

NEWSLETTER

OF THE ASEE GULF-SOUTHWEST SECTION

September 2019



Welcome! Please find herein a new installment of the ASEE Gulf-Southwest Section Newsletter. It covers the last Section meeting in Tyler, Texas. It also talks about the upcoming conference in Albuquerque, New Mexico. Reports from other ASEE Section Officers are also provided in this newsletter. Enjoy your reading and stay in touch and active with the Section, which has successfully held an annual conference for tens of years! Come and meet other Section members and share with them what you are doing at your institution in the 2020 Section meeting. We look forward to seeing you in the Land of Enchantment! ☺

Tariq Khraishi, Section Newsletter Editor



The Chair's Corner

The Chair's Corner

The 2019 ASEE Gulf-Southwest (GSW) Section meeting was held in Tyler, Texas. The conference activities were held on the UT-Tyler campus where the attendees enjoyed the pretty scenery, excellent facilities and good weather. There were 100 registrants for the conference, and 63 technical paper presentations took place. In addition, there were 19 poster presentations presented at the conference. The theme of the conference was “Branches in the Pipeline: Educating Engineers from the Roots Up”. The Dean of Engineering, Dr. Javier Kypuros, welcomed the attendees to the campus and conference.

The conference host committee enjoyed all the interactions and discussions that took place throughout the conference and received many positive feedbacks on it. The attendees were treated to multiple buffet meals as part of their registration. Although

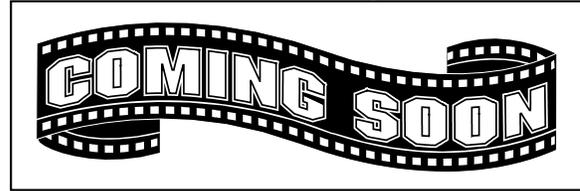
it was a lot of work to stitch together the conference, in the end it was a welcomed outcome pouring in the direction of improving engineering education in our Section.

Our annual conferences are vibrant, educational events where a great deal of information is exchanged. We hope that you will consider going to our next Section meeting in Albuquerque, New Mexico, as the Section meeting has not been held in its geographical western part for many years now.

Dr. Michael McGinnis, 2019 Conference Chairs



A *Word* from Program Chair



Upcoming section meeting:
**The American Society for Engineering Education (ASEE)
The 2020 ASEE-GSW Annual Conference**
Organized by the University of New Mexico

March 25-27, 2020

“Engineering Engineering Education (E³): Innovations in the Classroom and Beyond”

We are excited to announce the registration and detailed information for the 2019 American Society for Engineering Education Gulf-Southwest (GSW) Section Conference. The event, will be hosted by the University of New Mexico with organizing members from three universities: University of New Mexico, New Mexico State University, and New Mexico Tech. The conference theme is: “Engineering Engineering Education (E³): Innovations in the Classroom and Beyond”, as it is important to always stay abreast with new developments and new pedagogy in engineering education. More importantly, the process of engineering education should be treated as a design process similar to what is taught in engineering curricula. The topics for the conference are: Innovations in Online Engineering Education, Innovations in the Classrooms and Laboratories, Curricular Design and Re-Design, Outreach to Community Colleges and K-12

Engineering Leadership, Ethics and Character, Increasing Student Engagement, and Preparing the Future Engineer.

The deadline for Abstract submission is: November 1, 2019

The website for the conference with full info is:

<https://engineering.unm.edu/aseegsw2020/>

The conference provides the opportunity for you and your colleagues to present your work/activities in engineering education and for students (graduate and undergraduate) to present their scientific/technical work.

There will be monetary awards for best faculty/staff/professionals papers and for student papers (both graduate and undergraduate).

Please spread the news to your colleagues, students and anyone who may be interested in this conference opportunity. Members of ASEE, as well as non-members, can participate in the conference.

Expected attendees range from all over the country and beyond. Refereed papers from the conference proceedings are expected to be archived online on the ASEE PEER website.

We look forward to seeing you at the 2020 ASEE GSW Conference.

Sincerely,
Dr. Tariq Khraishi
The University of New Mexico
ASEE GSW 2020 Conference Chair

Section Officers

Past Chair: *(by default from previous position until June 2020)*

Mia Markey
Professor
Department of Biomedical Engineering
University of Texas at Austin
Austin, TX 78712
(512) 471-1711, (512) 471-8660
Email: mia.markey@utexas.edu

Chair: *(by default from previous position until June 2020)*

Michael McGinnis
Associate Dean of Engineering
Associate Professor
Civil Engineering Department
RBS 1011
University of Texas at Tyler
Tyler, TX 75799
(903) 565-5870
Email: MMcGinnis@uttyler.edu

Vice-Chair (Program Chair): *(for one-year term until June 2020)*

Tariq Khraishi
Professor
Mechanical Engineering Department
MSC01 1150
The University of New Mexico
Albuquerque, NM 87131
Phone: (505) 277-6803
FAX: (505) 277-1571
Email: khraishi@unm.edu

Secretary/Treasurer: *(for three-year term until June 2021, completing the term for Reza Mirshams)*

Amir Karimi
Professor and Associate Dean of
Undergraduate Studies
Office of Undergraduate Studies
The University of Texas at San Antonio
One UTSA Circle
San Antonio, TX. 78249-0615
Phone: 210-458-5514
Fax: 210-458-5189
Email: amir.karimi@utsa.edu

Section Campus Rep: *(for three-year term until June 2021)*

Walter W. Buchanan, Professor
Engineering Technology and Industrial
Distribution
304D Fermier Hall, 3367 TAMU
Texas A&M University
College Station, TX 77843-3367
(979) 845-6764
Email: buchananw@tamu.edu

Section Newsletter Editor: *(for three-year term until 2020)*

Tariq Khraishi
Professor
Mechanical Engineering Department
MSC01 1150
The University of New Mexico
Albuquerque, NM 87131
Phone: (505) 277-6803
FAX: (505) 277-1571
Email: khraishi@unm.edu

Section Awards Committee Chair: *(by annual appointment)*

Amir Karimi
Professor and Associate Dean of
Undergraduate Studies
Mechanical Engineering Department
The University of Texas at San Antonio
One UTSA Circle
San Antonio, TX. 78249-0615
(210) 458-5514
Email: amir.karimi@utsa.edu

Section Nominating Committee and Resolutions Committee Chair: *(by annual appointment)*

Randall D. Manteufel, Ph.D.
Associate Professor
Mechanical Engineering Department
The University of Texas at San Antonio
One UTSA Circle
San Antonio, TX. 78249-0615
(210) 458-5522
Email: rmanteufel@utsa.edu

Section Webmaster *(by annual appointment)*

John Miller
Senior Lecturer and Assistant Chair
Electrical and Computer Engineering
Department
Baylor University
Rogers 300D
Waco, TX 76798
(254) 710-3974 (office)
Email: John_Miller1@baylor.edu

Section Archivist *(by annual appointment)*

Amir Karimi
Professor and Associate Dean of
Undergraduate Studies
Office of Undergraduate Studies
The University of Texas at San Antonio
One UTSA Circle
San Antonio, TX. 78249-0615
Phone: 210-458-5514
Fax: 210-458-5189
Email: amir.karimi@utsa.edu



Find Us on the Internet

We have a new website!

<https://gsw.asee.org/> There you will find links to previous and future conferences, newsletters, and information about our Section.

We are also in the process of moving papers from the old website to the ASEE PEER repository: <https://peer.asee.org/>. This will take some time and the 2018 conference proceedings have been uploaded to this repository.

The old website will remain available through October 2022 and contains searchable proceedings from past Section meetings: <http://www.aseegsw.net/>



@ the 2019 ASEE-GSW Section Annual Meeting

by Amir Karimi, Section Awards Committee Chair

- **Outstanding Campus Representative Award:**
Dr. Winston F. Erevelles, St. Mary's University, San Antonio, Texas

- **Outstanding Teaching Award:**
Dr. Joseph Donndelinger, Baylor University

Outstanding Young Faculty Award:

Dr. Tahsin Khajah, Department of Mechanical Engineering .The University Texas at Tyler

- **Outstanding Service Award:**
Dr. Aranceli Martinez Ortiz-Texas State University, San Marcos, Texas

- **Conference Person-Mile Award:**
The University of Texas at San Antonio

- **Faculty Paper Awards**

- **1st Place Award:**
“Supplemental Instruction and Just-in-Time Tutoring: The Who, When, and Why Students Attend in a First Year Engineering Course,” by David Ewing, Catherine Unite, Christine Miller and Cedric Shelby, University of Texas at Arlington

- **2nd Place Award:**
Lean Concepts for Teaching Improvement: A Case of Metallography Experiment, Hung-Da Wan, Nihal Nethada and Madhavrao Govindaraju, Mechanical Engineering Department, The University of Texas at San Antonio

- **3rd Place Award:**
Exploring Paradigms: Leadership Development for Engineers Using the Engineering Skill Set, by B. Michael Aucoin, Leading Edge Management LLC

- **Student Paper Awards**

- **1st Place Award:**
The Use of Polymeric Coatings for Anticoagulation on Implantable Medical Devices, Aaron Wilson, Alexandra Craig, Pierre Neuenschwander and Shih-Feng Chou, Department of Mechanical Engineering, University of Texas at Tyler and Department of Cellular and Molecular Biology, University of Texas Health Science Center at Tyler

- **2nd Place Award:**

Development and Analysis of a Control Architecture for a Laboratory-Scale, Double Pipe Heat Exchanger, Samuel Ogletree, M. A. Rafe Biswas, Chung Hyun Goh, Kelvin Lim, Jared Reynolds, Andrew Hughes and Michael Mahaffe, Mechanical Engineering, The University of Texas at Tyler

3rd Place Award:

Modernization of Curriculum for the Undergraduate Digital Systems Course, Brolyne Onyango, Hector Ochoa and Mukul Shirvaikar, Electrical Engineering Department, University of Texas at Tyler and Physics Department, Stephen F. Austin State University

• **Best Student Posters**

- *Design and Optimization of Acoustic Metamaterials for Noise Reduction*, Vinicio Hadlich and Tahsin Khajah, Mechanical Engineering, University of Texas at Tyler
- *Machine Learning Techniques in the Area of Neuroimaging Segmentation*, Kevin Scholtes, Mordechai Alpert, Martin Komm, Ivette Resendiz and Nathan Kracko, UT Tyler
- *Electrospinning of Polyester Fibers for Sustained Drug Delivery*, Sarju Poudel and Shih-Feng Chou, UT Tyler
- *Medical device for quantifying vocal fold stiffness in-vivo*, Vangelina Osteguín, Melanie Foster, Divya Kamnani, Natalia Rafiq, Teja Guda and Gregory Dion, The University of Texas at San Antonio
- *Factors affecting pavement smoothness (A Study of California's Pavements)*, Alisha Khanal and Mena Souliman, UT Tyler



The Chair of the Section Awards Committee, Professor Amir Karimi, 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.

Important Note on Section awards: The nominees of ASEE-GSW section awards are strongly encouraged to attend the conference.

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 (including TAC/ABET). 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 and engineering technology 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

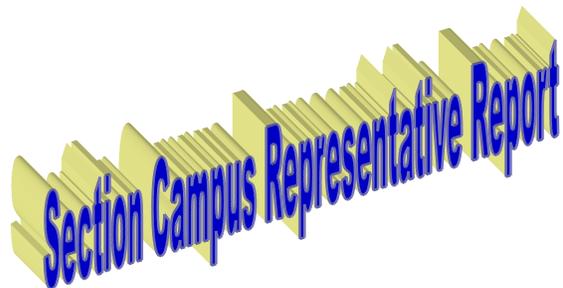
Purpose: To recognize a member who has demonstrated a long history of service to engineering education and/or the ASEE-GSW section.

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.



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, (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. Most common activities are already listed on the form. You just need to mark those activities already implemented or planned for the future on your 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.net/> or <https://gsw.asee.org/>)

Future ASEE-GSW Section Meetings:
The Section meetings ideally alternate on a yearly basis between the East, Center and West of the Section geography.
The following institutions have volunteered to host future ASEE-GSW meetings:

- 2020 University of New Mexico, Albuquerque, NM (contact: Tariq Khraishi - WEST)
- 2021 Baylor University, Waco, Texas (contact: Kenneth Van Treuren - CENTER)
- 2022 (EAST) OPEN



If your institution is interested in hosting a future meeting in 2022 or beyond, please contact Randall Manteufel at rmanteufel@utsa.edu. The meeting is usually held in mid-March to early April timeframe.



\$Financial Report \$

These are the balances of GSW accounts:

- GSW-BASS Account: \$25,258.05 as of 06/30/18
- GSW-Operating Account: \$550.00 as of 09/30/18



Let it be resolved that the Gulf-Southwest Section of the American Society for Engineering Education (ASEE) expresses its sincere appreciation to the University of Texas at Tyler for hosting the 2019 Annual Section Meeting here in the Tyler, Texas, with the conference theme: "Branches in the Pipeline: Educating Engineers from the Roots Up." In particular, we express our sincere gratitude to the conference Host Committee Chair Dr.

Michael McGinnis (the Associate Dean), Dr. Javier Kypuros (the Dean), and all other organizational members of the Conference. And of course, thanks for the support from UT-Tyler staff members (especially the hard work of Jill Christ and Katrina Smith).

Further, let it be recognized that 63 technical paper presentations and 19 poster presentations were presented during the conference. There were also 100 registrants. The best paper awards were presented in undergraduate/graduate students, and faculty categories. In addition to technical sessions, several informal discussions were had on professional engineering, engineering ethics, leadership and best engineering education practices.

Let it be noted that the UT-Tyler campus served as a nice venue for our conference, with excellent ambiance, surroundings, service, and facilities. And of course, the Sunday and Monday receptions, Monday and Tuesday luncheons, and other meals and breaks were much appreciated. They were all done nicely, with Texas cuisine in mind.

Thus, let it be recognized that all conferees, from near and far, enjoyed immensely the collegiality and friendships, the technically sound and intellectually inspiring paper presentations, and the nice

town of Tyler along with its university campus. Finally, let this resolution be recorded on the permanent records of the Gulf-Southwest Section and be distributed to appropriate officers of the Society.

Respectfully Submitted on March 12, 2019

ASEE GSW Section Resolutions Committee



Tariq Khraishi, Newsletter Editor

Important Note: the resolution is normally done by the ASEE GSW Section Resolutions Committee Chair, Dr Randall D. Manteufel. But since he was not in attendance at the conference, Dr Tariq Khraishi, the Newsletter Editor, volunteered to carry this annual task.