3-5 in Chattanooga, Tennessee. Some 131 engineering educators and 46 students attended the conference

which included approximately 100 papers on the technical program. "Engineering 2020 Vision of the Future" was the conference theme.

Three workshops and a tour of the TVA Raccoon Mountain Power Generation Plant were available on Sunday afternoon. Pedro E. Arce of Tennessee Tech University conducted a workshop on *Design, Implementation, and Assessment of High Performance Learning Environments*. *Building Partnerships with Industry: Creating a Win-Win Environment* was conducted by Jack Selter of the Center of Advanced Transportation Systems Simulation at the University of Central Florida. The third workshop was *Installing and Using Web-Operable Laboratories* by Jim Henry of the University of Tennessee at Chattanooga.

A Welcome Reception was held at the UTC Challenger Center on the UTC Campus. Challenger Centers are non-profit, informal science education centers which grew out of the January, 1986 Challenger disaster. Surviving family members wanted to create a living memorial in honor of the Challenger crew, and the resulting science centers were designed to generate enthusiasm among young people for



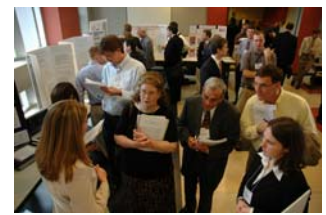
**Challenger Center Tour**

studying science, math, and technology. Tours of the facility were available before and during the reception.

The Honorable Zach Wamp, member of the U.S. House of Representatives, delivered the keynote address. Congressman Wamp is the second ranking Republican on the Homeland Security and Interior subcommittees of Appropriations, a senior member of the Energy and Water subcommittee, and the Co-Chairman of the Energy Efficiency and Renewable Energy Caucus.

Terry Boston, Executive Vice President of the Tennessee Valley Authority's (TVA) Transmission/Power Supply Group, was the conference plenary speaker. Boston is the senior officer responsible for planning, building, operation, and maintenance of TVA's transmission and power supply network. His address was titled "The Future of Engineering Starts with Education."

A new component was added to the ASEE-SE conference this year – a Student Poster Competition sponsored by the Research Division. During the poster session, engineering educators crowded around the twenty posters entered in the competition to talk with students about their research, making the poster competition a huge success in its first year.



**Student Poster Session**

The awards banquet was held in the beautiful Silver Ball Room of the Sheraton Read House. Banquet entertainment was provided by the Dismembered Tennesseans, one of the most popular performing groups in Chattanooga. Fletcher Bright, fiddler for the group, is a recipient of the **2005 Governor's Awards in the Arts Folklife Heritage Award**.

## University of Alabama to Host 2006 Conference

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Beyond the campus, the Tuscaloosa area offers many cultural and recreational activities. Several centuries before Christopher Columbus's voyage to America, the largest town in North America was at Moundville, located some 12 miles south of Tuscaloosa. Visitors can see the surviving earth pyramids or mounds upon which residences of nobles and other buildings were constructed by Southeastern Indians. One mound is approximately 60 feet high. The Jones Archaeological Museum at Moundville contains artifacts, exhibits, and videos.

Other area attractions include the Mercedes-Benz Visitor Center and Museum, the Jemison Van de Graaff Mansion, the Children's Hands On Museum, the Battle-Friedman House and Gardens, the Old Tavern, and a Bama Belle Riverboat cruise on the Black Warrior River. Public Golf courses, shopping malls, and recreational areas such as Lake Lurleen State Park are readily available to visitors.

# ASEE-SE Selects New Officers

The new officers for the 2005-2006 year are:

|  |                    |  |              |
|--|--------------------|--|--------------|
| President                                    | Laura Lackey       | Mercer University                      | 478-301-4106 |
| President Elect                              | Shelton Houston    | University of Southern Mississippi     | 601-266-4896 |
| Secretary-Treasurer                          | Tulio Sulbaran     | University of Southern Mississippi     | 601-266-6419 |
| Immediate Past President                     | Beth Todd          | University of Alabama                  | 205-348-1623 |
| <b>Vice Presidents</b>                       |                    |  |              |
| Programs Unit                                | Cecelia Wigal      | University of Tennessee at Chattanooga | 423-425-4015 |
| Awards and Recognition Unit                  | Alice Scales       | North Carolina State University        | 919-515-1754 |
| Publications and Promotion Unit              | Barbara Thomas     | Southern Polytechnic University        | 678-915-4283 |
| <b>Division Chairs</b>                       |                    |  |              |
| Administrative Division                      | Dennis Fallon      | The Citadel                            | 843-953-6588 |
| Bioengineering Division                      | Mike Boyette       | North Carolina State University        | 919-515-6790 |
| Chemical Engineering Division                | Becky Toghiani     | Mississippi State University           | 662-325-2480 |
| Civil Engineering Division                   | Curt Young         | Curtis J Young, PE                     | 704-932-9628 |
| Computer Engineering and Technology Division | Gary Johnsey       | University of Southern Mississippi     | 601-266-4118 |
| Electrical Engineering Division              | Claire McCullough  | University of Tennessee at Chattanooga | 423-425-4352 |
| Engineering Graphics Division                | Kristine Craven    | Tennessee Tech University              | 931-372-6027 |
| Engineering Technology Division              | Robert Scoff       | University of Memphis                  | 901-678-3303 |
| Industrial Engineering Division              | Scott Schultz      | Mercer University                      | 478-301-2840 |
| Instructional Division                       | Brent Jenkins      | Southern Polytechnic University        | 678-915-7433 |
| Mechanical Engineering Division              | Tord Dennis        | Georgia Institute of Technology        | 404-894-7752 |
| Research Division                            | Randy Buchanan     | University of Southern Mississippi     | 601-266-5628 |
| Software Engineering Division                | Juan Carlos Guzman | Southern Polytechnic University        | 678-915-7430 |
| Campus Representative Coordinator            | Thomas Dion        | The Citadel                            | 843-953-7676 |
| Proceedings Editor                           | Barbara Thomas     | Southern Polytechnic 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://cee.citadel.edu/asee-se/>

## Student Poster Competition Winners

### 2005 ASEE-SE Conference

#### Cross-disciplinary Teams

- Second place – Engineering with a Purpose: Water for Life: Karla Childress/Kris Hatchell/Katie McDonald
- First place – Eagle Ground Control System: Caylyne Shelton/Adrian Drummond/Brandon Edmonds

#### Junior/Senior Level Design Teams

- Second place – Design and Testing of a Combustion Airflow Measurement System for Small Internal Combustion Engines: Christopher Avans/Joshua Kirkpatrick/Joseph Meadows/Derek Morin
- First place – Rapid Prototyping Assisted Product Design: Tony Majka/Anna Shumpert/Yizhuo Zhang

#### Undergraduate Research Teams

- Second place – Computational Particle Hemodynamics Simulations in Carotid Artery Bifurcation: Stacie Hamel/Travis Blackburn/Crystal Garner
- First place – Computational Particle Hemodynamics Modeling and Simulation in Human Lung Airways: Christopher Basciano/Adam Land/Emil Pham

#### Undergraduate Research Individual

- Second place – I-QSAR Studies Using Signature on COX-II Inhibitors: Crystal Childers
- First place – Dielectrophoresis Determination of Erythrocyte Properties for Medical Diagnostic Microfluids: Kellie Smith

#### Best of Session

- Best of Session – I-QSAR Studies Using Signature on DHFR Inhibitors: Robyn Rawlings
- Best of Session – Impact of Atherosclerotic Occlusion Position on Hemodynamic Parameters in Coronary Artery: Kala Cartwright/Stephanie Jackson

# Section Awards for Excellence



**2005 Award Recipients**

At the 2005 Annual Meeting in Chattanooga, a number of awards were given for excellence in engineering education. The list of recipients and the awards are:

|   |                    |   |
|---|--------------------|---|
| Section Outstanding Teaching Award            | Don H. Morris      | Virginia Polytechnic and State University     |
| Section Outstanding Mid-Career Teaching Award | Pedro E. Arce      | Tennessee Technological University            |
| Section Outstanding New Teacher Award         | Kevin Bower        | The Citadel                                   |
| Section New Faculty Research Award            | Donald P. Visco    | Tennessee Technological University            |
| New Faculty Research Award Second Place       | Miguel A. Labrador | University of South Florida                   |
| Thomas Evans Instructional Paper Award        | Kurt Gramoll       | University of Oklahoma                        |
|   | Wes Hines          | University of Tennessee                       |
|   | Mary Kocak         | Pellissippi State Technical Community College |
| Outstanding Campus Representative Award       | John Brocato       | Mississippi State University                  |
| Tony Tilmans Service Award                    | Thomas Dion        | The Citadel                                   |

## President's Message

*(Continued from page 1)*

thank all of you that annually make the sectional meeting a time for sharing, learning and an overall rewarding experience.

Many thanks to the University of Tennessee, Chattanooga for hosting such an outstanding conference experience this past April. The contributions by both Drs. Joseph Owino and Cecelia Wigal who served as site host and technical program chair, respectively were integral to the success of the conference. For the second year, the conference successfully included an engineering education exhibition. Also, this year's conference included a very special session, an inaugural Student Poster Competition, that provided both undergraduate and graduate students the opportunity to (1) share their research/project work with students and faculty from other institutions and (2) practice their visual, written, and oral communication skills in a professional/conference environment. I thank Dr. Paul Wilder from the Indiana Institute of Technology for making our first student poster competition such a great success. Finally, I would like to recognize the outstanding leadership of Dr. Beth Todd of the University of Alabama, Tuscaloosa, for her service as President during the past year. Her leadership was instrumental in the conference success and pivotal as the Southeastern Section has begun implementing organizational structural changes this past year.

I'm excited about next year's conference to be hosted by the University of Alabama, Tuscaloosa. The conference will be held on the University of Alabama campus at the Bryant Conference Center. The Bryant Conference Center, named for legendary Crimson Tide football coach Paul "Bear" Bryant, is part of a complex that includes Alumni Hall, the Bryant Museum, and the Four Points Hotel. The conference will

begin on Sunday afternoon, April 1, 2006 with several exciting workshop opportunities to attend and it is expected that there will also be concurrent technical sessions on Sunday. Monday and Tuesday will offer a variety of technical sessions, the student poster competition as well as an engineering education exhibition. I encourage everyone to submit an abstract and manuscript for this year's conference. The conference theme is centered on *Best Practices in Engineering Education* and related abstracts for peer-reviewed papers are due September 23, 2005 to Dr. Michael Woo at [michael.woo@citadel.edu](mailto:michael.woo@citadel.edu). Please be aware of the complete call for papers within this newsletter. Furthermore, I encourage you to consider bringing your students that are conducting research either at the graduate or undergraduate level so that they may have the opportunity to highlight their work at a regional conference.

I look forward to seeing you in Tuscaloosa in April!

Laura Lackey

## Campus Rep Corner

Dear Colleagues:

This has been a tremendous year for the Southeastern Section! The Annual Conference hosted by the University of Tennessee Chattanooga was outstanding and well attended. The enthusiasm of those who participated was enormous, and the number of new faces was gratifying as well as reassuring to some of us “old-timers”. The fact that a large number of colleagues attended this conference in Chattanooga for the first time indicates that the recent re-organization of the Section with its revisions to its Constitution and Bylaws has laid a strong foundation for renewed growth and participation in the Section. As a result, there are increased opportunities for members to serve in leadership positions, as well as participate in scholarly activities. I am most appreciative of each Institutional Campus Representative for the fine work you have done this past year in assisting to get the “word” out on the conference, as well as the call for papers. I hope that you will be able to help me again during the coming year as we prepare for next year’s conference scheduled for Tuscaloosa.

I am continuing to work on the contact database and hope to expand it to where it would be of greater value for Division Chairs within the Section. Under the recent re-organization

of the Section, a renewed emphasis has been placed at the Division level. This is because the Division level is where “the rubber meets the road”. Colleagues with similar interests have opportunities to interface with their peers for a multitude activities. Hopefully once the database is completed, it will provide Division Chairs additional means to contact colleagues with similar interests in order to promote the Section and its activities.

I also want to publicly acknowledge the fine work that [John Brocato](#) has done this past year as Mississippi State’s Campus Representative. Because of his outstanding efforts, he received the Southeastern Section’s Outstanding Campus Representative Award in Chattanooga. Congratulations, John, for an award well deserved.

In closing, I would like to personally thank each Campus Representative for your effort and willingness to serve. The annual reports that you submitted show that you are actively engaged in promoting engineering education on your campus. If you have questions, or if I can be of assistance to you, please let me know.

Thomas Dion  
ASEE-SE Campus Reps Coordinator