

# NEWSLETTER

## OF THE ASEE GULF-SOUTHWEST SECTION

July 2009



Welcome back folks! I want to be the first to say that our last Section meeting in Waco, Texas was a success! The talks were engaging, current and definitely educational. The atmosphere was cordial and we had real nice weather. The hospitality of the organizers and the university was great. The entertainment during the conference was awesome. The Baylor campus itself was very nice to see and roam through. If you haven't made our last Section meeting then you've missed out. Our congrats to the organizers on a very well done meeting that continued the tradition of excellent conferences our Section is known for.

I've talked to the organizers of our next meeting (2010) in Lake Charles, Louisiana, and let me tell you, these folks at McNeese State University are ready to put on a good show for us. They pretty much have everything ready for the conference. It should be a good one folks. Dare I say a resort location?! We look forward to another successful meeting in 2010!

*Tariq Khraishi, Section Newsletter Editor*



### The Chair's Corner

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The 2009 ASEE Gulf Southwest Section's Annual Conference, sponsored by Baylor University, was held March 18-20, 2009 on the Baylor University campus in Waco, TX. The conference theme focused on "Engineering Education Today for the Challenges of Tomorrow" which gave each participant an opportunity to have a positive impact on the future of engineering education. The conference began on Wednesday afternoon with a pre-conference workshop entitled "Small Pieces Loosely Joined: Using Web 2.0 to Augment Teaching and Learning" taught by Baylor University's Director for the Academy for Teaching and Learning, Dr. W. Gardner Campbell. The workshop was attended by seven people all of whom were amazed by the possibilities of using these tools for learning. On Thursday morning the

conference began with a welcome by the Conference Chair, Dr. Ken Van Treuren, and then a welcome from Baylor University's President, Dr David E. Garland. Dr. Garland highlighted some of the engineering accomplishments by Baylor University and affirmed the importance of engineering education. Dr Garland was followed by a welcome from Dean Benjamin Kelley, Dean of Baylor's School of Engineering and Computer Science.

There were two Keynote Speakers at the conference representing Waco's local industry. The first presentation was Thursday night at dinner and was given by Mrs. Lauren Dreyer (a Baylor University Mechanical Engineering Alumni) from Space Exploration Technologies (SpaceX) in McGregor, Texas. Lauren gave a comprehensive overview of SpaceX and its mission for the future. The second presentation was from Mr. Kenneth vanderHorst from L-3 Communications in Waco, TX. Ken spoke on "The Global Nature of Engineering"

The conference was attended by 54 faculty and 31 students for a total of 85 attendees. A total of 22 sessions were planned for the 71 conference paper/abstracts. The conference had a mix of topics on engineering education ranging from curriculum development to enrichment and retention. This year the conference also included both an Undergraduate and Graduate Student Paper Contest. Of the 71 conference papers, 14 were graduate papers and 10 were undergraduate papers. There was a good representation of Gulf-Southwest schools for the student contests. The conference proceedings were published on a CD-ROM.

Baylor University was honored to host the conference on campus and on behalf of the administration, faculty, staff, and students of Baylor University, the School of Engineering and Computer Science, and

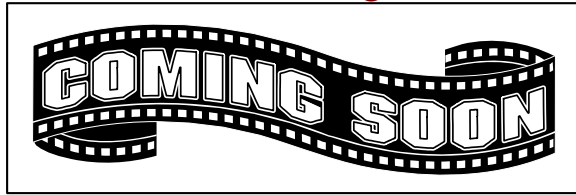
both the Departments of Mechanical (ME) and Electrical and Computer Engineering (ECE) we thank you for participating and making this year's conference a huge success. Next year the conference will be hosted by McNeese State University in Lake Charles, LA. It will be a great conference and I hope to see you all there.

*Ken Van Treuren, 2009-2010 Section Chair*

The following are pictures (courtesy of Farrokh Attarzadeh) taken at the 2009 conference:



## A *Word* from Program Chair



Upcoming section meeting:  
**The American Society for Engineering  
Education (ASEE)  
2010 ASEE Gulf-Southwest (GSW)  
Annual Conference  
March 24-26, 2010  
Hosted by McNeese State University**

### **“Bridge to Industry- Educating the Future Industry Bound Engineer and Technologist”**

McNeese State University and the College of Engineering and Engineering Technology invites engineering and technology educators as well as industry professionals to attend the 2010 ASEE GSW Conference and submit papers. The conference will be held at the L’Auberge du Lac Casino Resort in Lake Charles, Louisiana. Papers addressing the conference theme will have first priority and may include topics such as:

ABET Accreditation and Standards Broader Issues  
in Engineering or Technology Education  
Capstone Project Pedagogy  
Continuing Education Programs for Industry  
Professionals  
Co-op/Intern Education Programs  
Curriculum Development/Innovations  
Distance Education  
Engineering/Technology Program Interactions  
Engineering/Technology Industrial Advisory  
Boards  
Ethics and Integrity in Education and Industry  
Evaluation and Assessment Issues  
Freshman Engineering Programs

Future Directions in Engineering and Technology

Education  
Industrial Partnerships/Collaborations  
Interdisciplinary Education  
Lifelong Learning  
Multidisciplinary Education  
Outreach Programs K-12  
Preparation for Engineering or Technology  
Practice  
Professional Development for Faculty  
Recruitment and Retention Programs  
Teaching Innovations  
Two-year/Four-year Partnerships  
Web-based or Distance Learning Education

#### **Important Dates:**

October 2, 2009 Faculty and student paper  
abstracts due  
October 23, 2009 Review of abstracts  
completed and authors notified  
December 15, 2009 Full manuscripts due  
January 15, 2009 Review completed and  
comments to authors  
February 15, 2010 Final papers due  
January 31, 2010 Early Registration Deadline  
February 1, 2010 Late registration begins

#### **Conference Website:**

<http://www.mcneese.edu/aseegsw>

For more information please contact:  
Dr. Nikos Kiritsis, Dean  
College of Engineering & Engineering  
Technology  
McNeese State University  
337-475-5875

## **Section Officers**

**Past Chair:** (by default from previous  
position until 2010)

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Kenneth W. Van Treuren, Professor  
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**Find Us on the Internet**

You can find us on-line at the following URL:  
<http://www.aseegsw.org/>

This link contains searchable proceedings from past Section meetings.



**2008-09 ASEE-GSW Awards**

@ the 2009 ASEE-GSW Section Annual Meeting

Habib P. Mohamadian, Section Awards Committee Chair

- ***Outstanding Campus Representative Award (Certificate):***  
Kenneth W. Van Treuren, Baylor University
- ***Outstanding Teaching Award (Certificate and \$500):***  
Kenneth W. Van Treuren, Baylor University
- ***Outstanding Young Faculty Award (Certificate and \$500):***  
Mariah Hahn, Texas A&M University
- ***Outstanding Service Award (Certificate and \$500):***  
Hashim Mahdi, University of Texas-Pan American (Posthumous)
- ***Conference Person-Mile Award (Traveling Trophy):***  
Lamar University (# participants: 7, # miles: 2673)
- ***Graduate Student Paper Awards***
  - ***1<sup>st</sup> Place Award (Certificate and \$150):***  
Chris Matcek and John Miller;  
Advisor: Dr. Ian Gravagne, Baylor University, “Design of a Phantom Load Controller for Entertainment Centers”

- **2<sup>nd</sup> Place Award (Certificate and \$100):**  
Kirk Bolton and Thomas Cemo;  
Advisors: Drs. Ian Gravagne and Ken Van Treuren, Baylor University, “Design of a Solar Thermal Collector Simulator”
- **3<sup>rd</sup> Place Award (Certificate and \$75):**  
Sina Amini and Seung Lee; Advisors: Drs. Charles Lessard and Kenith Meissner, Texas A&M University, “Virtual Microscope and Spectrophotometer: Application to Advanced Placement Biology and Chemistry Lessons”
- ***Undergraduate Student Paper Awards***
- **1<sup>st</sup> Place Award (Certificate and \$150):**  
Shane Merchant and Jason Gregg; Advisors: Drs. Ken Van Treuren and Ian Gravagne, Baylor University, “Wind Tunnel Analysis of a Counter-Rotating Wind Turbine”
- **2<sup>nd</sup> Place Award (Certificate and \$100):**  
Akhil Thomas; Advisor: Dr. Stephen Weis, Texas Christian University, “Fiber Optic Vibrometer Measuring Ballistic Shock”
- **3<sup>rd</sup> Place Award (Certificate and \$75):**  
Carlos Quiroz, Marcos Bird, and Chuong Khuc; Advisor: Dr. Yufang Jin, University of Texas at Pan American and University of Texas at San Antonio, “Integration of Heterogeneous Unmanned Ground Vehicles with Synchronized Communication”
- ***Best Paper Awards***
- **1<sup>st</sup> Place Award (Certificate and \$300):**  
Ronald Barr, University of Texas-Austin, “A Focus on the Scholarship of Education”
- **2<sup>nd</sup> Place Award-tie (Certificate and \$200):**  
Matthew Traum and Sharon Karackattu, University of North Texas, “The Researcher Incubator: Fast-Tracking Undergrad. Students into Research via Just-in-Time Learning”
- **3<sup>rd</sup> Place Award (Certificate and \$100)-TIE:**
  - Abhijeet Mokal, Satish Adapa, Anuradha Nagaraj, Ali Pilehvari, and Patrick Mills, Texas A&M University – Kingsville, “Development of a Web-Based Self-Teaching and Assessment Module for Chemical Engineering Microchemical Systems”
  - Dr. Brent Donham, Texas A&M University – Commerce, “Articulated Associate in Science Engineering Degree”

## **Awards** **Info**

The Chair of the Section Awards Committee, Professor Habib Mohamadian, wants to share with Section members information regarding Section awards and nomination procedures below. This information should be kept on file if you anticipate making or getting a nomination.

### **ASEE Section Outstanding Teaching Award**

This award is given by each ASEE section, with support, where possible, from local industry. The award, which focuses on outstanding classroom performance, recognizes teachers of engineering and engineering technology students and serves as an incentive to make further significant contributions to teaching.

**The Award:** The award consists of a certificate, prepared by ASEE National Headquarters, and an appropriate honorarium, where possible, presented by the local section. Each section shall determine its own level of the honorarium and fund the honorarium from its Banking and Accounting Services System fund. Presentations are made at the section annual meeting with notation in the ASEE Annual Awards Banquet Program.

**Qualifications:** Candidates may be teachers of any subject included in an ABET/CEAB accredited engineering or engineering technology curriculum. In addition to technical courses, subjects may include the humanities and social studies, mathematics and science.

The teacher, as an individual, must:

1. Possess and be able to communicate a broad and accurate knowledge of the subject area.
2. Possess self-confidence, create a feeling of harmony between self and students and be able to meet difficulties with poise.
3. Possess a sense of proportion, stressing fundamentals and disregarding trivial detail. Give assignments that challenge students, demanding thinking in the completion of assignments.
4. Demonstrate such an intense interest and enthusiasm for the subject area and for the enhancement of learning processes that students are motivated to their fullest capacities.
5. Be available for advising and counseling students before and after graduation.
6. Teach a minimum of two semester or three quarter courses per calendar year.
7. Have considerable endorsement from students, using both regular course evaluations and individual letters of recommendation as evidence.
8. Attend the section annual meeting at which the award is presented; and make a

presentation at that meeting (or the following section meeting) to share some elements of his/her success as a teacher.

9. Possess a strong record of activity in ASEE or the educational activities of another professional society.

The teacher's contributions to the profession should include at least three of the following:

1. Participation in the development of courses or curricula.
2. Development of teaching equipment or development of a wider application of teaching equipment previously developed.
3. Contribution to the improvement of laboratories or other facilities.
4. Development or authorship of instructional material or a text that enhances the student learning process.
5. Publication of original work, through any medium, that enhances the engineering education process or adds to the literature pertaining to teaching methodologies.
6. Service as a mentor to other teaching faculty or participation in the conduct of seminars and workshops that are focused on helping other teachers improve their classroom effectiveness.

## Outstanding Section Campus Representative Award

The Campus Liaison Board of ASEE has initiated this award in order to recognize those ASEE Campus Representatives who have achieved excellence in their roles as the Society's representative on campus. The ASEE Campus Representative acts as a liaison to help determine members' interests and reactions to Society programs and publications, to stimulate interest among the faculty in section and national meetings and to promote individual membership and involvement. This award is bestowed annually upon those ASEE Campus Representatives who have demonstrated staunch support for ASEE on their campuses.

**The Award:** The award consists of a certificate to the ASEE Campus Representative selected from each section and is presented at the section meeting.

**Award Criteria:** Nominees must have served ASEE significantly through active participation in the following areas:

1. Recognition of outstanding teaching and research activities on his or her campus by submitting ASEE award nominations and support of the New Engineering Educators program.
2. Encouragement of faculty members to submit articles to ASEE publications.
3. Encouraging faculty members to submit papers for presentation at section and national meetings.
4. Promotion of individual membership in ASEE.
5. Encouragement of faculty attendance at section, division and national ASEE meetings.

**Selection Criteria:** Each ASEE Campus Representative should submit an annual form to his or her respective Section Campus Representative outlining ASEE activities on his or her campus. The form is found in the Campus Representative Manual. The appropriate Section Campus Representative will select the recipient of the award based on the evidence that indicates consistent and outstanding promotion of ASEE on campus according to the above award criteria.

### **Outstanding Zone Campus Representative Award**

Each Section Campus Representative will forward to the respective Zone Chair the name of the Section Campus Representative Award recipient together with the appropriate documentation. The Zone Chairs will then select the recipients of the Outstanding Zone Campus Representative Awards.

The Award: The award consists of a plaque to be presented to the ASEE Campus Representative, selected by each Zone Chair, at the ASEE Annual Conference.

### **Best Paper Awards**

Each year three awards are given to the best engineering education papers published and presented at the annual meeting of the ASEE-Gulf Southwest (GSW) Section. Awards in the amounts of \$300, \$200, and \$100 are given to the first, second and third placed papers, respectively. In addition certificates of recognition are presented to the authors of the selected papers. In the case of co-authors, individual certificates will be presented, but the honorarium will be split among the number of authors. Award presentations are made at the Honors and Awards Luncheon of the ASEE-GSW section.

**Qualifications:** The paper must be presented by the author(s) at the annual meeting. The paper must be an original paper written specifically for and published in the Proceedings of the ASEE-GSW Section Annual Conference. It is permissible that the paper be of similar content to the papers written by the same author(s) for other conferences.

**Selection:** The members of the ASEE-GSW Section Awards Committee will select the best papers.

### **Outstanding Service Award**

**Purpose:** To recognize a member who has demonstrated a long history of service to engineering education and/or the ASEE-GSW section.

**The Award:** The award consists of a \$500 honorarium and a certificate of recognition. Presentations are made at the section annual meeting with notation in the ASEE Annual Awards Banquet Program.

**Qualifications:** Any current or past member of GSW section with a distinguished record of service to engineering education and/or the ASEE-GSW section shall be eligible for this award.

**Nomination:** Any member of the section may nominate candidates for this award by preparing a nomination package that includes an ASEE General Award Nomination Form, candidate's curriculum vitae, and a nomination rationale statement highlighting the service to engineering



education and/or the ASEE-GSW section. Supporting letters are recommended to strengthen the nomination but not required.

The selection will be made by the section Awards Committee. The nomination package should be mailed to the ASEE-GSW section Awards Committee Chair.

## Section Campus Representative Report

The following is a summary of topics that might be useful to new Campus Representatives (CRs), prospective CRs, and the general membership.

### What is a Campus Representative?

Campus Representatives serve as the liaison between ASEE Headquarters and faculty and students on campus. They play a vital role in recruiting new members, informing their colleagues about the ASEE meetings announcements, call for papers, and other ASEE activities. If you are a new CR or interested in becoming one, the ASEE Campus Representative Operating Manual provides useful information. This can be accessed through the following ASEE link: <http://www.asee.org/members/resources/campusRepOperatingManual.cfm>

### Do you know if you are a Campus Rep?

To have a complete and accurate CR list on file for communication/information purposes, the following is requested:

- i) Check the following link to see if your college holds an ASEE institutional membership  
<http://www.asee.org/members/organizations/oncampus/memberSchoolsBySection.cfm>

- ii) Check the following website to see if you or someone else from your institution is listed as a CR.

<http://www.asee.org/members/organizations/oncampus/campusRepsBySection.cfm#303>

- iii) If any corrections or updates are necessary, please contact your *own* Dean's Office and ask them to contact the ASEE-membership department at [membership@asee.org](mailto:membership@asee.org), (202) 331-3521.

### Campus Representative Activity Report:

As a Campus Representative you are asked to submit a report each year to provide a summary of ASEE activities at your campus. The completion of this report is very simple. Typically, an electronic Activity Report form is sent to Campus Reps in August or September. If you don't receive the form, you may download this form from the following site:

[http://www.asee.org/activities/organizations/campus/documents/CR\\_ActivityRpt06-07.doc](http://www.asee.org/activities/organizations/campus/documents/CR_ActivityRpt06-07.doc). Most common activities are already listed on the form. You just need to mark those activities already implemented or planned for the future on you campus. The form also includes a section on reporting the Dean's actions. Consulting with the Dean in completing the form might also be very useful in gaining his/her support in conducting ASEE activities at your campus.

**The deadline for submission of report is the 31st of October each year.** One copy of the report should be sent to your Section Campus Representative and one copy to ASEE's Membership Department.

These reports are used to select the Outstanding Campus Representative for the Section. The reports from the winners of the Outstanding Campus Representatives from each section are given further consideration for the Outstanding Zone Campus Representative Award. The Outstanding Campus Representative Award is presented

at the Annual Section meetings. The Outstanding Zone Campus Representative Award is presented at the Awards Banquet at the ASEE Annual Conference along with the Society's other national awards. Our GSW section winners have done well in the past winning the Outstanding Zone III Campus Representative Award. Dr. Troy F. Henson from The University of Texas-Tyler received both awards in 2005.

**Spread the Word:** This membership promotional program is designed to encourage Campus Reps to spread the word about ASEE membership on their campuses. "The Deans Program" is designed to assist CRs in recruiting new members. Through this program new members can receive two years of free membership. If the Dean provides funds to cover the first year's membership cost, ASEE will waive the second year's membership fees. Each year during the Campus Representatives receptions at the ASEE Annual Conference awards are presented to the Campus Representatives that recruit the highest number of members and the highest percentage of members in their section.

**ASEE-GSW Section Bylaws:** The GSW Section Bylaws are posted on-line at our Section's website (<http://www.aseegsw.org/>)

**Future ASEE-GSW Section Meetings:** The following institutions have volunteered to host future ASEE-GSW meetings: 2010 McNeese State University - Lake Charles, LA. (Nikos Kiritsis), 2011 University of Houston - Houston, TX (Farrokh Attarzadeh), 2012 University of Texas at El Paso (Arun Pennathur), 2013 University of Texas at Arlington (Carter Tiernan)



## \$Treasurer Report \$

These are the balances of GSW accounts:

GSW-Awards Account: \$12,702.55 as of 12/31/08

GSW-BASS Account: \$29,249.61 as of 2/28/09

GSW-Operating Account: \$550.00 as of 2/28/09

Jerry K. Keska



### RESOLUTION

Let it be resolved that the Gulf-Southwest Section of the American Society for Engineering Education (ASEE) expresses its sincere appreciation to **Baylor University** for hosting our 2009 Annual Section Meeting here in Waco, Texas, and in particular expresses sincere gratitude to:

- i. Conference Chair **Dr. Ken Van Treuren** for his tremendous efforts in organizing the meeting program, paper presentations, and associated activities. We know how hard you worked, and thanks also to;
- ii. **Drs. Jim Farison and Mike Thompson**, the technical papers committee, for arranging all the excellent paper sessions and for arranging the best paper competition;
- iii. And further to the other members of the local organizing committee: **Ms. Leigh Ann Marshall** and **Mr. Pat Hyman**.

Let us also thank Baylor University **President David E. Garland** for his greetings and support for engineering education at Baylor, and **Dean Benjamin Kelley** for his constant support and visible participation in our meeting.

Furthermore, let us acknowledge the stimulating pre-conference workshop on “Augmented Teaching and Learning” conducted by **Dr. W. Gardner Campbell**. We also express our gratitude to **Dr. Ralph Flori** for representing the ASEE Board here in Waco as Chair of Zone III.

And let us gratefully acknowledge the support from our conference sponsors: L-3 Communications represented by Mr. Ken vanderHorst; SpaceX represented by Ms. Lauren Dreyer; and the Greater Waco Chamber and Aviation Alliance.

And let us also remember our dear Past Section Chair, the late **Dr. Hashim Mahdi**, who is no longer with us in life, but who is present in our spirit and thoughts today. Let our condolences be conveyed to his family, friends, and colleagues at UT-Pan American

Thus, let it be recognized that all attendees, from near and far, enjoyed immensely the friendly collegiality, the intellectually stimulating paper presentations, the delicious food, and the

local central Texas hospitality. Finally, let this resolution be recorded on the permanent records of the GSW Section and be distributed to appropriate officers of the Society.

Respectfully Submitted on **March 20, 2009**

ASEE GSW Section Resolutions  
Committee

*Ronald E. Barr*

Dr. Ronald E. Barr, Committee Chair