

PREVENTING HEART DISEASE

First Green Building in Iraq
Founded by Auburn Alumna

Testing High-Reliability
Electronics in Harsh Applications

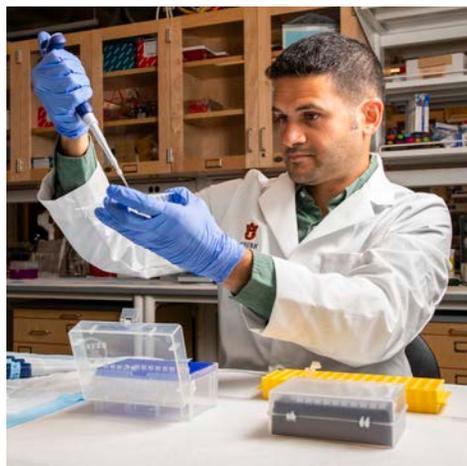


AUBURN
UNIVERSITY
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SCHOOL OF PHARMACY



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Thamer Alqurashi, a doctoral student in the Harrison School of Pharmacy, is working to prevent reblocking of the coronary artery through new drug therapies.

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Message from the Dean

Dr. George Flowers



I have had the privilege and responsibility of serving as dean of Auburn University's Graduate School for the past 11 years. During that time, I have watched thousands of students excel academically and honor the rich history of our university with their dedication to excellence both in and out of the classroom. I have had a front-row seat to watch as these students develop into skilled scholars and leaders in their professions through their academic journeys.

There are many great things going on at Auburn, including cutting-edge research with real-world impact, outstanding student performances and a great learning environment. Auburn was recognized as a Carnegie R1 institution in December, placing us as one of the country's elite research universities. We truly have a great faculty, world-class facilities and outstanding students. I am very proud of our institution.

With more than 100 areas of study, our programs provide outstanding opportunities for our students to pursue graduate education in their chosen field. The Graduate School takes great pride in its students' accomplishments, academic prowess and positive impact on society. More information regarding our students' latest achievements, research and growth can be found in this edition of the Graduate School magazine.

Thamer Alqurashi and Lauren Woodie are two students performing outstanding research to impact the health of others. Mohamed El Amine Belhadi is testing the reliability of electronics – something that plays a critical role in the daily lives of us all. Auburn's additive manufacturing PAIR team is working to improve medical implants and orthotic devices through the use of 3-D printing. Another PAIR team is taking diverse approaches in hopes of developing a regional hub for research to benefit the health of African Americans. Students in the Department of Geosciences made history two years in a row placing in the top three of the Imperial Barrel Award. Tessa Hastings also made history as the first Auburn student to receive an R36 grant, a highly competitive research grant from the Agency for Healthcare Research and Quality.

Without the continuing support of our friends and alumni, our university would not be the outstanding center for research, instruction and outreach that it is today. Thank you for believing in Auburn and loving it!

A handwritten signature in blue ink that reads "George T. Flowers". The signature is written in a cursive, flowing style.

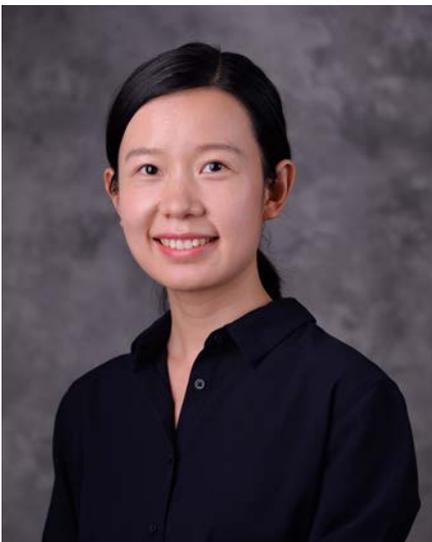
George Flowers
Dean of the Graduate School



Top Rankings

Auburn is among a distinctive body of institutions designated as land-, sea-, and space-grant universities and receives many accolades from accrediting agencies and ranking publications. A comprehensive list is available at auburn.edu/rankings.

- Kiplinger's listed Auburn as one of the top "100 Best Values in Public Colleges" for 2019.
- Included in *The Princeton Review's* 2020 list of "Best 385 Colleges" and ranked #1 for the happiest students in the nation.
- According to *Forbes*, Auburn is one of America's Top Colleges, ranked in the top 30 percent nationally and recognized as the top public university in Alabama.
- Niche.com ranked Auburn #1 as the best college in Alabama in its 2020 Best Colleges rankings.
- Ranked #1 in Alabama in *Money's* 2019 Best Value Colleges.



Mengdie Chen

Mengdie "Cassie" Chen earned her master's in industrial and systems engineering from Auburn University in August 2019. Chen earned a bachelor's and master's in China before pursuing her degree at Auburn.

AN INTERNATIONAL PERSPECTIVE

“It has been such a blessing to be a part of the Auburn Family. Since arriving at Auburn four years ago, I've met so many nice people who made me feel welcomed and part of the community. I was impressed by how the people of Auburn value diversity and respect different cultures. I've received a lot of support and encouragement from this family, and it makes me want to be a better person and contribute to this sweet town. My life in Auburn is enriched with awesome experiences and exciting moments. I am so proud to be an Auburn Tiger! I believe in Auburn and love it!”

First Green Building in Iraq Founded by Auburn Alumna

An Auburn University alumna, Basima Abdulrahman, is leaving a large, and green, footprint on the environment in Iraq.

Abdulrahman completed her master's in structural engineering in December 2014. Upon graduation, she founded Iraq's first sustainable architecture firm, KESK, which is the first "green building" company in Iraq.

A passion for protecting the environment and a great sense of responsibility toward other beings and ecosystems led Abdulrahman to developing her business in July 2017.

"Starting a career in green building was ideal for an environmentalist engineer like myself," said Abdulrahman. "It is a perfect mix of passion and technical background."

She realized Iraq did not have green building work and decided to initiate it locally instead of pursuing it in a different region.

KESK offers capacity development opportunities to ensure wide adoption in a region where knowledge in this field is limited. Abdulrahman says she realizes that serving as the first initiative concerned with green building is challenging, but she and her company are willing to pave the way for others to go green.

"Our vision is to become the leading force to make Iraqi cities more sustainable and inclusive by making buildings and infrastructures smart, healthy, environmentally responsible and resource-efficient."

In addition to developing her own company, Abdulrahman serves in other areas to enhance the environment. She was recently honored as one of six young leaders chosen to co-chair the 2019 World Economic Forum in Davos, Switzerland, where she provided input on building a global architectural landscape in an effort to end poverty in a sustainable manner.



“Our vision is to become the leading force to make Iraqi cities more sustainable and inclusive by making buildings and infrastructures smart, healthy, environmentally responsible and resource-efficient.”

Basima Abdulrahman

Global Shapers Community is an initiative of the World Economic Forum in which Abdulrahman serves as a member. The community is a network of approximately 8,000 volunteer shapers across 400 cities around the world. Local programs are implemented to address worldwide issues with young voices added to high-level discussions to ensure the incorporation of youth concerns and ideas while designing global solutions that shape the future.

"Each one of us had a message and a call to action to participants in Davos in this critical time where globalization 4.0 is imposing serious environmental, economic and social challenges," said Abdulrahman.

This role gave leaders the opportunity to voice their concerns and solutions as well as confront abuse by corporations around the world, and inspire them to take action.

Abdulrahman completed her Bachelor of Science in civil engineering in 2008 at Duhok University in Iraq. She was then led to Auburn through the Fulbright scholarship program to pursue her master's.

Unfamiliarity with the United States meant Abdulrahman didn't have a preference on which university she attended to earn her master's, so she left her options open and allowed the Fulbright team to pick the most suitable university for her specialty.

Although she didn't specifically pick Auburn, Abdulrahman feels extremely lucky to have had the opportunity to live in the quaint town for more than two years.

"I love the culture, the people, the food and of course, the nice, sunny weather," said Abdulrahman. "The spirit of Auburn is what I adore the most and that's why I find myself always going back to it."

AUBURN UNIVERSITY PRESIDENTIAL GRADUATE RESEARCH FELLOWSHIP PROGRAM

EMPOWERING TOMORROW'S DISCOVERY



Auburn continues to demonstrate its commitment toward enhancing the profiles of the university's doctoral and terminal degree graduates as academic and societal leaders through the Presidential Graduate Research Fellowship program.

The program is offered annually to a select number of highly qualified new students who intend to pursue doctoral and terminal professional degrees in established and emerging areas of excellence.

A minimum of 33 new fellowships will be available to recipients every fall semester. Each award will be for three years and consist of a \$10,000 presidential fellowship, along with a minimum \$5,000 dean's fellowship and a minimum \$15,000 graduate research assistantship, as well as tuition and fees.

Nominees cannot already be enrolled in a doctoral program at Auburn and must be enrolled for nine hours during fall and spring semesters and at least one hour during the summer semester.

For more information, visit aub.ie/presidentialfellowships.

PREVENTING HEART DISEASE

By Morgan Gregg







“Just imagine that all cells around the stent represent houses in a town. When anticancer drugs reach the town, they blindly destroy all houses while searching for the criminal cells. On the other hand, our promising drug will reach only the houses of the criminal cells without touching or causing harm to any innocent neighbors.”

Thamer Alqurashi

Heart disease. Everyone cringes when they hear it, and the majority of people around the world have been affected by it either directly or indirectly. Now, one doctoral student at Auburn is doing his part to help the global fight against the leading cause of death worldwide.

Thamer Alqurashi, a doctoral student in the Harrison School of Pharmacy, is working to prevent the reblocking of the coronary artery through new drug therapies.

Alqurashi’s “Police vs Criminals in Atherosclerosis” explained re-blocking of the coronary artery which is a worldwide issue. According to Alqurashi, growth of vascular smooth muscle cells, or criminal cells as Alqurashi compared them, causes a re-blockage of the coronary artery.

Over 30 percent of all global death is caused by heart-related diseases, primarily triggered by coronary artery atherosclerosis, which is a narrowing of the artery that supplies blood to the heart due to the accumulation of lipids – or fat.

This accumulation triggers the growth of smooth muscle cells which Alqurashi considers to be criminal cells. These

criminal cells result in a blocked artery causing numerous heart-related diseases.

“Vascular smooth muscle cells form the second layer of blood vessels,” said Alqurashi. “For patients who have had a stent replacement, the growth of these cells around the stent is the main cause of heart re-blockage.”

The current approach to prevent the criminal cell growth and re-blockage of the coronary artery is inserting an anti-cancer drug coated stent into the affected artery. Unfortunately, researchers noticed the current anti-cancer drugs used to kill the criminal cells also eliminated the innocent cells around the stent.

“These anti-cancer drugs lack selectivity and kill all the cells around the inserted stents, including the vascular endothelial cells referred to as the innocent cells,” said Alqurashi.

After intensive screening, Alqurashi has found a drug called TC which can target only the criminal cells without causing harm to any innocent cells through a coating around the stent.

Alqurashi conducted several analysis, or assays, to screen various drugs. The

main assays used included; Western Blot assay to measure the protein activation levels; proliferation assay, called CCK-8, to measure the growth of vascular smooth muscle cells; and cell survival assay, called Resazurin assay, to assess the safety of the promising drug.

Each assay played a role in helping Alqurashi find TC14012, a chemical compound that stops the growth of vascular smooth muscle cells rather than killing cells. TC decreases the activity of a specific protein pathway known as ERK1/2 pathway – the pathway responsible for the proliferation of cells – through its binding to a receptor on the surface of the smooth muscle cells.

“Just imagine that all cells around the stent represent houses in a town,” said Alqurashi. “When anticancer drugs reach the town, they blindly destroy all houses while searching for the criminal cells. On the other hand, our promising drug will reach only the houses of the criminal cells without touching or causing harm to any innocent neighbors.”

Alqurashi found that the drug, TC, suppressed the activity of specific proteins



that are responsible for the growth of criminal cells. TC will prevent future blockage without causing damage that anticancer drugs cause.

Alqurashi's findings were most recently recognized at Auburn University's Three Minute Thesis, or 3MT, where he earned first place and was named the People's Choice Award winner.

Alqurashi, a native of Saudi Arabia, works with Jianzhong Shen in the Department of Drug Discovery and Development where together they hope to move to the next phase of testing on an animal model. The long-term goal is to assess its ability to prevent re-blockage after a stent replacement and apply this research on a larger scale.

As for now, Alqurashi is proud of the work he and Shen have done so far and the significant progress they have made. As for the future, he hopes his research will eliminate an individual's risk of developing heart disease so there won't be a problem doctors have to "fix."

"Always remember that preventing is better than curing," said Alqurashi.



Hastings Earns Auburn's First R36 Grant

By Joelle Trollinger



Tessa Hastings is the first Auburn University student to be awarded a highly competitive research grant from the Agency for Healthcare Research and Quality, a division of the U.S. Department of Health and Human Services.

A doctoral student in Auburn's Harrison School of Pharmacy, Hastings is researching how Alabama pharmacies can share vaccine information with each other so they know how many residents are actually receiving vaccines and how to educate and remind the public to re-vaccinate.

"Oftentimes, effective interventions are not adopted or implemented properly," she said. "My research goal is to improve health care safety and effectiveness through the adoption of innovations in real-world organizations."

The Agency for Healthcare Research and Quality Grants for Health Services Research Dissertation Program, or R36, supports dissertation research that addresses the agency's mission, which is to produce evidence to make health care safer, higher quality, more accessible, equitable and affordable, and to work with HHS and other partners to make sure the evidence is understood and used.

Only 18 graduate students earned an R36 this year across the United States.

Hastings received a \$42,424 award to support her dissertation research: "Assessing

Barriers and Increasing Use of Immunization Registries in Pharmacies: A Randomized Controlled Trial." The first phase of her study involves identifying barriers in utilization of immunization registries within a pharmacy context.

"Pharmacists are instrumental in improving adult immunization rates. However, with the role of pharmacists as vaccination providers expanding, documentation is key to maintaining complete and accurate immunization records," she said. "It is critical that each provider administering vaccines, including pharmacists, participate and update the registry each time a vaccine is administered to a patient. Many states, including Alabama, have limited pharmacy participation in the registry."

During the second phase, Hastings will tailor the acquired information into a registry training program with strategies specific to individual subsets of pharmacies.

"If successful, this will help to improve the completeness and accuracy of the Alabama immunization registry, providing the potential for pharmacists to use it consistently in assessing immunization status and recommending additional vaccines, thereby improving patient safety and vaccination coverage," she said.

Hastings has received a number of competitive awards including, a PhRMA Foundation pre-doctoral fellowship. The PhRMA Foundation supports young scientists in disciplines deemed important to the pharmaceutical industry by awarding them competitive research fellowships and grants.

Hastings works under the supervision of her advisor Salisa Westrick, Sterling Professor and head of the Department of Health Outcomes Research and Policy in Auburn's pharmacy school. She first began working with Westrick as a research assistant when she joined the

doctoral program in 2015 and has worked with her on multiple projects.

"The mentorship and guidance I've received from Dr. Westrick has been invaluable," said Hastings.

Before joining the Harrison School of Pharmacy, Hastings received her Bachelor of Science in pharmaceutical sciences, pharmacy administration from the University of Toledo. It was during this time that she became interested in research and decided to pursue her master's in health outcomes and socioeconomic sciences.

"My career goal and objective has always been to obtain an academic pharmacy position," said Hastings.

When she began exploring doctoral programs, Hastings said she looked for an experience that prioritized rigorous training in methods and theory, while also providing flexibility to tailor courses to suit her interests.

"The doctoral program in health outcomes research and policy at Auburn sounded like a perfect fit," said Hastings. "I was impressed by the friendly atmosphere and the availability of the faculty members. Whether you need to discuss courses, your dissertation or career advice, the department faculty are incredibly generous with their time. The entire pharmacy school is a perfect example of the Auburn Family."

Hastings and Westrick will also be working with individuals from the Alabama Department of Public Health, including Immunization Division Director Cindy Lesinger, Registry Branch Director Bonnie Davis and Disease Intervention Specialist Calvin Gipson. The research team also includes Hastings' dissertation committee members from the pharmacy school: Jingjing Qian, Brent Fox, David Ha and Joni Laken.

"These individuals have been instrumental in my success with this R36 grant," said Hastings.

Auburn Students Set History with The Imperial Barrel Award

By Morgan Gregg

Auburn University graduate students from the Department of Geosciences placed in the top three of the Imperial Barrel Award (IBA) program nationally, and for the second time in Alabama's history.

The IBA competition began approximately 40 years ago as part of a petroleum geoscience masters course project at the Imperial College, a strong petroleum geosciences program in the United Kingdom. Typically, there are up to five students selected to work as a group analyzing data and looking for petroleum in an area. This course became popular and the American Association of Petroleum Geologists (AAPG) adopted it to globalize the competition for promoting excellence in university-based exploration geoscience training.

Connor Cain, Alicia Fischer, Raeann Garcia, Sharif Mustaque and Ozan Turkes, from Auburn, were provided with data from offshore New Zealand, which contained geophysical well logs, geochemistry from previously drilled wells and 2-D seismic lines covering a 36,800-square-mile study area.

"Students became excited when they received the dataset," said Ashraf Uddin, the IBA team's faculty advisor at Auburn. "They quickly learned teamwork on how to make a creative technical evaluation from a very limited dataset, and on a strict deadline."

The dataset provided was collected by the petroleum industry and given to students to evaluate for prospect identification from a basin that actively produces petroleum. Students were asked to identify where drilling should occur next based on the data given.

Researchers received instructions and a webinar from AAPG which introduced the process on how to analyze a dataset. They spent the first week determining details of the data. The group then loaded data into



the software and began putting together a story. The team looked to their mentors for guidance on petroleum geology frequently. Geoscience students are guided by industry experts to work on potential petroleum exploration areas. Students have eight weeks to prepare before moving on to the competition.

"Over eight weeks, the group had numerous conference calls with our mentors, Joseph Beck, a petrophysicist and Neville Crowson, a geophysicist," said Cain. "These mentors helped us stay on track with what we should be looking for."

The biggest challenge the group faced was they competed against universities with more connections to the oil industry. However, they didn't let the shortage of industry connections stop them from giving it their all.

Though the group faced challenges throughout the eight-week period, they gained confidence that they had a shot at competing with teams from multiple renowned petroleum schools as the competition got closer.

The group also valued the opportunity to learn together and work as a team on the project. Each team member took on a portion of the project which included working on part of the data that would contribute to a prospective area. Many constructive conversations led to a successful end result.

Cain and fellow students enjoyed moving on to the final round of competition and beating other universities such as Texas A&M, the University of Texas at San Antonio and the University of Southern Mississippi. This accomplishment justified all the time and effort poured into the project.

"From an employability perspective, these five students went from regular applicants to the strong contenders on every petroleum recruiters list," said Uddin. "The information on their experience with IBA is listed at the top line of their resume."

Testing High-Reliability Electronics in Harsh Applications

By Morgan Gregg

For many people across the world, a day without electronics is a day that cannot be imagined. Electronics are becoming increasingly integrated into everyday life, making it much more important for these devices to be functioning at the highest level.

Graduate students conducting research at Auburn understand the critical role electronics play in our daily activities and are aiming to improve their reliability through research.

Mohamed El Amine Belhadi, a master's student in the Department of Industrial and Systems Engineering, recognized the necessity of electronics in the modern era, and now, performs reliability tests to select the best electronic interconnections in harsh applications.

"I chose to study the reliability of electronics for many reasons," said Belhadi. "The opportunity to work in a challenging field is what really drew me to this research."

Belhadi is working to design and test new electronic interconnections materials and make sure the electronics will have a longer lifetime with higher performance.

Electronic interconnections ensure the electric and heat conductivity between the PCB (Printed Circuit Board) and the active components. Cell phones are frequently dropped causing stress to the internal components. Repetitive drops can cause damage to electronic interconnections which could eventually lead to a broken phone.

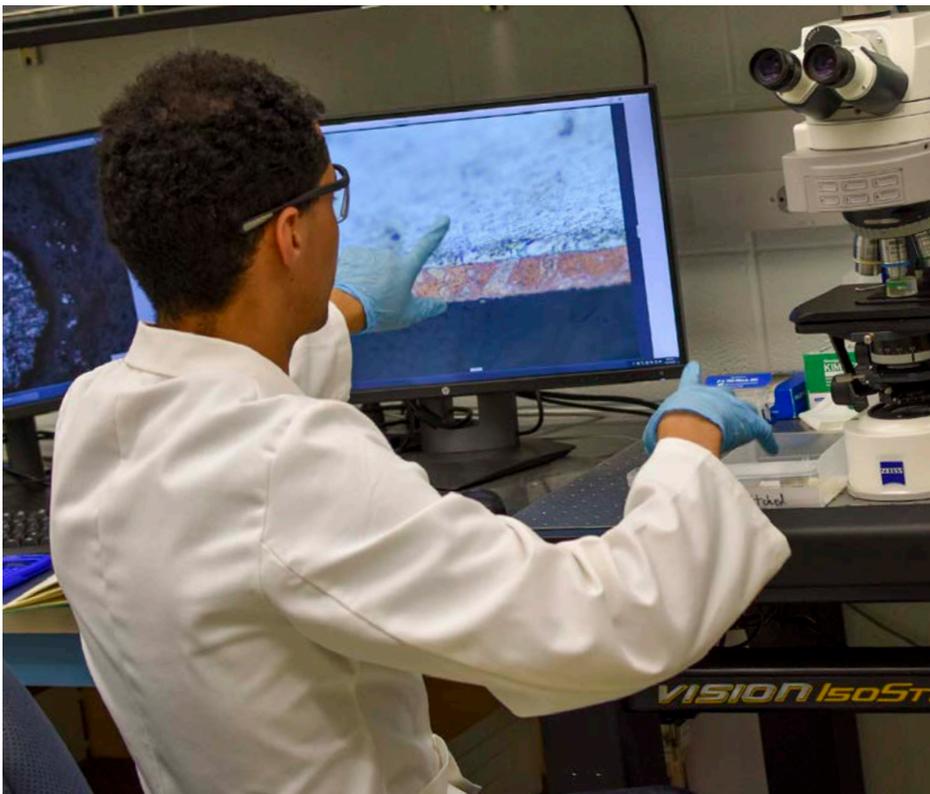
Electronic interconnections are currently the weakest elements in electronic devices. Belhadi aims to develop high-reliability electronic interconnections to increase the reliability of the overall electronic system.

Research involves performing accelerated life testing by lacing stress, strain, extreme temperature and vibrations on newly developed electronic devices in an effort to uncover the failure modes. This also helps researchers choose the proper materials to minimize failure of electronic interconnections.

Belhadi's research not only has an impact on individual electronic users, but also several industries on a global level. As today's consumers are more product aware, it is important to maintain a high level of reliability control which many businesses depend on to run efficiently and effectively. Some electronic devices can even be considered crucial to human survival. Belhadi's research helps detect the failure mechanisms of electronics, which allows researchers to predict and understand the deterioration behavior before it occurs.

This field is dynamic and challenging, which is one reason Belhadi decided to pursue a degree in industrial and systems engineering. His research is based solely on performing an experiment of a technical statement of work which includes, research objectives, components and assembly conditions, test parameters and control and data analysis methods.

Belhadi is passionate about his research, leading him to be involved beyond his





degree. He serves as president of the IPC Education Foundation – an association for connecting electronics industries. He also spends time tutoring athletes in industrial and systems engineering. In 2018, he worked with Engineers Without Borders for the implementation of a water catchment and irrigation system in the high-altitude community Quesimpuquo, Bolivia.

Before arriving at Auburn through the Fulbright program, Belhadi served as a vice president of Ecole Polytechnique School Association, in his home country of Algeria. In 2014, he went to Moscow as an Algerian delegate at the Global Entrepreneurship Congress and again in Italy in 2015.

Belhadi serves as the public relations officer for the African Student Association at Auburn and the secretary of the French Club on campus. He received the Outstanding International Student Award for the College of Engineering in April 2019.

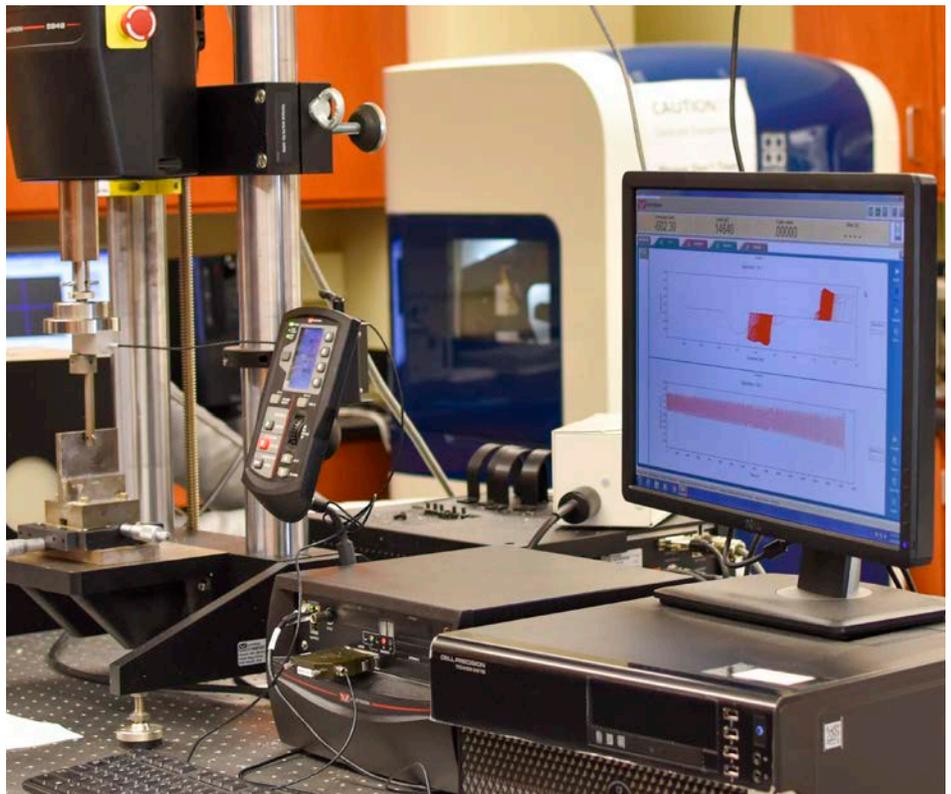
Belhadi expects to complete his degree in December 2019. Upon graduation, he hopes to earn his Ph.D. in industrial engineering, and eventually pursue a career in electronics reliability for a worldwide business.

“My dream is to work in one of the best electronics companies in the world such as Apple, Intel or Samsung,” said Belhadi.



“My dream is to work in one of the best electronics companies in the world such as Apple, Intel or Samsung.”

Mohamed El Amine Belhadi





ALUMNI SPOTLIGHT

Pam Hammond

Pam Hammond currently serves as a manager for Community Investment Management (CIM), an institutional impact investment manager that provides debt funding for responsible innovation in lending to U.S. small businesses and underserved borrowers. In her role, Pam provides due diligence, financial modeling and risk analysis for potential investments and current investments.

Prior to CIM, Pam was a senior underwriter at Able Lending, a commercial lending start-up focused on providing capital to underserved small businesses, which was acquired in late 2017. Pam began her career at Deloitte as an auditor where she focused on governmental entities.

She is a licensed Texas-certified public accountant. She holds a bachelor's in accounting, a bachelor's in public administration, a Master of Accountancy from Auburn University and served as the Lila White Fellow from 2014-2015.

She lives in Oakland, California, with her husband and two dogs.

Why did you choose to go into accountancy?

Simply put, accounting is the language of business. Accounting provides the foundation for critical problem solving and analytical skills and the flexibility to pursue various different fields beyond traditional accounting roles. Plus, Auburn has one of the best accounting programs in the U.S. After my first undergraduate accounting class with Dr. Duane Brandon, I realized the caliber of the program at Auburn and promptly changed my major to accounting.

What do you do in your day-to-day activities as a manager for Community Investment Management (CIM)?

CIM is an impact investment firm focused on innovation in lending. CIM provides responsible and transparent financing to small businesses and underserved borrowers in the United States in partnership with a select group of technology-driven lenders. As part of the investment team, I focus on due diligence, financial modeling, and risk analysis on potential and current investments.

How did your graduate education at Auburn help prepare you for this job?

By learning the technical skills needed to succeed in today's accounting environment, the Auburn Master of Accountancy (MAcc) program gave me a solid foundation on which to build my career. Between structuring the program to give students the ability to take all four sections of the CPA exam prior to graduation and the world-class quality of my professors and peers, Auburn set me up to be

successful from day one. While many of my colleagues in public accounting spent the first few years of their careers focused on passing the CPA exam, I was able to prioritize professional development and explore different career possibilities outside traditional accounting roles.

Why should today's students consider earning a graduate degree, especially from Auburn?

In today's highly competitive job market, a graduate degree allows recent graduates to differentiate themselves from other applicants, opening up meaningful career opportunities. A graduate program provides students with a highly focused curriculum, allowing for deeper dives into areas of interest in their chosen fields. Auburn is special, however, having some of the best academic professionals, from professors to advisors that provide support every step of the way. The faculty and staff of the Auburn MAcc program are just as passionate and driven about helping students succeed as the students themselves.

What are some of your favorite memories of Auburn?

So many to choose from! From Auburn winning the National Championship during my freshman year to experiencing the Kick Six in Jordan-Hare Stadium, those football memories are so special to me. However, hands down, my favorite memory of Auburn is getting married on Samford Lawn and holding our reception at the Jule Collins Smith Museum.

Three Minutes Led to a Year of Competing and Learning

By Morgan Gregg



Lauran Woodie, a Ph.D. candidate in the Department of Nutrition, Dietetics and Hospitality Management only needs three minutes to convince judges of her research impact on how people may prevent obesity depending on the time of day they eat.

Woodie began her Three Minute Thesis (3MT) journey back in 2017 where she presented her research project, “Time-restricted feeding of the Western-diet and its effect on obesity, metabolic dysfunction and cognitive impairment.” By conducting behavioral and metabolic tests on mice, Woodie measured their activity every seven seconds for three days to determine how much they eat, breathe and move. She was able to better determine how well their bodies burn fats and carbohydrates at a particular time.

She presented for the first time in a Spidle Hall classroom surrounded by members of the College of Human Sciences. She was named the winner of the Auburn University competition and was selected to advance to the 3MT regional finals in Fayetteville, Arkansas, during the Conference of Southern Graduate Schools.

There, she won first place, outperforming researchers from 47 universities across the Southeast, including 10 SEC and 6 ACC institutions.

She then advanced to the national competition held at the Conference of Graduate Schools in Washington, D.C., where she had the opportunity to meet competitors from Canada and the University of Queensland – where 3MT originated. Woodie’s presentation in Washington, D.C., represents the first time an Auburn 3MT student was invited to attend at the national level.

The overall process and opportunity allowed Woodie to learn several lessons along the way. While presenting in different competitions around the United States, Woodie noticed a change in her presentation. The most significant modifications occurred between her competition at Auburn and the Conference of Southern Graduate Schools. Woodie’s 3MT research prompted her to learn more about chronobiology. She worked with her advisor to redesign her dissertation work to examine the chronobiology of learning and memory.

While Woodie continued to learn about her field of study throughout the 3MT process, she also learned more about her needs as a presenter, her ability to mentor upcoming 3MT competitors and her love of research.

“I definitely want to stay on the bench side of things whether that be in academia, industry or government,” said Woodie. “At this point in my career, I would like to be flexible and

take opportunities to get experience in the different sectors of science.”

The entire 3MT experience was a positive one for Woodie, but she enjoyed her trip to Fayetteville the most.

“My favorite part of the 3MT journey was having so many family members meet me in Arkansas,” said Woodie. “It was actually amazing how my family rallied once they heard I was going to CSGS. I called my mom, my mom called my sister, she called my aunt and suddenly all of these relatives were converging upon Fayetteville! They made the experience so much more fun and relaxing.”

She and her family explored the Crystal Bridges museum. All of the activities helped calm her nerves. When the time came for Woodie to present, she felt peaceful seeing a row of smiling, familiar faces in the crowd supporting her.

Woodie’s 3MT journey has led her to explore the possibility of more research opportunities with a post-doctoral fellowship upon graduation in December 2019.

Presently, Woodie has accepted a post-doctoral fellowship at the University of Pennsylvania where she will continue working in the areas of physiology, metabolism and chronobiology.



Campus Snapshot Mell Classroom Building

The Mell Classroom Building at Ralph Brown Draughon Library is the largest classroom building on Auburn's campus at 69,000 square feet and three stories tall. This technologically-advanced building includes 26 classrooms, two large lecture halls and collaborative study spaces – all of which foster an innovative and acting learning experience.

RALPH BROWN DRAUGHON LIBRARY



Additive Manufacturing of Next Generation Implants and Orthotics

By Jonathan Cullum

With a diverse team of 15 faculty experts from four different colleges and schools within the university—engineering, pharmacy, veterinary medicine and business—Auburn’s additive manufacturing Presidential Awards for Interdisciplinary Research (PAIR) team is looking to use the process known as 3-D printing to improve the world of medical implants and orthotic devices. Nima Shamsaei, director of Auburn’s National Center for Additive Manufacturing Excellence and principal investigator for the PAIR team, explained the technology involved will allow for the fabrication of customized parts with complex geometries. Because injuries, bone sizes and bone quality are different in every patient, he said medical implants need to be carefully designed to conform to the bones and other organs of the individual human or animal receiving them. The process of 3-D printing, which is highly precise and involves the use of a laser to selectively melt metallic powder particles layer by miniscule layer, makes it possible to custom fit these implants or orthotic devices and eventually reduce costs in the process.

The team is starting with animal orthotics and implants and then extending the knowledge gained to human implants. During the Auburn Research Faculty Symposium in the fall of 2018, members of the team presented some of their initial research findings related to 3-D printing of quadruped orthotics—specifically, custom-designed horseshoe-like devices used to improve the stride of horses and cattle with hoof deformities.

In addition to designing implants and orthotics and testing them for long-term durability, Shamsaei explained that



colleagues from the Harrison School of Pharmacy will look at possibilities for putting drug-delivery systems into the implants, to reduce the risk of infection at the implant site. He added that while the team will work to improve the quality of life for those needing implants or orthotic devices, the group also wants to have an impact on industry standards and to increase Auburn’s overall strength in biomedical research. And the educational opportunities that grow out of this research will benefit Auburn students, Shamsaei added, noting that the technology will be used to train “the next generation of scientists and engineers” for the biomedical and manufacturing industries.

- **Funding:**
\$1,275,000
over three years
- **Auburn is home to the National Center for Additive Manufacturing Excellence.**

Pictured from the left: (front row) Dr. LaKami Baker, Dr. Daniel Silva, Dr. Hareesh Tippur; (second row) Dr. Jeff Suhling, Dr. Amal Kaddoumi; (back row) Dr. Jayachandra Ramapuram, Dr. Michael Zabala, Dr. Xiaoyuan Lou, Dr. Robert “Rusty” Arnold.

Not pictured: Dr. Kayla Corriveau, Dr. Julie Gard Schnuelle, Dr. Debra Taylor, Dr. Scott Thompson, Dr. Aleksandr Vinel.

Rural African American Aging Research

By Jonathan Cullum

“Team science makes for the best science,” explained David Chae, who is leading the Presidential Awards for Interdisciplinary Research (PAIR) team studying rural African American aging. “Taking diverse approaches to tackling the same problem, combining the strengths of various team members, yields more rigorous science,” he added.

Chae and his team, with expertise ranging from kinesiology to rural sociology to psychology, came together for the purpose of developing what he hopes will become a regional “hub” for research that will benefit African Americans in the rural South and beyond. With known disparities in life expectancy and other health outcomes among African Americans compared to their Caucasian counterparts, the team hopes to get at some of the root causes in an effort that will improve research methods and result in better science.

It’s part of a three-pronged approach that Chae said will start by engaging communities in the research process and developing an advisory board that includes rural stakeholders.

As the team continues to make these important connections, it will also focus on developing “sophisticated and more robust methodology” for identifying and recruiting people to participate in research, which is particularly challenging in rural areas. As the team locates volunteers, the researchers will travel to their homes to collect surveys and gather biological samples to look at signs of “wear and tear” on the body. One of these measures is the length of telomeres--the caps of DNA at the ends of chromosomes--which is an indicator of aging at the



cellular level. To look at measures of vascular aging and cognitive aging, the team plans to bring participants to Auburn’s campus for testing.

The end result, Chae hopes, is that this research can help mitigate some of the stark health disparities currently faced by African Americans living in the rural South. In terms of geography and expertise, it’s an area of work that Auburn is well-positioned to address, Chae added. Ultimately, engagement with the community on these issues, together with the application of novel approaches and development of new research methods, will help lead to the improved well-being of many Alabamians.

- **Funding:**
\$255,000
over three years
- **The team works in conjunction with Auburn’s Center for Health Ecology and Equity Research (CHEER).**

Pictured from the left: (front row) Dr. Dominic Cheng, Dr. Loka Ashwood; (back row) Dr. Michael Brown, Dr. David Chae, Dr. Gopikrishna Deshpande.

Convene at the Café!



Graduate students are invited to eat snacks and chat with Dean George Flowers and other Graduate School staff members during the Dean's Café, happening on the first Wednesday of each month from 3-4 p.m. in Hargis Hall.

This is a great opportunity to connect with the dean, ask any questions you may have of our staff and enjoy a study break!

2019-20 DATES

September 4
October 2
November 6
December 4
February 5
March 4
April 1
May 6
June 3
July 1
August 5



TOP 15 COUNTRIES REPRESENTED IN THE GRADUATE SCHOOL BY INTERNATIONAL STUDENT POPULATION:

1. China
2. India
3. Bangladesh
4. Iran
5. Nigeria
6. South Korea
7. Turkey
8. Nepal
9. Saudi Arabia
10. Brazil
11. Vietnam
12. Spain
13. Pakistan
14. Jordan
15. Sri Lanka

Fall 2018 data



Master's Accelerator Supports International Students

For international students, the transition from a bachelor's in your home country to graduate school in the U.S. can be challenging—complicated admissions processes, a new language, new ways of learning and a new home.

The Master's Accelerator Program (MAP) eases this transition by providing a simple route to enter your graduate program at Auburn. MAP combines credit-bearing courses from your master's with additional support, teaching and cultural experiences to ensure your future success.

English language and academic support.

The program allows you to begin your graduate program (subject to entry requirements) with a 2.5-2.75 GPA and IELTS 6.0 or equivalent.

It's flexible.

Depending on your qualifications, you can join one of three different MAP options. Don't meet the English language requirements? No problem, we also offer pre-session English.

A streamlined admissions process.

Auburn Global offers a simple, fast admissions process for MAP applicants. No references, resumes, essays, work experience or GRE/GMAT scores are required.

Concierge support services.

MAP students have access to exclusive concierge services including a 24/7 support line for all inquiries, large or small, as well as airport pickup.

Dedicated student advisors.

The MAP team will provide support on all issues, both academic and personal, as well as housing, airport pickup, opening a bank account and mobile phone registration.

A year-long orientation.

Cheer on the Tigers at a football game, one of the many experiences you'll take part in during your first year.

global.auburn.edu/map



Student Profile

TOTAL ENROLLMENT	30,440
Undergraduate students	24,628
Graduate students	4,706
Professional students	1,106



Auburn graduate students hail from 79 countries.



How Graduate Education Pays Dividends

An Auburn graduate degree can help you achieve your goals for the future. Graduate alumni stand out to potential employers and demonstrate the value of a global education.

Nationally, the projected number of job openings increases with the level of education, as does the level of potential earnings. In Alabama, where many graduates choose to remain after graduation, the projected earnings reflect the national forecasts.

General Admission Requirements

- Bachelor's from an accredited college or university
- Official transcripts of all undergraduate and graduate coursework from each school previously attended
- GRE or GMAT (if required by program of interest)
- Complete application online at graduate.auburn.edu
- \$60 for domestic students, \$70 for international students
- Three letters of recommendation (to be sent to your department)

Additional Requirements for International Students

- TOEFL Scores: 79 on the TOEFL (iBT) – (minimum of 16 in each section), 550 on the TOEFL (pBT), 213 on the TOEFL (cBT) or a 6.5 Overall Band score on the IELTS
- Proof of ability to finance graduate studies, if accepted

All documents and fees should be submitted at least 45 days (domestic students) or 90 days (international students) prior to the desired date of enrollment.

Apply Online at graduate.auburn.edu

Admission to any graduate program is granted by the dean of the Graduate School upon the recommendation of the department of proposed study. Deadlines are listed in the Auburn University Bulletin (auburn.edu/bulletin). However, most academic units make admission decisions several months in advance. Applicants should check with the department to which they seek admission to determine when materials should be submitted.

Resources for International Students

- Office of International Programs for international orientation document processing
- International Student English Center
- Free English language tutoring for enrolled international students
- International Student Organization
- Social support
- Airport pickup for new students

Contact Us

Auburn University Graduate School
106 Hargis Hall
Auburn, AL 36849-5122
Phone: 334-844-4700
Fax: 334-844-4348
Email: gradadm@auburn.edu



Areas of Study

College of Agriculture

Agricultural Economics (Interdisciplinary)
 Agronomy and Soils
 Animal Sciences
 Applied Economics (Interdisciplinary)
 Biosystems Engineering (Interdisciplinary)
 Entomology
 Fisheries
 Food Science
 Horticulture
 Plant Pathology
 Poultry Science
 Rural Sociology (Interdisciplinary)

College of Architecture, Design and Construction

Architecture, Public Interest Design
 Building Construction
 Integrated Design and Construction
 Industrial Design
 Landscape Architecture
 Real Estate Development (Interdisciplinary)

Raymond J. Harbert College of Business

Accountancy
 Business Administration (with Executive and Physicians MBA options)
 Finance
 Management
 Management Information Systems
 Real Estate Development (Interdisciplinary)

College of Education

Curriculum and Teaching
 Educational Foundations, Leadership and Technology
 Kinesiology
 Special Education, Rehabilitation, and Counseling/School Psychology

Visit the Graduate School website for detailed program listings for the College of Education.

Samuel Ginn College of Engineering

Aerospace Engineering
 Biosystems Engineering (Interdisciplinary)
 Chemical Engineering
 Civil Engineering
 Computer Science and Software Engineering
 Electrical and Computer Engineering
 Industrial and Systems Engineering
 Materials Engineering
 Mechanical Engineering
 Polymer and Fiber Engineering

School of Forestry and Wildlife Sciences

Applied Economics (Interdisciplinary)
 Forestry
 Forestry and Wildlife Sciences
 Natural Resources
 Wildlife Sciences

College of Human Sciences

Consumer and Design Sciences
 Hotel and Restaurant Management
 Human Development and Family Studies
 Marriage and Family Therapy
 Nutrition

College of Liberal Arts

Applied Economics (Interdisciplinary)
 Audiology
 Clinical Psychology
 Communication
 Communication Disorders
 Community Planning
 Economics
 English
 History
 Psychology
 Public Administration
 Public Administration and Public Policy

Rural Sociology (Interdisciplinary)
 Sociology
 Social Work
 Spanish
 Technical and Professional Communication

School of Nursing

Nursing (Nurse Educator and Primary Care – Practitioner options)
 Doctor of Nursing Practice

Harrison School of Pharmacy

Pharmaceutical Sciences

**Professional program also available.*

College of Sciences and Mathematics

Applied Mathematics
 Biological Sciences
 Chemistry
 Geography
 Geology
 Mathematics
 Physics
 Probability and Statistics
 Statistics

College of Veterinary Medicine

Biomedical Sciences

**Professional program also available.*

For an extensive list of programs and program advisor contact information, visit graduate.auburn.edu/prospective-students/areas-of-study/.



Online Education Offers Flexible Options

Auburn is committed to addressing the needs of the modern student. The educational opportunities you will find through the online education program meet the same exacting standards as on-campus offerings.

Courses are carefully designed by Auburn faculty members with the aid of online education professionals, who assist in the development of instructional materials, academic resources, technical support systems, telecommunications and student services.

In addition to the opportunities listed below, numerous independent learning and professional development courses are offered through online education.

Auburn offers nearly 50 online learning programs, many of which are consistently ranked among the top 10 in the nation by *U.S. News & World Report*. The following colleges at Auburn offer online learning programs:

- College of Agriculture
- College of Architecture, Design and Construction
- Raymond J. Harbert College of Business
- College of Education
- Samuel Ginn College of Engineering
- College of Human Sciences

For more information, visit auburn.edu/online.

Tips For Applying To Graduate School

Letters of Recommendation

- Select writers who know you well and can comment on your potential as a researcher and scholar.
- Choose writers who can also speak of your goals, motivation and commitment to graduate study.
- Even better, if possible, select individuals who are known to the people at the institution where you are applying.

Personal Statements

- Convince your audience you have what it takes to succeed in graduate school.
- Provide evidence you are motivated and eager to learn.
- Show you are familiar with the program to which you are applying and that you are a good fit.
- Proofread: typographical errors and grammatical mistakes can undermine your best efforts.

General Advice

- Take the GRE early in case you want to take it again.
- If possible, gain undergraduate research experience.
- Apply as early as possible, and confirm your department's priority deadline.

Faculty Profile



1,375

Number of full-time faculty



92%
are full-time instructional faculty

90%
of full-time faculty have the highest terminal degree

19:1 student-to-faculty ratio



Graduate Certificates

Auburn offers a variety of graduate certificates for working professionals who want to enrich their personal knowledge, educators who aim to enhance their teaching credentials as well as students considering the possibility of a graduate degree. Graduate certificate programs consist of a minimum of nine and a maximum of 21 hours of graduate-level course work. Auburn offers certificates for the following programs:

- Accountancy *
- Adult Education *
- Adult Education and English Language Teaching
- Automotive Manufacturing Systems
- Advanced Research Methods for Development and Family Studies
- Archival Studies
- Brewing Sciences
- Business Analytics
- College/University Teaching
- Communication
- Community Music
- Computational Biology
- Construction Management
- Construction Management, Executive Integrated Processes Certificate
- Construction Management, Executive Technical Certificate
- Crop and Soil Science *
- Cybersecurity Management *
- Cybersecurity Engineering *
- Educational Leadership
- Elections Administration
- Extension Educator
- Forest Finance and Investment *
- Geographic Information Systems Science
- Global Hospitality and Retailing *
- Inclusive Elementary Education Practices
- Information Systems Management
- Instructional Leadership
- Instructional Technology for Distance Education
- Intervention for Students with Autism and Developmental Disabilities
- Medicinal Chemistry
- Modeling and Data Analytics *
- Movement Skills Analysis
- Nonprofit Organizations and Community Governance
- Nursing Education
- Nursing - Nurse Practitioner
- Occupational Safety and Ergonomics *
- One Health
- Power Engineering *
- Program Evaluation
- Public History
- Public Horticulture
- Pulp and Paper Engineering *
- Reading Instruction
- Rehabilitation Leadership and Management
- Restoration Ecology *
- Supply Chain Management Innovation *
- Teaching English as a Second Language/ Foreign Language
- Technical Communication
- Technology Educator
- Transition Specialist

To learn more about Auburn's certificate programs, visit graduate.auburn.edu/certificates.

*Also available online

ABM Program

The Accelerated Bachelor's/Master's program offers outstanding Auburn students the opportunity to earn both a bachelor's and master's in less time and at less cost. Students can count up to nine hours (in a 30-hour master's program) or 12 hours (in a 36-hour master's program) to count toward both degrees.

ABM programs

- Agricultural Economics and Rural Sociology
- Agronomy and Soils
- Biosystems Engineering
- Community Planning
- Consumer and Design Sciences
- Entomology and Plant Pathology
- Fisheries
- Geography
- Horticulture
- Industrial and Systems Engineering
- Materials Engineering
- Nutrition, Dietetics
- Nutrition, Hotel and Restaurant Management emphasis
- Physics
- Poultry Science
- Public Administration

More programs will be offered in the future. To learn more about the ABM program, visit graduate.auburn.edu/abm.

Research Highlights



- MRI Research Center
- Center for Advanced Science, Innovation and Commerce
- Space Research Institute
- Radio Frequency Identification Lab
- Dauphin Island Sea Laboratories
- Oak Ridge Associated University
- Scott-Ritchey Small Animal Research Facility
- Institute for Biological Detection Systems
- Agricultural Experiment Station
- Poultry and Animal Nutrition Center
- Canine Detection Research Institute
- Alabama Water Resources Research Institute



Estimated Cost of Attendance

2019-20 Academic Year – Fall and Spring Semesters

	Alabama resident (9 hours)	Non-resident (9 hours)
Tuition and fees	\$11,504	\$31,160
Room and board	\$13,600	\$13,600
Miscellaneous (books and supplies, transportation and personal)	\$7,104	\$7,104
TOTAL COST	\$32,208	\$51,864

Fees

Student services fee	\$838
Auditing fee	\$546 (resident) \$1,638 (non-resident)
GRA/GTA enrollment fee	\$680
International student fee	\$130
Harbert College of Business fee	\$200 per credit hour

	Alabama resident (9 hours)	Non-resident (9 hours)
Professional tuition and fees		
Architecture	\$15,812	\$35,444
Pharmacy	\$22,070	\$41,726
Veterinary Medicine	\$20,588	\$48,244

Professional books and supplies

Architecture	\$5,150
Pharmacy	\$4,040
Veterinary Medicine	\$3,328

There are no additional charges for credit hours above nine for graduate students.
For more information, visit graduate.auburn.edu/tuition.

Join the Graduate School's Cross-Cultural Programs as we welcome our international graduate students.

Learn how you can become involved at graduate.auburn.edu/crosscultural.



SUCCESS AFTER GRADUATION

Dr. Sheena Copus Stewart is the training and organizational development manager for the City of Auburn. She also serves as an adjunct professor in adult education within the Department of Educational Foundations, Leadership and Technology at Auburn University. She works as a consultant assisting state and local agencies to develop workforce programs within their organizations. Her research and professional interests include workforce development, programming and evaluation, development and delivery of programs to enhance organizational, and individual, well-being and application of soft skills in industry. She uses an applied action approach in her research and community engagement with a central focus on applying collaborative partnerships in workforce and economic development. Her extensive teaching experience in adult education, workforce development, and human development and family studies seeks to strengthen the current and future workforce.

“One of the most important decisions of my life was choosing to attend Auburn University. As a first-generation college student, the most supportive framework to pursue my dreams was offered. Through intuition, perseverance and three degrees later, I understand that education is not simply a degree but a journey which builds confidence and encourages individuals to impact the world in a positive way. Every interaction, the adult education program, as well as my committee members and peers have shaped how I will successfully navigate my new role as the training and



Sheena Stewart, Ph.D

organizational development manager for the City of Auburn. Auburn University supported me and because they believed in me, I believe in Auburn and love it. War Eagle!

Meet the Graduate Student Council Executive Board



The Graduate Student Council is the only student-led organization that represents all of the graduate student population. The GSC serves as a liaison for graduate students to communicate with university administration and the Student Government Association (SGA), and it provides both social and research showcase opportunities for a diverse graduate student body. The GSC is an advocate for students on multiple issues, including health insurance, housing and academic-related travel. The GSC partnered with the Graduate School in bringing the Three Minute Thesis competition to Auburn in 2013.

The GSC organizes and assists with a variety of events to engage and entertain graduate students. One of those events is the colloquium series, where students gather to learn about a variety of topics involving campus life and academia over a free lunch. The organization occasionally holds a town hall style colloquium so students can express concerns about challenges they may be facing. The GSC plays a large role in organizing the annual Student Symposium, where all graduate students are invited to present their research by oral or poster exhibition and are critiqued and scored competitively by faculty judges. At the end of the spring semester, graduate students are honored with a special luncheon and awards ceremony that accompany Graduate Student Appreciation Week events.

The GSC implemented Tiger Sitter Service (TSS) in 2017. Tiger Sitter Service is a free childcare program designed to match Auburn University undergraduate student sitters with graduate students who have children.

If you would like more information about joining the GSC, either as a senator or a participant, contact Aaron Norris, GSC administrative vice president, at ajn0008@auburn.edu. More information can be found at auburn.edu/gsc.



Nima Alizadeh
President

Nima Alizadeh is a doctoral student in polymer and fiber engineering in the Department of Chemical Engineering. His research focuses on acrylic-polyurethane based graft-interpenetrating polymer networks. He earned his bachelor's in polymer engineering from the University of Tehran in 2016. He received his master's in polymer and fiber engineering in 2018 from Auburn University. Alizadeh represented his department as a Graduate School Council senator from 2018 until 2019, and he served as a member of the event committee at the same time. As GSC president, Alizadeh is committed to serve as the voice of the graduate students at Auburn and supports their needs through enhancing the quality of their academic life.



Omer Khan
Vice President

Omer Khan is a doctoral student in the Department of Aerospace Engineering in the Samuel Ginn College of Engineering. His research interest focuses on experimental investigation of the liquid rocket propulsion systems. A native of Islamabad, Pakistan, he earned his bachelor's in aerospace engineering from the National University of Sciences and Technology and a master's in aerospace engineering from the Air University, Islamabad, Pakistan. As GSC vice president, Khan is looking forward to instituting measures and developing initiatives to facilitate academic as well as campus affairs of Auburn graduate students.

Follow us on social media:

 /AuburnUniversityGSC

 /au_gsc

 /au_gsc



Aaron Norris

Administrative Vice President

Aaron Norris is a graduate student in the Master of Community Planning (MCP) - Master of Public Administration (MPA) dual degree program. He graduated with his bachelor's in interdisciplinary university studies from Auburn in May 2018 with an emphasis in business, leadership, and philanthropy and nonprofit studies. Norris served in the Marine Corps Reserves and was also a member of the Chi Phi fraternity while at Auburn. He currently serves as president of the Auburn University Student Planning Association (AUSPA) and is a member of the ICMA, More Than Auburn and Exercise is Medicine On-Campus student organizations.



Ja'Lia Taylor

Vice President for Childcare Initiatives

Ja'Lia Taylor is a doctoral student in the special education and rehabilitation counseling department. Her research is focused on professional development for teachers. She earned her bachelor's in special education from Georgia Southwestern State University in 2013. She received her master's in special education from Albany State University. Taylor was a special education teacher for three years and the region coordinator of Childcare Network Head Start for three years. Taylor is currently the president of the Black Graduate and Professional Student Association. She is also the treasurer for Black Women and Mental Health. Taylor is committed to supporting and advocating for all graduate students at Auburn.



Oluchi Oyekwe

Treasurer

Oluchi Oyekwe is a graduate student in the Department of Biological Sciences. She earned her bachelor's in microbiology from Ebonyi State University, Nigeria. Currently, her research focuses on using bacteriophage as probe in magnetoelastic biosensor. Through this, Oyekwe intends to provide alternative, easy ways of detecting food pathogens to ensure continued public consumption protection, without having to go through rigorous laboratory-based methods.



Beijia Zhang

Vice President of Student Affairs

Beijia Zhang is a doctoral student in the Department of Civil Engineering, majoring in transportation engineering. Her research is focused on traffic safety. She earned her bachelor's in urban and rural planning in China, and her master's in transportation engineering at Auburn in 2017. Zhang represented her department as a Graduate School Council senator beginning in 2018, and during the same time, she also served on the welfare and continuous improvement committee (WCIC). As GSC vice president of student affairs, Zhang is committed to improving the study and work environment for graduate students, as well as promoting approaches to providing graduate students better services including, health care insurance policy, mental health service and graduate student monetary compensation.



Cassandra Grey

Graduate School Senator

Cassandra Grey is a doctoral student in counseling psychology. Her research is focused on factors that impact relationship quality and satisfaction. She earned her bachelor's in psychology in 2010 and her master's in clinical psychology in 2016, both from Auburn University at Montgomery. Grey is serving her first term as a Graduate School senator for the SGA. As a senator, Grey is a member of the inclusion and diversity committee and is committed to implementing diversity and inclusion education and training to SGA members, as well as promoting collaboration between the SGA and GSC.



Alejandro (Alex) Cardozo

Secretary

Alejandro Cardozo is a master's student seeking a degree in forestry. Before coming to Auburn, Cardozo earned his bachelor's in chemical engineering from the Universidad Nacional de Misiones in Argentina. His research focuses on finding environmentally friendly options to replace synthetic components of the adhesives used for construction materials such as Oriented Strand Boards (OSB). As part of the Graduate Student Council (GSC), he is working to improve graduate student welfare and participate in volunteer activities GSC organizes. In his spare time, he enjoys playing basketball and beach volleyball as well as salsa dancing.

A Guide to Giving

Your loyal and steadfast support makes the most impact. Here's how you can make planned and annual gifts to the Auburn University Foundation, leaving a legacy for the future.



- ▶ Name the Foundation in your will
- ▶ Endow a fund in honor of a loved one
- ▶ Make a gift of stock
- ▶ Set up an automatic recurring gift to the Graduate School Gift Fund
- ▶ Make the Auburn University Foundation your life insurance beneficiary
- ▶ Give \$1,000 in one fiscal year to create an Annual Graduate Award
- ▶ Ask your employer about a matching gift program to double your impact

Here's How to Give:

By Check

Payable to "Auburn University
Foundation"
106A Hargis Hall
Auburn, AL 36849

Securely Online

Visit
graduate.auburn.edu/give

Credit/Debit Charges

Give with a credit card
over the phone by calling
334-844-2160

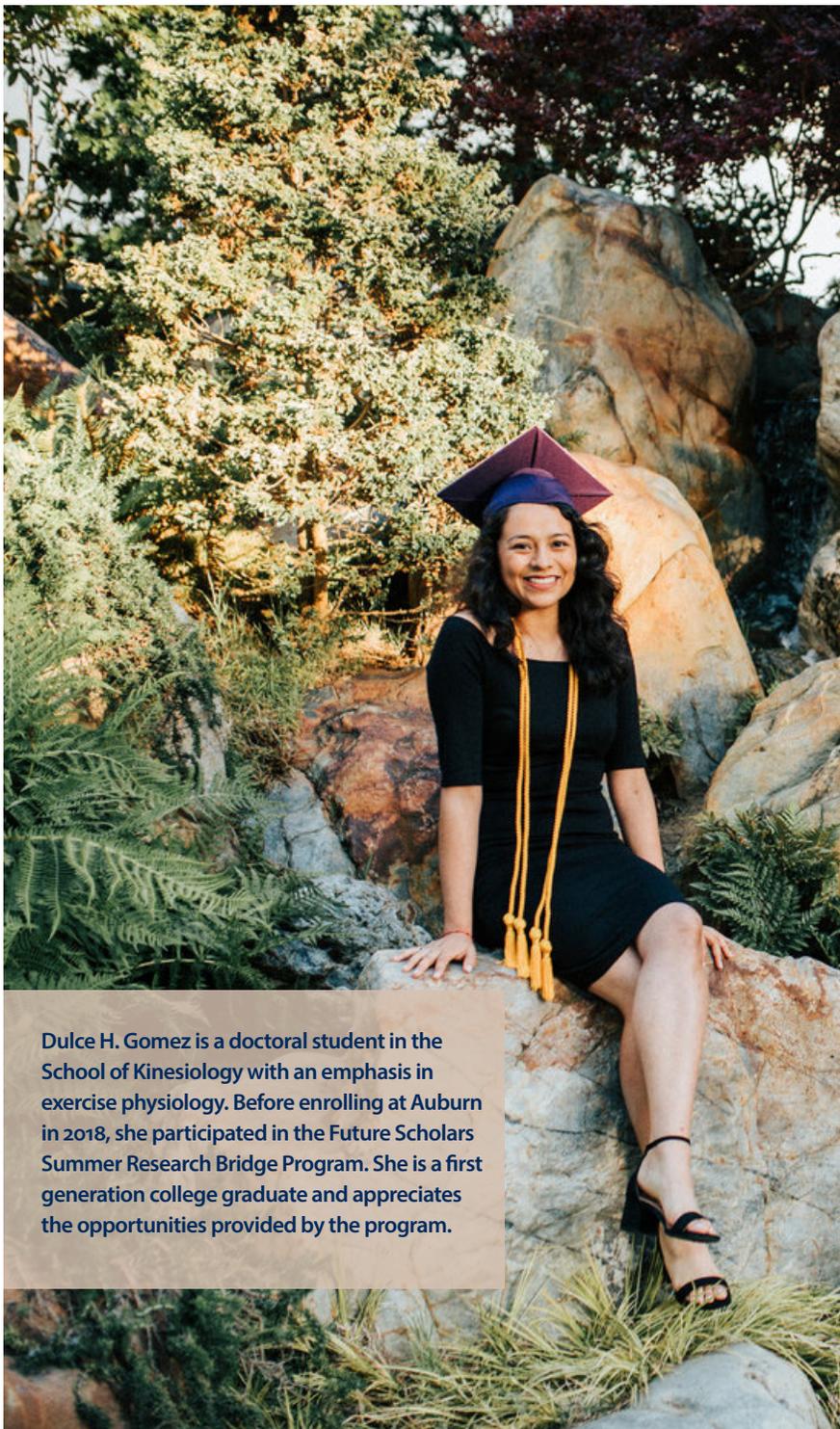
Contact Us

Call the Graduate School
at 334-844-2160



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UNIVERSITY

THE IMPACT OF GIVING



Dulce H. Gomez is a doctoral student in the School of Kinesiology with an emphasis in exercise physiology. Before enrolling at Auburn in 2018, she participated in the Future Scholars Summer Research Bridge Program. She is a first generation college graduate and appreciates the opportunities provided by the program.

“*The Future Scholars Summer Bridge Program was a crucial element to the smooth transition into my doctoral program. The necessary hands-on experience I gained by shadowing senior doctoral students within and around my lab allowed me to adjust to the lab dynamics that our research institution requires of us. This past year I have been able to hit the ground running in large part to the Auburn network I created during my time in the bridge program. I continue to thrive as a better researcher and student at Auburn thanks to the support of the wonderful individuals that make the bridge program possible!*”

GRADUATE SCHOOL STAFF



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THE AUBURN CREED

I believe that this is a practical world and that I can count only on what I earn. Therefore, I believe in work, hard work.

I believe in education, which gives me the knowledge to work wisely and trains my mind and my hands to work skillfully.

I believe in honesty and truthfulness, without which I cannot win the respect and confidence of my fellow men.

I believe in a sound mind, in a sound body, and a spirit that is not afraid, and in clean sports that develop these qualities.

I believe in obedience to law because it protects the rights of all.

I believe in the human touch, which cultivates sympathy with my fellow men and mutual helpfulness and brings happiness for all.

I believe in my country, because it is a land of freedom and because it is my own home, and that I can best serve that country by “doing justly, loving mercy, and walking humbly with my God.”

And because Auburn men and women believe in these things, I believe in Auburn and love it.

– George Petrie



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AUBURN RESEARCH

A Showcase of Research and Creative Scholarship
Student and Faculty Symposia

aub.ie/researchsymposia



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