

BEARING OUR BANNERS FAR AND WIDE – FACULTY AND STUDENT SUCCESSES RECOGNIZED



Spring 2018 Faculty Convocation Ceremony: (L-R) Prof. Paul Paré, Prof. Ed Quitevis, Dean of the College of Arts & Sciences Brent Lindquist, Prof. Dominick Casadonte, Prof. Dimitri Pappas, Prof. and Graduate Advisor Michael Findlater, Prof. (Emeritus) Robert Shaw, Prof. Jorge Morales, Horn Prof. and Chair Yehia Mechref

As we get ready to send the next crop of chemistry and biochemistry students out into the world, we

reflect on the various achievements from the department over the past academic year. It is through the hard work and tireless efforts of these individuals, as well as all the members of this department, that make these accolades truly special.

This year, **Professor and Chair Yehia Mechref** became the ninth named Paul Whitfield Horn Professor in

the department of Chemistry and Biochemistry since its inception in 1967. This is the highest honor bestowed upon faculty at TTU and is awarded to individuals that have attained national and international recognition through immense publication and scholarly service within their field of study. Currently, the Chemistry and Biochemistry department is home to four Horn

professors, the most of any department at TTU.

Prof. Michael Findlater was presented earlier this year with the Chancellor's Council Distinguished Research Award for 2016-17, the highest research award presented by the TTU system to faculty members.

In the areas of teaching and student engagement this past year, professors were nominated by students, peers, and associations for their excellent work in the classroom. To begin with, **Prof. Jorge Morales** was selected as a recipient of the President's Excellence in Teaching award, one of the top teaching awards presented by the TTU system. **Profs. John D'Auria and Dominick Casadonte** both received commendations for completion of the STEP (STEM Teaching, Engagement, and Pedagogy) fellowship, demonstrating their abilities to include evidence-based instructional practices into their classrooms.

Texas Tech University recently announced several President's Excellence in Teaching & Research

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TEXAS TECH UNIVERSITY

Department of Chemistry
& Biochemistry

Continued from cover... Professorships. These awards are for a three year term beginning in Fall 2018. Thirteen of these were awarded to the College of Arts & Sciences and four of those recipients were in the Department of Chemistry & Biochemistry. **Prof.'s Ed Quitevis and Paul Paré** received President's Excellence in Research Professorships. **Prof.'s Dominick Casadonte and Dimitri Pappas** received President's Excellence in Teaching Professorships.

Prof. Casadonte was also named one of the "Top 40 Flipped Learning educators in the world" by the Flipped Learning Global Initiative. **Prof. Dimitri Pappas** received the RaiderReady First-Year Advocate and Faculty Fellowship Award for displaying innovation in instructional design, as well as helping our freshmen students successfully make the transition to the university.

Profs. Michael Mayer and Casadonte were both awarded the 2017 Apple Polishing teaching award from the TTU Mortar Board chapter (composed of senior TTU students). **Prof. Robert Shaw** who retired recently has been granted Emeritus status.

Prof. Michael Latham has been awarded a Cancer Prevention & Research Institute of Texas (CPRI) single investigator grant of \$850,876 to study the structure of the protein complex Mre11-Rad50, which recognizes and begins the process of fixing breaks in our DNA. **Prof. Yehia Mechref** has been awarded \$600,000 from the NIH as an S10 BRS Shared Instrumentation grant that will be matched by The CH Foundation (\$150k), TTU/HSC (\$100k), and TTU (\$50k) for the acquisition of new genomic sequencing instrumentation.

This is the first S10 ever received by TTU.

Dr. Robert Long, Associate Director and Councilor of the ACS South Plains local section, was invited to be an Associate in 2018 on the ACS Committee on Technician Affairs by the President of the American Chemical Society. **Profs. David Birney and Bill Hase** were selected for TTU faculty development leave by the TTU Board of Regents, allowing them to focus solely on research endeavors for a semester. Finally, **Prof. Yehia Mechref** has been selected once again as the Texas Tech University's nominee in medicine for the preeminent award in Texas, the TAMEST O'Donnell Award.

And finally, while the next set of honors usually carry more work than recognition, having members of the faculty serve on various scientific

advisory panels helps to demonstrate the sphere of influence TTU has in the scientific community. **Prof. Yehia Mechref** not only served on 3 NIH Special Emphasis Panels this spring, but was also invited by the Director of the National Institutes of Health (NIH) to serve as a permanent member of the Enabling Bioanalytical and Imaging Technologies (EBIT) Study Section from 2018 thru 2022. **Prof. John D'Auria** served on the National Science Foundation (NSF) Panel for the Division of Molecular and Cellular Bioscience. **Prof. Michael Findlater** served on NSF and an NIH Special Emphasis panels. **Prof. Ed Quitevis** served on a Physical Science review panel for the National Academy of Sciences, Engineering, and Medicine Ford Foundation Fellowship program. These are just some of the more recent panels our faculty have served on.

UNDERGRADUATE STUDENT SPOTLIGHT

As a senior Biochemistry major in the Honors College at Texas Tech University and a member of the Undergraduate to Medical School Initiative partnership between TTU and TTUHC, Farah Mechref has continually strived to use her opportunities as a way to positively affect those around her. While we could go on about her involvement as an Honors College Ambassador, First-Year Experience Mentor, Senator in the Student Government Association, or as a member of President's Select, it's her journeys away from Lubbock that we would like to briefly highlight today.

During the summer of 2016, Farah had the opportunity to participate in the Andi Leadership Institute for Young Women. This program selects women from around the world and brings them together in Washington, D.C. to visit various political institutions and meet with foreign dignitaries to help equip them with peacebuilding and conflict resolution skills and resources. While participating in the program, Farah worked alongside women from Libya, Kosovo, and Pakistan and learned

firsthand both of the hardships and the need to proactively act on issues in areas of conflict. Through their work together, the group of women submitted a memo detailing the role of women in countering violent extremism to the Office of Women's Issues within the Department of State, providing policy makers with an outline for areas in desperate need of support.

After returning to TTU to complete her 3rd year of studies, the experiences from the previous summer continued to drive her desire to work with refugees in areas of conflict. So, in the summer of 2017, Farah traveled to Lebanon and visited with Palestinian refugees, representative from the United Nations Relief and Works Agency, and doctors at the medical center in Beddawi refugee camp. Having the chance to talk with these individuals about their struggles and the issues that they deal with day in and day out, cemented Farah's desire to work with Doctors Without Borders in the Middle East after completing Medical School.

As Farah is quick to point out, she is grateful to all of her influences at Texas Tech and for their continued encouragement to broaden her horizons and to go beyond the curriculum. Here at TTU, we like to say "From here, it's possible" and Farah is a perfect example of how TTU is continuing to be an integral part of the lives of the next generation of leaders and innovators here in the United States and around the world.

Right: Summer 2016, Farah Mechref at the Andi Leadership Institute for Young Women in Washington, D.C. Below: Summer 2017, Farah Mechref in Lebanon.



OUR STUDENT ORGANIZATIONS - ENGAGED WITH THE PROFESSION AND SERVICE TO BROADER SOCIETY

Our students in the Chemistry & Biochemistry department are actively involved in outreach and scholarship with both the local community and the professional community on a national level.

The **Chemistry Graduate Student Organization (CGSO)** was brought back to life after a hiatus several years ago. Back in the 1990's, CGSO was originally established to raise funds for a printer that could be used by graduate students in the department. Since that time, the organization has become something quite different. Currently, the goals of CGSO include scholarship, travel funding, and social functions to get graduate students out of the lab (even if only for a few hours!). CGSO has raised funds to create scholarships for up to five students per year, and the travel funds allow students to supplement support from PI's and the Graduate School to go to conferences to network, see others present their work, and present their research.

Currently, graduate student members utilize CGSO the most for supplemental travel funding. We are proud to help students present their research to the greater chemistry and science audiences at conferences as well as network to find future post-doc positions or other important career opportunities. Conferences are also a great opportunity to find collaborators, and CGSO is honored to be a part of creating those opportunities for our graduate students. CGSO has helped send students to conferences all over the United States, and even all over the world! A more recently added goal of CGSO is to facilitate a better sense of community among the graduate students department-wide.

By holding all kinds of social events from friends giving dinners to bowling to pick-up sports, it is our hope to give

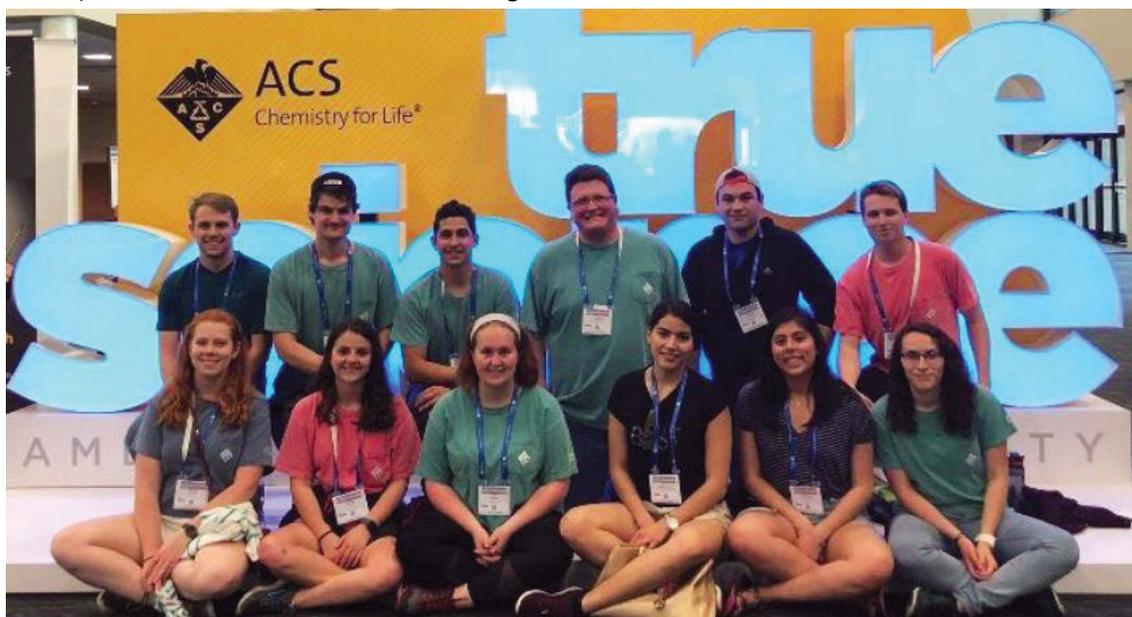
graduate students a chance to blow off some steam and get out of the lab every once in a while. Opportunities for cooperation and collaboration arise more easily in those informal chats about what students are up to during the day, and CGSO wants to make those opportunities happen. It is our hope as an organization to hold more social functions from time to time and to provide more substantial scholarships and travel funding as we continue to evolve.

The American Chemical Society – Student Affiliates (ACS-SA) chapter is primarily a way for undergraduate chemistry-interested students to meet other students like them. As a community service focused organization, ACS-SA creates monthly service opportunities for our members through various avenues. Part of those service opportunities is the TTU ACS-SA demonstration team, a separate group within the organization that focuses on inspiring the minds of potential future scientists via our own exciting and interactive chemistry experiments. Along with service, the ACS-SA also prides itself on being a group that can help its members further their

professional careers. ACS-SA host several events a year dedicated to educating members about graduate school, presentation skills, and/or building relationships within the department. Lastly, ACS-SA is meant to be a group where our members feel welcomed and discover new ways to incorporate chemistry into their everyday lives and we routinely have monthly social events dedicated to the building of camaraderie amongst the members.

The ACS-SA hosts many events throughout the semester, but one of most enjoyed is the annual trip to the Spring American Chemical Society National Meeting. Attending the conference is a great way for undergraduates to network with other student chapters, and begin to establish a professional relationship with companies, laboratories, and the ACS National body itself. This past March, the conference was held in New Orleans, Louisiana and a group of twelve attended the first two days of the conference. Several undergraduate focused events take place in the first two days; among which is the exciting ChemDemo Exchange. In this exchange, demonstration teams

from several universities showcase exciting chemistry demos for primary schools that match the theme of the conference. This year the theme was "Nexus of Food, Energy, and Water." Another event that is highly attended is the Career Fair/Mock Interviews where undergraduates are given the chance to have resumes critiqued, hold a mock interviews with a representative from a variety of companies, and get information on what jobs are available in the near future. The Chemistry Exposition, aka the Expo, offers students the chance to interact with different chemistry institutions, companies, and recruiters, and is an excellent opportunity to further network. Throughout the duration of the conference, professors, graduate and undergraduate students present their research. Undergraduate students have the opportunity to present poster about their research undergraduate sessions with students from around the world. Regardless of what event you attended, having the opportunity to interact with other people that love chemistry as much as you do is exhilarating and well worth the trip.



Our undergraduate ACS-SA members attending the 255th American Chemical Society meeting in New Orleans, LA Mar2018.

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\$110,000 IN SCHOLARSHIPS OFFERED TO 2018-19 INCOMING AND RETURNING STUDENTS!

Thanks to the generous donations the Chemistry & Biochemistry department has received this past year, in addition to those of previous years, we have been able to increase our scholarship offers. Fifty prospective or current students have recently received scholarship offers for the next academic year. These scholarships have had a tremendous impact on our students and have helped to decrease the financial burden on the next generation of chemists and biochemists. A special thank you to all who have, or plan on giving in the future. Your contributions truly make Texas Tech a special place!

TECHNOLOGY TRANSFER SUCCESS!

Alumnus Dr. Cole Seifert who graduated last year with a Ph.D. in Chemistry is featured in a new web article on the VPR's website *Texas Tech Technology Company Looks to Revolutionize Synthetic Peptide Production*. Prof. Guigen Li and Dr. Seifert developed and patented an improved technology for coupling amino acids to form peptides which they termed "Group Assisted Purification" peptide synthesis. The new method utilizes room temperature amino acid coupling followed by water extraction and precipitation of the desired peptide in alkane co-solvents for isolation of the product without requiring chromatographic separation. This allows for a more cost-effective and efficient peptide synthesis process. The new technology has been commercialized with the assistance of the TTU Office of Research Commercialization resulting in the formation of a local company run by Dr. Seifert and Carder Brooks (a TTU Law school alumnus) – GAP Peptides, LLC. <https://gappeptides.com/>.

The VPR website article can be seen at: <https://www.depts.ttu.edu/vpr/discoveries/posts/spring-2018/gap-peptides.php>

AWARDS & RECOGNITION BANQUET 05.02.18

The Department of Chemistry & Biochemistry is grateful to the faculty and staff who allow our students to achieve success. We are pleased to celebrate the accomplishments of our faculty, staff and students at this annual event.

Staff Appreciation Awards

Administrative: Jerry D. Franco

Technical: Vincent E. Wilde

2018 Chancellor's Council Distinguished Research Award	Dr. Michael Findlater
Paul Whitfield Horn Professorship	Dr. Yehia S. Mechref
President's Excellence in Research Professorship	Dr. Edward L. Quitevis, Dr. Paul W. Paré
President's Excellence in Teaching Professorship	Dr. Dominick J. Casadonte, Jr., Dr. Dimitri Pappas
President's Excellence in Teaching Award	Dr. Jorge A. Morales
Song Prize Award	Ye Zhang
Outstanding TA Awards in General Chemistry	Qingya Zou , Reed A. Nieman
Outstanding TA Awards in Organic Chemistry	Lu Cheng, Veronica J. Lyons
Outstanding TA Awards in Upper-Division Chem	Collin G. Borcik, Anthony T. Bui, Miranda C. Andrews, Dajuan Meng
2019 Doctoral Dissertation Completion Fellowship	Reed A. Nieman

Undergraduate Outstanding Performance Awards

Analytical Chemistry	Jose A. Aguilar, Stephan B. Azatian, Colton R. Davis, Adrian N. Falco, Blake A. Ferguson, Rachel A. Frank, Chance D. Garcia, Vy L. Ho, Mackenzie Steckbeck
Biochemistry	Paxtyn M. Fisher, Brittney T. Hoang
General Chemistry	Ethan F. Anguiano
Inorganic Chemistry	Joshua P. Twaddle
Organic Chemistry	Stephan B. Azatian, Michael L. Meuth, Toby I. Okonkwo, Jason M. Peirce, Cecilia R. Smith, Hyunjoon Yoon
Physical Chemistry	Grace M. Tambe Matsinkou, Cecilia R. Smith
2017 ACS POLYED Undergraduate Achievement Award	Jenni L. English
2018 ACS Undergraduate Award in Organic Chemistry	Bailey A. Brooks
2018 ACS Undergraduate Award in Analytical	Amanda F. Helms
TT Parents Assoc. Student Academic Citizenship Award	Bailey A. Brooks
ACS Outstanding Graduating Senior Award	Amanda C. Miller

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OUR VISION *The Department of Chemistry & Biochemistry is committed to providing high quality education in the chemical and biochemical sciences for undergraduate and graduate students, producing research contributions that are recognized nationally and internationally, and making service contributions at all levels.*

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