Howdy AGEP Students. Congratulations on finishing another semester and year. AGEP hopes we provided you with ample support and professional development opportunities. If you have feedback on any of the activities or would like to suggest activities for next year please let us know. We would love to hear your feedback.

Congratulations are much deserved to all students who accomplished so much this year. Many of you worked hard to graduate, published your research, secure jobs and internships, pass their oral defenses, win fellowships, grants, scholarships and everything in between. The AGEP community is proud and happy for you.

Thank you to all that contributed articles and were featured in the newsletters this year. Please send us your feedback about the newsletter and what stories you would like for us to feature. We would also love to have more student-written articles. If you are interested please contact us.

While AGEP has a few activities this summer we hope you use this time to rest, relax, and enjoy the company of family and friends. You have all worked hard and deserve time for yourself. Enjoy your summer.

SHARE YOUR ACCOMPLISHMENTS WITH AGEP

AGEP not only supports and prepares you for your career, but we also professionally promote you as well. Please share your successes with us and we will gladly share it on our website and social media outlets. Email us and tell us about accomplishments along with photos and links if available to tamus-agep@tamu.edu. We look forward to hearing from you.
After two years of reading numerous journal articles, recruiting subjects, successful experiments, unsuccessful experiments, data analysis, and fervent writing, it was time for the dreaded day: my final defense. As any good researcher would do, I collected as much information on what I should expect on the day of my defense. I asked my lab mates, my colleagues, my advisor, and other faculty what I should expect and how to best prepare. While everyone has their own experiences, I’ve decided to share with you the most helpful advice I’ve received.

(1) **Start early.** While I ignored this piece of advice, I wish to send a word of caution. Starting early would have saved me from late nights in lab, restless sleep, and maybe a fewer cups of coffee. If like me, you’ve convinced yourself that you work best under pressure, then create pressure. Set deadlines and share them with your advisor so someone else is holding you accountable for them.

(2) **Prepare for your committee.** Talk to your peers and your advisor about the types of questions you should expect from your committee. Getting as much information on what your committee members will focus on will more clearly define how you should prepare. After all, they’re the ones who make the final call.

(3) **Embrace the stress.** While I suggest you get plenty of sleep, eat healthy, exercise, and take breaks, allowing yourself to feel a little stressed is okay, and could benefit you in the long run. One of the most stressful aspects of a defense is the unknown. What questions will your committee ask you? Did you include enough information? Could you have approached your analysis differently? After all your work, will you even pass? Asking yourself these questions allows you to prepare for the worst. Try to think of the toughest questions your committee could ask you, and then prepare for them. Once you’ve exhausted all your questions, get your lab mates and colleagues to ask you tough questions. If you’ve asked (and answered) all the tough questions, then your defense will be a piece of cake.

(4) **Practice.** If I told you how much I loathe practicing my presentations, we would be here all night. Nevertheless, practicing your presentation until you can recite it in your sleep (I literally had a dream about presenting my defense), is one of the most helpful suggestions I can offer. Knowing your presentation in and out lets your mind focus on other aspects of the defense instead of worrying about stumbling over your words or remembering what you were supposed to say on slide #11. Practice it in front of your friends, your dog, or a wall for that manner – just practice.

Have I stressed you out more? I’m here to say that even if you don’t follow all my advice, **you’ll be OK.** No one knows your topic more than you (not even your PI). You’re the one who put in hours of work, fixed all the kinks, broke all the kinks, and then fixed all the kinks again. In some cases, your committee members won’t be experts in your field and won’t know to ask the questions you’re dreading the most. I won’t lie and say that my defense was a walk in the park. My committee asked me questions I wasn’t quite prepared for and I didn’t have the answer to all of them (see hint #2). However, your committee isn’t expecting you to know all the answers. They’ll be focused on whether you can defend your project, your analysis, and your thought process behind questions you don’t know how to answer.

Finally, be prepared for the anticlimactic rush that you’ll feel after your defense. You will have put in countless hours of sleep, coffee, and drafts, and will suddenly all be over. I left my defense, in a daze, unsure if I remembered what the sun looked like or what I normally did at 4:30 in the afternoon, and realized I was free to find out since I had crossed off the final task on my to-do list: defend.
I decided to attend Texas A&M because of the translational research project I would conduct. Over the past two years, my experiments have explored how trip-like perturbations induced by a modified treadmill (pictured above) can improve balance and reduce the number of falls among older adults. The 7 months I spent in the community with each of my 30 research participants has fortified my belief that my technical knowledge can be used to improve the quality of life of individuals I meet.
Congratulations to Mariela Vazquez, 2nd year PhD chemistry major in College Station. She was one of 2,000 awardees for the 2017 NSF GRFP out of over 13,000 applicants. Vazquez’s research focuses on synthesizing a donor/acceptor brush polymer for organic solar cells to replace solar cells containing metal components currently used.

Q: How does it feel to win the award?

MV: It is an honor to win this fellowship because it is so competitive and being one of 424 underrepresented minority recipients was extremely exciting to hear. Winning this fellowship, to me, is a step forward for women and minorities in the STEM field.

Q: How did you prepare for the application?

MV: For my proposal, I read the literature critically and carefully picked out examples that were proper representations for the key points I was gearing towards. Once I gained a better understanding of the issues at hand, a vast portion of my time went into reworking my application from last year by identifying what was missing from the proposal and clarifying how my project was going to address these issues. For my personal statement, I explained my background in a concise manner; clarified how I contributed to each project I worked on and if the project lead to any publications. Additionally, I mentioned my passion for volunteering and my involvement with the local community.

Q: Any recommendations to your AGEP Peers?

MV: I would recommend beginning the grueling process of reading the literature early. It is very difficult to try to wrap one’s head around the issues in the field and how to address them if there is no previous knowledge. Also, if students have previous publications, they should try to discuss them in their personal statement in a concise manner.

Q: Would you like to thank anyone?

MV: I would like to thank my undergraduate advisor and current co-advisers Dr. Mark A. Olson, Dr. Lei Fang, and Dr. Karen L. Wooley. Additionally I would like to also thank my family, friends, and all my group members, former and current, who are always willing to help me and each other.

The NSF GRFP recognizes and supports STEM graduate students that show outstanding performance in their field. It is one of the oldest graduate fellowships of its kind and is extremely competitive. For more information about the fellowship go to www.nsfgrfp.org.
James Tallman Accepted Into the Molecular Biology and Microbiology PhD Program at Baylor College of Medicine

Congratulations to James J. Tallman III, masters student in marine biology in Corpus Christi. He has been accepted into the molecular biology and microbiology PhD program at Baylor College of Medicine in Houston. Tallman’s research focuses on using next-generation metagenomic DNA sequencing and bioinformatics to detect antibiotic-resistant bacteria in the marine environment.

Q: When will you start the PhD program?

JT: I will start this fall, nearly a week before I graduate from TAMU-CC with my master's degree.

Q: What will be your research focus? What are you research interests?

JT: Broadly, my research will involve working with bacteria or viruses (possibly both) that cause infectious diseases. I am interested in contributing to research efforts that are directed towards furthering our understanding of select human pathogens, how they cause disease, how the human immune system responds to these infections, and how we can better combat these pathogens.

Q: How did you feel when you found out you were accepted into the program?

JT: I could hardly believe it. Three years ago, I decided to make a major change in the direction of my career. I wanted to switch from studying fish in marine biology to studying infectious human pathogens in medical microbiology. I have spent the last two years tailoring my research to be a bridge between these two fields, transitioning into microbiology so that I might have a chance to be accepted into a PhD program that focuses on human pathogens.

A: What are you looking forward?

JT: I’m looking forward to the research, doing the kind of work I’ve wanted to do since I started working with microbes. I’m also looking forward to meeting and working with the people at Baylor College of Medicine. And, of course, the food. Living in the food capital of America is going to be great.

Q: Would you like to thank anyone?

JT: I would like to thank Dr. Gregory Buck. He is the professor who inspired me to become a microbiologist. I owe many of the opportunities I’ve had and the knowledge of microbes I’ve gained to him and his fast-paced lectures, memorable style of teaching, and invaluable advice. I would also like to thank Dr. Jennifer Pollack for her support and guidance and my advisor, Dr. Jeffrey Turner, who took me into his lab and allowed me to acquire the experience necessary to advance in my career. Additionally, I would like to thank my friends and family for their continued support.
Recently, Jessica attended the South Central American Society of Biomechanics (SCASB) Conference in Plano, Texas and won Best Graduate Student Presentation for her podium presentation on an “On-site balance recovery training among residents of a retirement community—an exploratory study”. The two-day conference, included students and professionals from Texas A&M University, University of Texas at Dallas, University of Arkansas, Texas Women’s University, and Texas Tech University Health Science Center.

Her presentation (and first podium presentation at a conference) was frightening to say the least. After years of presenting in front of her peers for class projects, lab presentations, and departmental events, she thought that stage fright would be non-existent—she was wrong. Before her presentation, she felt as though there was a large mass lodged in her throat, drank excessive amounts of water, and had this overwhelming fear she would suddenly forget everything, including her own name. In the end, she felt, as always, that her presentation was a blur. She could not fully recall the information she presented and had a looming feeling that she spoke too quickly, rambled a little too much, and excessively flailed her arms.

After much reassurance from her lab mates that she did speak in coherent sentences, Jessica realized the stress she felt about presentations was all in her head. She realized that while daunting, effective presentations are key to the advancements of science. Moreover, PASSIONATE presentations are the key to the advancement of science. If you don’t care about your project, then why would your audience? Most people at conferences will be presenting research aimed at advancing society’s knowledge, but the presentations that are the most passionate and clearly portrayed will make the most impact.

Gina Wadas Offered Science Writer Position at Johns Hopkins Institute for Nanobiotechnology

Congratulations to Gina Wadas, AGEP’s writing support specialist, on her new position with Johns Hopkin’s University in the Institute for Nanobiotechnology. It is a collaboration between the Bloomberg School of Public Health, School of Medicine, Whiting School of Engineering, Applied Physics Lab, and Krieger School of Arts and Sciences.

Gina will be writing and editing items for technical and non-technical audiences such as news articles, magazine articles, social media, blog posts, annual reports, videos, etc. In the summer, Gina will be teaching a science communication workshop for NanoBio certificate students.

Gina has done a wonderful job assisting AGEP students with many of their writing needs through her one-one-one consultations, her Intensive Writing Sessions, and her webinars. She has helped AGEP continue to move in a successful and positive direction.

“I have thoroughly enjoyed my time with AGEP and will miss the students and staff dearly. I am grateful to the staff for allowing me to try creative outlets to assist the students and for the students who have taught me new avenues for teaching. I wish much success for the future of the program and the success of the students. I cherish the connections I have made and look forward to seeing AGEP students conducting research at Johns Hopkins and to write about their research!”

Gina encourages you to contact her at LinkedIn.
In early April 2017 AGEP students Cherish Vance and Abner Mendoza found themselves in Washington, DC for the Catalyzing Advocacy in Science and Engineering (CASE) workshop presented by the American Association for the Advancement of Science (AAAS). Over three and a half days undergraduate and graduate students from around the United States listened, learned, discussed, and networked with like-minded individuals on science and technology policy, advocacy, the inner-workings of congress, the federal budget, and how appropriations bills.

Many questions and concerns about the future of science and technology policies surround the scientific community with the new presidential administration. Abner and Cherish would like to share their experiences at the workshop and how we all can advocate for proper science and technology policy.

**Cherish Vance**

The intersection between researchers and society is not as clear-cut as we think. Despite the isolation that graduate students feel (research, research, research), our work does not exist in a policy vacuum. As an engineering student, my work is meant to affect people, whether directly or indirectly, for their benefit. However, my ability to conduct research is incumbent upon science and technology policy decisions made at the federal level...and these decisions are complicated.

Science for policy and policy for science are different (and never shall the terms be conflated). Policy for science is how federal funding is allocated and directed to support research priorities. Science for policy is how science and research is used to determine policy decisions. The latter is where an impact can be made by advocating for sufficient, sustainable science funding.

Science policy is complicated and occasionally ugly, but is driven by well-intentioned people. On the other hand, science is value-free and objective. However, science is only one factor when forming policy. While science informs policy, it is not political alone. Science policy is based on values and opinion and therefore subject to persuasion. Our commitment to empirical truth, however, should not dissuade us from being “political” as we advocate for sound policy based on facts. It is important that we not view advocacy as “partisan” but rather as a privilege in our society to contribute our expertise to help inform science policy.

My research focuses mainly on natural resource and environmental engineering, specifically water quality issues. Significant funding resources for this research includes the EPA and USDA. Moreover, my graduate career has been funded by the NSF Graduate Research Fellowship. At the conference, one speaker asked, “Who here is supported by federal funding?” As every hand in the room raised, it become apparent that science policy—as it affects research spending—was VERY important to everyone. Even if we are not directly funded with federal dollars, most likely our PIs are dependent upon significant amounts of public funding.

Despite impressions, researchers are still very well respected. We should leverage that reputation capital to engage the public that we serve. For me, this also means to not give in to frustration and react in a condescending manner. No one likes to be lectured—particularly by a “smug intellectual elite.” To combat the stiff technical delivery and to become more approachable, I try to tell an engaging story.
Engaging narratives are excellent ways to convey technical research. This is not foreign because communicators of technical information craft messages based on the setting and our audience. When we approach elected representatives, we should find what is important to that member and frame our stories appropriately. We should always have a compelling “elevator pitch”, to convey our research and its significance. Also, Congress and the administration are always in flux...our stories will need to be told and retold. Moreover, make it a point to be grateful and give credit to our elected officials when warranted, not as a means to cull favor, but to positively reinforce evidence-based decision-making.

Beyond the high drama related to the recently proposed science funding cuts, it is important that scientists and researchers advocate for not only our own research, but for science and research funding in general. Advocacy is not a fight. Advocacy is not “us” versus “them.” As such, we must commit to engaging the public and our elected representatives. Lastly, we must continue to engage throughout our careers in whatever capacity because an unconveyed message will never exert any influence.

**Abner Mendoza**

Prior to attending this workshop, I had no thoughts or interest in policy making, or the importance of advocating for science funding. I preferred to stay in my lane because I didn’t grasp how I could influence policy decisions. As it turns out, much of the funding for graduate students comes out of the government’s non-discretionary budget. That means that the money that keeps us in school is not guaranteed. If those dollars cease to be available, most graduate students would cease to be students. Without the NSF, AGEP would not be able to function, as would many other programs and research labs.
Policy and politics drives science funding priorities, and there must be a sustained effort to convince policy makers of the importance of funding science research and, by extension, graduate students. Politics plays a significant role in determining how funding is allocated. If you’ve paid attention to the news, you will have seen some of this in action. Politics is about choices, and politicians are there to negotiate our collective priorities on our behalf. I learned that these negotiations are incredibly complex, by design, to ensure the best possible compromise. I want to share two main points that I took away from the workshop.

1. **The purpose of Congress is to prevent bad laws.** We had a wonderful introduction to the structure and procedures of congress by Judy Schneider, who is responsible for training all incoming members of congress. The legislative process involves meticulous procedures and rules, serious dialog between all stakeholders, lengthy negotiation, and many compromises. For the most part, it is difficult for bad legislation to make it through this extensive process. Most proposals for new legislation are made simply for theatrics, to raise awareness, or to appease a political base. For every 10,000 pieces of legislation introduced each session, only about 200 will become law. We have seen recent examples of this in the media, and it is a reassurance that congress is working the way it was meant to work.

2. **Funding reflects priorities.** There are many moving parts when it comes to enacting funding policy that hopefully weed out bad policy. Funding reflects priorities, but whose priorities? Funding will almost never reflect the priorities of one person, but the collective priorities of the citizenry. However, an important piece of the puzzle is to effectively communicate priorities to representatives. I had no idea of the important role of local representatives and how much they are willing to listen to our collective voices to understand our priorities. I participated in a local town hall not long after the workshop and it dawned on me that if no one will advocate for the priorities of science funding, then our representatives may think that it is not a priority. It becomes imperative for all stakeholders to effectively communicate priorities, especially as it relates to sustained science funding.

Everyone I encountered in Washington DC agreed that scientific research is necessary, but there are many disagreements on the specific priorities. I don’t believe that science funding is in danger of significant cuts, if at all, but there is a possibility of shifting priorities. I went to Washington DC with a lot of uncertainty stemming from all the recent news about budget cuts for NSF, NIH, and other funding agencies. However, I left with some measure of reassurance that our democracy is thriving despite perceived threats. The greatest threat to our democracy is lack of participation. The key is for all stakeholders to be active participants in the political process and advocate in every way, however insignificant it may seem.
AGEP Marched For Science

Photos courtesy of those who participated in the March for Science events on April 22, 2017

The TAMUCC SACNAS chapter and the Del Mar Community College SACNAS chapter. AGEP scholars included are Diana Del Angel, Ariana Kavandi, Coral Lozada, Joseph Reustle, Elizabeth Del Rosario, and Patricia Cockett (AGEP Corpus Christi Student Ambassador).

Diana Del Angel and Coral Lozado, both of Corpus Christi, set up and managed a table at the end of the march to share information about science to the general public.
Cherish Vance of College Station and her daughter supporting science at the Bryan/College Station rally.

Gina Wadas (former AGEP writing support specialist with her science writer colleagues Jessica Scarfuto (middle) and Sara Carney (right) at the Bryan/College Station rally.

A portion of the March for Science rally in Corpus Christi.
Michael Salinas (left) and Natividad Robert Fuentes (right), both of College Station, at the Bryan/College rally.

Wilmarie Marrero-Ortiz, College Station, trying to stay dry at the March for Science rally in Washington DC.

A portion of the March for Science rally in Bryan/College Station.
PARTICIPATION BONUSES

Make sure to submit your participation logs to AGEP to receive your participation bonuses in a timely fashion. We look forward to revealing the grand prize winners for the most points received. The top three students will be awarded $2,500 each (for Texas A&M University—College Station students).

THE 2017 SUMMER NATIONAL FELLOWSHIP APPLICATION LAB

AGEP will once again host the National Fellowship Application Lab this summer. Here is the preliminary information of the events and locations to add to your calendars. More details will follow soon. Sessions will be available via Blackboard Collaborate for students at other Alliance institutions who wish to join remotely.

June 5, 2017: A Good National Fellowship Personal Statement
Facilitator: Dr. Katie Stober
Location & Time: Wisenbaker 236C at 5:30 PM

June 8, 2017: Completing A National Fellowship Application Package, Part 1
Facilitator: Dr. Laurie Garton
Location & Time: Wisenbaker 236C at 5:30 PM

July 13, 2017: Proposal Development for National Fellowship
Facilitator: Dr. Robert Chapkin
Location & Time: Wisenbaker 236C at 5:30 PM

July 24, 2017: Completing A National Fellowship Application Package, Part 2
Facilitator: Dr. Deborah Bell-Pedersen
Location & Time: Wisenbaker 236C at 5:30 PM

SUMMER NATIONAL FELLOWSHIP APPLICATION LAB TESTIMONIALS

I found the National Fellowship Application Lab very useful for gathering general and specific information on completing a fellowship application—from writing a personal statement to securing letters of recommendation. The speakers gave explanations on what to expect and offered valuable advice based on their extensive experiences. The lab definitely provided the tools needed to make a fellowship application more competitive.

-Ivan Cortes, 2nd year masters mechanical engineer major

I was already aware of the common and most popular fellowships offered to graduate students. However, Dr. Deborah Bell-Pedersen helped the students by showing us a guideline of how one should prepare for each application and how to navigate through the application process, e.g. the NSF-GRFP’s Fastlane webpage. I encourage students to attend the sessions if they are interested in learning about fellowships or if they need guidance on where to begin.

-Mariela Vazquez, 2nd year PhD chemistry major

I strongly encourage you to attend the SNFAL workshops! Many of our LSAMP Bridge to the Doctorate students who were awarded other fellowships highly recommend the SNFAL. The SNFAL will equip you with insider tips and strategies from successful proposals, past recipients, and program reviewers. You will gain what you need to produce high-caliber, competitive fellowship and grant application packages.

-Dr. Sam Merriweather, Associate Director TAMUS LSAMP