Graduate School
FALL 2020/SPRING 2021

Finding A Cure

- Turning a Diabetes Utopia Into a Reality
- The Future of Bone Implants
Dr. Douglas Martin, a professor in the Department of Anatomy, Physiology and Pharmacology in Auburn’s College of Veterinary Medicine and director of the Scott-Ritchey Research Center, is working tirelessly along with two Auburn graduate students, Anne Maguire and Amanda Gross, to improve outcomes for children with Tay-Sachs and GM1 gangliosidosis through gene replacement therapy.
The past 12 years as dean of the Graduate School at Auburn has been nothing less than amazing. Auburn University has excelled in many ways since I began my role, and I have been given the opportunity to work with thousands of students living the Auburn Creed throughout their academic careers and beyond.

I have had the pleasure of witnessing the Auburn Family rally together to make a difference in the world. Our students are completing research around the globe and stepping up in times of distress. Though our year has looked much different than past years due to the COVID-19 pandemic, Auburn quickly identified effective and efficient ways to ensure our processes continued.

Our students make Auburn the wonderful university it is and I am proud of how every student has worked to stay on track throughout this time. Innovative research hasn’t stopped. Our graduate students are working on great things covering more than 100 areas of study. In fact, I am excited to share a few exciting research stories in this edition of the Graduate School magazine.

Dr. Doug Martin and two graduate students are changing the future for Tay Sachs and GM1 patients through gene replacement therapy. Brittannie Chester has found a way to help diabetes patients manage their disease. Naval Commander and doctoral student Ike Stutts is conducting research to help prevent cyber attacks in the military. Recent doctoral graduate Fredericka Hamilton identified and classified many new species of insects and will continue her research with Auburn in the coming years. Arash Soltani-Tehrani is changing the face of surgical implants through his research on additively manufactured lattice materials and their use in bone implants.

Each year brings new discoveries and meaningful impacts. I am thankful for the opportunity to watch the progress of our students. We would not be the university we are without the contributions of our students, faculty, staff, alumni and donors. Thank you for all you do!

George T. Flowers
Dean of the Graduate School
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.

- Best Value College, The Princeton Review, 2020
- Auburn earned the Carnegie Community Engagement Classification, recognized nationally for the scope, quality and impact of its outreach mission through its engagement in the community
- U.S. News and World Report ranks Auburn #1 in the state of Alabama, and has consistently ranked the university among the top public universities in the nation, 2020
- Money ranked Auburn as the Best Value College in the state, 2019
- The Princeton Review ranked Auburn as among the best in the nation for health services and campus life, 2021

Nancy Andou, a Fulbright Scholar pursuing her master’s in community planning, hails from Haiti. Andou is a mother to three children.

Choosing Auburn was the best decision for me. Since day one I have found the Auburn community is a true family, and the university helped me connect with the Auburn Family. It is the same spirit on campus – from the lecturers to the students. All of our teachers encourage collaboration, which is very helpful, particularly for an international student. I am still enjoying this collaboration in every aspect of my Auburn life! From the airport to now, I have found the help I needed and I know without any hesitation, Auburn University was the perfect choice for me.”
Li Recognized for Work In Cancer Survivorship

“My research interests were no longer satisfied by just the molecular world, and I wanted to explore more applications in the real world.”

Chao Li

Impacted by an uncle’s battle with cancer, Harrison School of Pharmacy graduate student Chao Li is investigating cancer treatments and working to identify ways to improve cancer survivorship. That passion was recently recognized as Li was awarded a pre-doctoral fellowship from the Pharmaceutical Research and Manufacturers of America, or PhRMA Foundation.

The award, which is $25,000 per year for up to two years, provides support to promising students during advanced stages of training and thesis research, and for the career development of scientists prepared to engage in health outcomes research.

Li’s dissertation is titled “Assessment of Risk and Risk Factors of Fluoropyrimidine-induced Cardiotoxicity Among Colorectal Cancer Survivors Using a Mixed-Methods Approach.”

Li’s uncle had colorectal cancer, or CRC, eventually losing his battle, but not before saying to his nephew “living with a cancer is not easy.” His struggles with the disease left a lasting impact on Li.

“When my uncle told me this before he died of colorectal cancer, cancer survivorship became an important life question for me,” Li said. “I started to examine this area and found CRC is the third most common cancer diagnosed, and the third leading cause of cancer-related deaths for both men and women in the United States. Meanwhile, colorectal cancer survivorship also leads to significant economic and humanistic burdens for patients and the society.”

Originally from China, Li came to Auburn to pursue a master’s degree in chemistry. His path to Auburn was the product of “chasing the dream to see a bigger world, to know more people and to experience a different culture.”

Upon completing his master’s degree, Li was drawn to the Harrison School of Pharmacy’s Department of Health Outcomes Research and Policy for its application of science in real-world scenarios.

“My research interests were no longer satisfied by just the molecular world, and I wanted to explore more applications in the real world,” Li said. “Then I found our program, including the multidisciplinary research with real-world implications to improve patients’ health outcomes, medication safety and effectiveness, and decided to further my studies in the program.”

In his dissertation research, Li is looking at fluoropyrimidines, a class of cancer-treating substances. Specifically, he is investigating side effects of the treatment, such as heart damage, that can lead to emergency room visits, hospitalization and even death.

“Identifying the risk and high risk factors of fluoropyrimidine-induced cardiotoxicity is very important for predicting cancer patients’ health outcomes, evaluating aggressive chemotherapy and calling attention to closely monitoring treatments and their side effects,” Li said. “In my dissertation, I will assess the risk and potential risk factors of fluoropyrimidine-induced cardiotoxicity among older colorectal patients, and will use a machine-learning approach to develop risk prediction models for risk stratification of fluoropyrimidine-induced cardiotoxicity in older cancer patients.”

Li’s hope in studying this treatment and cancer survivorship as a whole is to improve health outcomes among those who do survive cancer. With early detection and innovative therapies, more people are surviving cancer, but are sometimes left with the side effects of treatment.

“Although cancer patients could survive after treatments, they are facing a wide range of medical and psychosocial challenges that need to be planned for and appropriately managed, so that their survivorship could be totally different,” Li said. “How to improve the cancer survivorship becomes more and more important for cancer patients nowadays, which calls attention across a growing number of disciplines such as health care and service, health economics, pharmaceutical science, psychology and others.”

Along with his fellowship from the PhRMA Foundation, Li has also been recognized on campus as he was named one of the top 10 outstanding doctoral students at the university.

“Chao Li is an outstanding graduate student who always demonstrates curiosity in research and believes in hard work,” said Dr. Jingjing Qian, associate professor in the Department of Health Outcomes Research and Policy and Li’s advisor. “He can work independently to investigate knowledge gaps and issues and eventually find solutions.”

Li has been inspired by the guidance from Qian, who specializes in comparative effectiveness and drug safety.

“Dr. Qian is an excellent advisor on both my research and life. In research, her wise guidance is like a light in the darkness, which always directs me to the right direction,” Li said. “She always advises me, not just limiting myself on research, but also enjoying life and serving others.”
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.
FINDING A CURE

By Morgan Gregg
Tay-Sachs and GM1 gangliosidosis. Two fatal pediatric diseases with no approved treatment, and a parent’s worst nightmare. As each disease rapidly spreads through the body, a child’s life expectancy is two to five years.

Life-changing research is fighting the tragic outcomes of these diseases and it’s happening right here at Auburn University.

Dr. Douglas Martin, a professor in the Department of Anatomy, Physiology and Pharmacology in Auburn’s College of Veterinary Medicine and director of the Scott-Ritchey Research Center, has worked for nearly 25 years to treat rare diseases affecting both humans and animals.

Martin is working tirelessly along with two Auburn graduate students, Anne Maguire and Amanda Gross, to improve outcomes for children with these diseases through gene replacement therapy.

Gene therapy works to prolong the lifespan and improve the quality of life for affected patients, but there is still room for improvement. That’s where Maguire comes in. She joined Martin’s lab in 2014 as a veterinary student working from the pathology perspective.

“My goal is to understand how to improve gene replacement therapy so that future generations of gene therapy might be able to correct problems,” Maguire said.

Maguire’s background as a veterinarian has allowed her to understand how these diseases wreak havoc on the central nervous system – and how gene therapy corrects these deficits.

She works with a colony of cats at the Scott-Ritchey Research Center performing MRI scans with the 7T scanner at the MRI Research Center. In addition, she conducts neurological examinations and provides veterinary medical care as needed.

While Maguire works on developing a more dynamic understanding of the diseases, Gross works on treatments for the animals.

“My research is to develop a new generation of gene therapy for any genetic disease,” Gross said.

Their research involves producing a new adeno-associated virus, or AAV, for either GM1 or Tay-Sachs, also known as GM2, that is evaluated in cell culture first, then moves to the next stage of treating cats.

“The animal studies give us an idea of how the treatments will work in humans,” Gross said. “We get a wealth of information from the animal studies, including dosing information, possible negative outcomes, biodistribution and overall therapeutic efficacy.”

Each student is working toward the same big picture: AAV gene therapy for GM1 and GM2 gangliosidosis. Gross works on GM1 research while Maguire tackles GM2. Ultimately, their research will be applied toward the same goal – expanding the life of children suffering from either disease.

In fact, some children have already seen life-changing results, such as Jojo, an 11-year-old girl born with GM1 gangliosidosis, a disease inherited from each of her parents, who are both healthy, but they each have a mutated GLB1 gene. That one mutated copy means they are carriers even though they are unaffected by the disease.

Martin has had the opportunity to be a part of the therapy Jojo has received. He and his decade-long collaborators from the National Institutes of Health (Dr. Cynthia Tifft) and the University of Massachusetts Medical School (Dr. Miguel Sena-Esteves) were able to apply their research results to Jojo’s treatment that led to a rewarding result not possible without the contributions from all collaborators.

Martin, and Heather Gray-Edwards, a former graduate student at Auburn who was a postdoctoral fellow in Martin’s lab and now at UMass Medical School, attempted to replicate the gene therapy treatment used on cats for human trials since research showed cats responded to GM1 the same way humans did.

Because the disease progression in the cat study paralleled the research of Martin’s collaborator, Tifft at NIH, they were able to use the findings as a model for the first gene therapy test.

Jojo received the gene therapy treatment when she was 10 and is doing well over one year later.

Thanks to the gene replacement therapy, Jojo has already beat the odds of this horrific disease.
“My goal is to understand how to improve gene replacement therapy so that future generations of gene therapy might be able to correct problems.”

Anne Maguire
Auburn graduate student
“Seeing Jojo and other GM1 patients treated with gene therapy is what I envisioned as a graduate student at the beginning of this work many years ago,” Martin said. “I joined an outstanding group of researchers led by Dr. Henry Baker at the Scott-Ritchey Research Center, and together we were determined to help these kids. I hope the gene therapy platform that we helped develop can be used to treat many other neurologic diseases in the future.”

Martin and other researchers continue to work toward making gene replacement therapy more effective with the goal of prolonging the lives of many children affected by these diseases.

Amanda Gross
Auburn graduate student
Who is airport pickup offered to?
The Graduate School offers the opportunity for all newly arriving international graduate students to sign up for transportation from the Atlanta airport to Auburn. We believe it is a valuable investment of budget and resources to offer this service to international students who are beginning their very first term at Auburn University.

How does airport pickup work?
There are two primary goals. The first is to coordinate safe and convenient transport from Atlanta to Auburn for as many newly arriving students as possible. Second, we want to provide a warm welcome to our newest arrivals who are from other countries.

To accomplish these goals, we partner with a variety of campus and community resources. The Department of Safety and Security continues to be a valuable partner. They are available to schedule vans and drivers to travel to pick up groups of four or more who have similar arrival times. Also, Auburn Global offers the opportunity to schedule transportation services for graduate students who arrive on a designated pick-up day for Auburn Global students, during which Tiger Transit buses are chartered for airport transport.

Incoming flight arrival dates/times vary greatly, which means chartered group shuttle service only allow us to serve a certain percentage of our students. Therefore, we also utilize the commercial shuttle service Groome Transportation to schedule individual reservations.

Volunteers from student organizations and our community have been invaluable in helping to create a warm welcome for international students. These roles include greeting students at the airport, riding along on group shuttles and offering local transportation once students arrive in Auburn. We also have community members willing to “go the extra mile,” both literally and figuratively, by offering to personally travel to and from the airport to pick up newly arriving students.

How often is it offered?
We open registration for airport pickup prior to fall and spring terms each academic year. The actual dates for pick-up service occur early to mid-August for fall semester and late December/early January for spring semester.

How did airport pickup come into existence?
Dr. Len Vining, a former Graduate School staff member, developed several support programs, including the airport pickup service, to assist international graduate students in their transition to life and study in a new country and cultural environment. Dr. Vining and Dean George Flowers recognized the value of meeting a practical need, but also creating a warm welcome for these students who are often weary after their travels and are in the process of a major life transition.
A recent doctoral graduate in Auburn’s entomology program has completed the first scientific classification and identification study of a group of insects, phylloxerans – an insect similar to an aphid – that has been undertaken in more than a century.

Fredericka “Ricki” Hamilton graduated in August with a Ph.D. in entomology. A native of Colonial Heights, Virginia, Hamilton conducted her doctoral research on an understudied group of gall forming insects known as phylloxerans.

Galls are abnormal plant growths caused by insects, mites, nematodes, fungi, bacteria and viruses, Hamilton explained. Galls can be caused by feeding or egg-laying of insects and mites. Insect galls rarely affect plant health and their numbers vary from season to season.

Hamilton’s study involved an examination of gall-producing phylloxerans during the spring in hickory, oak, chestnut and walnut forests within 15 different states. It is the first update to U.S. species characterizations made in more than 100 years, according to her former academic mentor Alana Jacobson, an assistant professor in the Department of Entomology and Plant Pathology.

Discovering more about insect species is important for many reasons, Jacobson said. “New information about the diversity of life on this planet provides perspective on important biological, ecological and genetic features that contribute to evolution, species persistence and ecosystem functioning,” Jacobson said. “Understanding species diversity is also important for regulatory agencies to identify potential threats posed by introductions of non-native species into new areas.”

“Ricki’s work produced samples, photographs and characterizations of these insects, their galls, and genetic diversity that identified over 14 new species of phylloxerans and has advanced our understanding of the life history and evolutionary relationships of these insects,” Jacobson said.

Her major contributions to this area of study include collecting and identifying species from 15 newly studied states, identifying 14 new species, with additional putative species currently being examined by a collaborator, collecting, photographing, drawing and measuring morphological features of collected insects and their galls, providing an updated taxonomic key that includes updated and new information about the previously reported species, and a dataset of measurements, collections of phylloxerans, galls and natural enemies that can be examined in future studies.

“She collected so much new material there was not enough time to finish characterizations on all of it during her Ph.D.,” Jacobson said.

Hamilton earned her bachelor’s degree in biology from the University of Mary Washington in Virginia and then worked for four years as an agriculture specialist with United States Customs and Border Protection in Miami. During her time as an agriculture specialist, she did preliminary identifications on insects that she would intercept in international cargo and that ultimately inspired her to become an entomologist. She went on to earn a master’s degree in entomology from the University of Arkansas and came to Auburn in 2015 on a research assistantship to pursue her doctorate.

In addition to her dissertation research on phylloxerans, Hamilton had the opportunity to work with Dr. Douglas Williams, a renowned British entomologist with the Department of Life Sciences at the Natural History Museum in London. Together, they identified and described five new species of armored scale insects from New Caledonia.

“Our work took four years to bring to this point,” Hamilton said. “I was able to come to Auburn on a fully funded research assistantship to work on my Ph.D. I will stay on in that research position to continue my work with phylloxerans.”

Ultimately, however, Hamilton hopes to work for the United States Department of Agriculture, the U.S. Forestry Service or a museum.
The Fight to Stay Ahead of Cyber Attacks

Cyber attacks can happen to anyone, at any time. We all have an ever-present fear about the inevitable intrusion, but the threat is so much bigger than we could ever imagine. Cyber attacks are problematic for the average person, but think about how a cyber attack could affect the military.

Many researchers focus on hardening systems and preventing intrusions. While this is certainly necessary, adversaries will always look for new vulnerabilities as others are eliminated which is why one doctoral student is doing his part in the fight to stay ahead of cyber attackers in the military.

Active duty Naval Commander Ike Stutts is focusing on human performance in cyber compromised automated systems to see how people may or may not contribute to the detection of the intrusion and how intrusion impacts performance.

This type of research can be conducted on a variety of human-monitored systems where a cyber intrusion would be of great concern such as GPS navigation, critical infrastructure, command and control stations, and hospitals.

For Stutts, the research focus is centered on unmanned air systems.

“Many systems require people to interact and operate,” said Stutts, who is interested in the human factors and the impacts on human performance caused by cyber intrusions and attacks.

Stutts partnered with a program office and software engineers at Naval Air Systems Command (NAVAIR) to develop a unique simulation environment and generalized unmanned aerial systems, or UAS, control user interface. NAVAIR was interested in the problem set since UAS still requires a person to control the unmanned system. Furthermore, one operator may be tasked with monitoring or controlling multiple UAS which could further complicate the workload associated with a cyber intrusion.

For the cyber vulnerabilities, Stutts referenced two academic publications that discussed vulnerabilities of UAS in general and the associated risk of the vulnerabilities.

Participants for Stutts’ study met one of three experience categories – aviator, gamer or non-gamer – because the user interface is focused on an aviation mission, but it feels a lot like a video game.

Study participants sat in front of a to-scale replica of a UAS ground control station that’s used by the Navy. The user interface was unique and generalized for the specific purposes of the study which tasked participants with monitoring or controlling up to four unmanned air systems through two scenarios that varied in the workload required.

In one scenario, participants directed the UAS around with altitude, heading and airspeed input. The other scenario was a lighter workload with the unmanned air systems on preprogrammed flight paths, so participants were not responsible for altitude, heading or airspeed inputs.

Each scenario required participants to find, classify and take photos of radar contacts,
monitor and respond to chat messages, and
detect and respond to alerts that appeared on
the user interface. Some alerts were real, and
others were fake or cyber generated.

“Prior to commencing the two long
data collection scenarios, we provided the
participants with approximately one hour
of training that included verbal and visual
instruction as well as a shorter practice
training scenario,” Stutts said.

Stutts has collected a lot of different data
throughout his research and determined
the performance of the aviators and the
gamers were not significantly different from
one another.

While this may sound surprising, similar
results have been found in different studies
conducted by the Air Force and others,”
Stutts said. “Perhaps not surprising, we
found that non-gamers did not perform as
well as the other two experience groups
overall.”

Cyber events were prone to more errors in
classification and response than real events
for all participant groups. Stutts said most
importantly, research showed the time to
respond to cyber events was significantly
longer than the time to respond to real
events for all groups with the response time
more than doubling for aviators and gamers
in cyber events compared to real events.
Gamers were almost four times slower on
cyber events.

With gamers and aviators performing
similarly in this study and documented
earlier in similar studies performed by other
groups, Stutts believes it may be worth
considering gamers as suitable candidates
for UAS operators and whether gaming
improves the performance of UAS operators.

Most importantly, Stutts sees this type
of research as important to enable systems
in which we want humans in the loop for
critical decision making that could have
profound consequences if made incorrectly.
The results of this research could also inform
how engineers and cyber security experts
prioritize cyber vulnerabilities and mitigate
cyber threats to ensure human operators are
able to make timely and correct decisions.
Dr. Gordon Sumner is the founder of Gordon Sumner Consulting, a Service-Disabled Veteran-Owned Small Business and American Indian small business. Gordon is president and CEO of Veterans Moving Forward, Inc., a nonprofit providing service and emotional support dogs to veterans dealing with physical and/or mental challenges. He previously served as a presidential appointee and member of the Senior Executive Service at the Deputy Assistant Secretary of Defense level and as the national director for the national committee for Employer Support of the Guard and Reserve (ESGR). A retired colonel, U.S. Army and decorated combat veteran, he was awarded the Legion of Merit (OLC), Bronze Star Medal (Valor), Purple Heart Medal and the Air Medal. He is also an Army Master Aviator, Master Parachutist and Ranger. He holds a Doctor of Philosophy in adult education from Madison University, a Master of Business Administration from Auburn University, a Master of Education from Boston University and a Bachelor of Science in music performance and music education from Jacksonville State University. He is also a graduate of the John F. Kennedy School of Government at Harvard University.

**Why did you choose to pursue a degree in business?**

After I retired from the Army, I started a second career in the defense contracting field. As I had no formal business background or education, I thought it would be important to gain that knowledge from a strong MBA program. Since Auburn offered such a highly rated and nationally recognized Executive MBA program, I felt having this degree would augment my academic credentials. As silly as it may sound to some, I had always wanted to graduate from Auburn and was able to accomplish this goal via the great EMBA program.

**What do your day-to-day activities look like at Veterans Moving Forward?**

To start, I'd like to inform our readers of what Veterans Moving Forward is and what we do to support veterans, especially my fellow wounded veterans. Veterans Moving Forward (VMF) (vetsfwd.org) is a 501c3 nonprofit. Our mission is to “provide service, emotional support, therapy or skilled companion dogs for veterans with physical and/or mental health challenges.” Our vision is to become “the premier, national, not-for-profit organization improving the lives of veterans needing service, emotional support, therapy or skilled companion dogs at no cost to the veterans.”

Through our services, VMF makes a meaningful difference in the lives of disabled veterans by facilitating their recovery and increasing their safety and independence within their homes and communities. VMF provides canine support to address both visible and invisible injuries, ranging from adjusting to loss of limbs to post-traumatic stress. VMF’s service and assistance dogs will support their veterans and military service members at medical centers, and at a variety of veteran support centers and clinics, potentially in one-on-one therapy with mental health professionals, as well as at stressful or emotional events.

My typical day starts with checking on our Service Dogs in Training (SDIT) at the training center, taking them for morning walks, feeding and yes, a little “play time” with the boss as I’m the president and CEO! Then it’s typical office work with supporting the great staff we have, working with our volunteers, monitoring the overall operations, and then focusing on fundraising and our outreach programs. As a nonprofit, our survival is based on donations from individuals, businesses and grants as we do not receive any federal, state or local government funding.

Some days I participate in the dogs training as I play the role of a veteran who may be looking for support from one of our dogs. But right now, my biggest focus is on fundraising as we need support right now as we get through this COVID-19 crisis. It truly is an honor to lead this great organization with a fantastic team from our staff and volunteers.

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

The EMBA classes provided ideas for new opportunities and helped me to refine my leadership skills. It strengthened my existing network with other high-level leaders. Auburn’s EMBA program prepared me and my classmates with the skills necessary to tackle today’s challenges and the innovative perspective needed to design tomorrow’s solutions.

Additionally, as an Auburn graduate, all of my actions and decisions are based on the question, “Will what I do today make a difference in the lives we’re trying to support tomorrow?” Leading our team, I use this thought as we continue toward helping veterans move forward with their lives, and the lives of their family and friends. And, remembering the Auburn Creed as a great foundation for decision-
making, it helps me to maintain our Auburn Family standards toward our vision at Veterans Moving Forward.

Why should today’s students consider earning a graduate degree, especially from Auburn?
I believe students should seek an institution of higher learning that offers scholarly advancement within the degree program that best suits their specific career path. Earning a degree from a nationally recognized program at Auburn represents the story of an individual’s work ethic and dedication. Our students come prepared to achieve not only their personal goal, but the strong desire to achieve an Auburn degree that provides tremendous opportunities for future advancement at other institutions, organizations and businesses.

What are some of your favorite memories of Auburn?
When I was a kid in high school in Alabaster, Alabama, I-65 North stopped at Highway 31 in Alabaster as it wasn’t completed to Birmingham. I would sit on my front porch along Highway 31 and watch the hundreds of cars “parading” through town headed toward Legion Field for the Iron Bowl. Seeing the cars decorated with Auburn colors, posters and tiger tails hanging out of the trunks, plus the spirit and enthusiasm of the Auburn students and alumni was just so infectious that I wanted to go to Auburn, but it didn’t work out for my undergraduate degree. When I attended Auburn for the EMBA program many years later, a great memory is just being with fantastic classmates and staff who quickly became longtime friends. However, the absolute greatest memory is that I was able to graduate with my daughter, Ande, who received her undergraduate degree on that same day in May during Auburn’s bicentennial year. We made history at Auburn as we were the first “daddy/daughter team” to graduate on the same day during Auburn’s 150 years. It was AUsome! War Eagle!

Turning a Diabetes Utopia Into a Reality

By Joelle Trollinger

1.4 million. That’s how many new cases of diabetes are diagnosed in the United States every year.

Unfortunately, only 6.8% of newly diagnosed adults, who were privately insured, received diabetes education within their first year of diagnosis, according to the Center for Disease Control and Prevention.

Many diabetes patients do not know how to properly care for themselves because diabetes self-management and support is severely underutilized.

But these devastating facts can be changed through research and diabetes education.

Brittannie Chester, a graduate student in nutrition, dietetics and hospitality management, dreams of a diabetes utopia, but it’s not what you might imagine. While it would be nice if diabetes patients could eat as many french fries and cupcakes as they desire, Chester has a different end goal in mind. She decided to evaluate the efficacy of having a registered dietitian readily available to provide diabetes education inside of a primary care physician’s office.

Registered dietitians, like Chester, educate and help patients further understand how to manage their diabetes through making lifestyle changes such as meal planning, blood sugar monitoring, managing weight loss and goals, and helping patients maintain medication adherence.

Chester began to evaluate the effectiveness of diabetes education by working with 40 patients within a family medical practice. Over the span of three months, Chester monitored diabetes patients’ hemoglobin A1C levels – or average blood sugar control.

“The hemoglobin A1C level is a secret revealer,” Chester said. “We are able to tell if patients took their medication and maintained good carbohydrate control, while we are also able to tell if they ate doughnuts and ice cream every night.”

When Chester began working in the clinic with diabetes patients, they started out with an average of 7.1 hemoglobin A1C – a number that indicates poor diabetes control.

The American Diabetes Association recommends that type 2 diabetes patients maintain an A1C of less than 7 which Chester set as a goal for her patients.

After three months of providing proper diabetes education, Chester’s patients’ average A1C dropped to 6.8.

“A hemoglobin A1C of 6.8 shows good control among patients,” Chester said.

With studies like this, Chester expects more diabetes patients will receive the proper, individualized education and support they need to maintain good health. She may be living in a diabetes utopia sooner rather than later.
Samford Hall is the postcard picture of Auburn's campus. Named after former Alabama Gov. William J. Samford, the building is the successor to Old Main, which burned down in 1887. Samford is home to the president's office. The Samford clock tower chimes every 15 minutes, and at noon, plays the fight song for all to hear. Other historical buildings located near Samford Hall include Langdon Hall and Hargis Hall. In front of Langdon you will see the university seal, on which is written: “Research, Instruction, Extension; for the advancement of science and arts.” These are the overarching principles to which Auburn was founded as Alabama's land-grant institution.
Choosing a place to pursue a graduate education is a huge deal. There are many factors that play a role in helping students make the perfect choice. For Arash Soltani-Tehrani, a doctoral student in Auburn’s Department of Mechanical Engineering, the decision came easily once he became familiar with Dr. Nima Shamsaei’s research and publications on additive manufacturing of metals with more significant attention to fatigue behavior. Soltani is studying the future of joint replacement. Through the process of additive manufacturing, Soltani believes bone and joint replacements can be supplemented by more optimized, patient-specific designs in additively manufactured metallic materials.

Soltani is researching the breakdown of lattice structures with the potential to be utilized biomedically in things such as bone implants. Through additive manufacturing, these structures can be made out of multiple biocompatible metals. However, the breakdown of these structures, due to the stress the body puts on its bones, is fairly unknown. To complete this research, Soltani has simulated different force conditions on additive manufactured materials and structures to find the most compatible combination.

In his research of materials, he has put a focus on metallic powders and their properties before the powders are fused to form solids. His goal of his research is to learn how different materials function in powder form versus how they form when solid. He wants to distinguish the differences in lattice structures and solid bulk specimens (that are more well-known in this field), and to gain an understanding of how the lattice structures react to different behaviors and actions the human body commonly performs.

With the new, in-depth knowledge of how these materials perform in multiple conditions, the hope is to implement additively manufactured materials into medical procedures. These materials are believed to be more compatible and may be a better alternative to conventionally-manufactured bone implants due to their longevity.

“Fatigue failures are generally catastrophic. They are usually invisible and suddenly occur,” Soltani said.

The data found from his research will help generate materials for implants at a much faster rate. With the knowledge gained from this research, implants can be quick and custom made for each patient and injury.

“To achieve my goal, I will need to
To achieve my goal, I will need to fabricate different lattice structures and come up with creative designs to implement lattices instead of solid bulk specimens. When we have a clear understanding of the fatigue behavior of lattices under realistic loading conditions, I will be able to modify the lattice structure design so it gives the highest fatigue resistance. Therefore, a huge portion of my work throughout my Ph.D. will be designing fabrication, post-fabrication treatments and testing,” Soltani explains.

Soltani says there are always new discoveries in this field and therefore the research never gets repetitive, which he loves. Working with different aspects of additive manufacturing is something Soltani is passionate about, and knowing this research will impact the field, Soltani feels an even greater responsibility for the data he generates.
Animal health care is not a common conversation, especially in the Middle East. Unfortunately, poor animal health care often leads to health problems among the human population as well. An Auburn Ph.D. Fulbright Scholar is researching blood-borne pathogens that can be transmitted from domestic animals to humans to create a platform for advocacy for animal health care.

Katie Izenour, a doctoral student in the College of Veterinary Medicine’s Department of Pathobiology, was one of six Fulbright Scholar recipients from Auburn for the 2019-20 school year. She wanted to focus her research on blood-borne pathogens and the transmission from animals to humans in the Middle East. In 2015, Izenour was able to travel to Jordan and experience the lack of resources and advocacy for the care of animals. This experience led to her search for non-governmental organizations and animal aid groups throughout the Middle East, which due to the lack of funding, are scarce.

“I decided to research infectious diseases that can be passed from animals to humans because in the developing world there are several irrefutable truths – human health care is lacking, animal care is lacking and awareness of the importance of maintaining animal health for maintaining human health is critically overlooked and under prioritized,” Izenour said.

She chose Egypt specifically because it is one of the most underserved communities in the Middle East involving international funding. Surrounding countries receive aid from the Peace Corps as well as humanitarian funding, but Egypt does not. Also, due to the size and notability of the country, Egypt provided the best opportunity for Izenour’s research to make a large impact.

Unfortunately, due to the COVID-19 pandemic, Izenour was sent home early, spending only four months abroad. But in her time in Egypt she collected samples of blood, fleas and ticks from 252 animals. The test animals were research animals at Cairo University and animals brought in for treatment at the school’s clinic.

Due to the early departure from Egypt, Izenour's blood samples will be processed at Auburn. “I had intended to extract the DNA and perform Polymerase Chain Reaction (PCR) looking for my six organisms of interest – anaplasma, babesia, bartonella, borrelia, ehrlichia and rickettsia. PCR will detect the presence of the organism’s DNA in the animal’s blood,” she said.

International lab work and fieldwork are tedious so Izenour spent much of her time creating back-up plans and troubleshooting. This came in handy when an unfortunate power outage across the university caused her to lose all of her samples a few days before leaving Cairo. Per a recommendation from Dr. Sarah Zohdy, assistant professor of disease ecology in the School of Forestry and Wildlife Sciences and College of Veterinary Medicine at Auburn with field experience in Madagascar, Izenour utilized blood spot filter paper to keep a portion of all of her blood samples.

She had already extracted DNA from her samples, but due to the power outage her samples went bad. With the blood spot filter, Izenour’s plan is to lift the blood off the filter paper, extract the DNA again and perform PCR. Her research timeline moving forward is unknown. The labs at Auburn are starting to allow access with very strict physical distancing guidelines. The hope is to have the PCR results by December 2020, but that date is dependent on the cooperation of the COVID-19 pandemic.

One thing Izenour does know is that her research will continue despite the evolving timeline.

“My sincere hope is that I can be one small cog in a much larger wheel that will see the value and urgency in improving the care and health of domestic animals not only because they have a right to it, but because it will enable enhanced human health.”

While COVID-19 shortened her time abroad, Izenour is eager to get back in the lab, once our world returns to normal, and continue her research where she left off.
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!

2020-21 DATES
September 2
October 7
November 4
December 2
February 3
March 3
April 7
May 5
June 2
July 7
August 4

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

<table>
<thead>
<tr>
<th>Country</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. China</td>
<td>504</td>
</tr>
<tr>
<td>2. India</td>
<td>166</td>
</tr>
<tr>
<td>3. Bangladesh</td>
<td>92</td>
</tr>
<tr>
<td>4. Nigeria</td>
<td>54</td>
</tr>
<tr>
<td>5. Iran</td>
<td>45</td>
</tr>
<tr>
<td>6. South Korea</td>
<td>43</td>
</tr>
<tr>
<td>7. Brazil</td>
<td>32</td>
</tr>
<tr>
<td>8. Nepal</td>
<td>31</td>
</tr>
<tr>
<td>9. Turkey</td>
<td>25</td>
</tr>
<tr>
<td>10. Saudi Arabia</td>
<td>21</td>
</tr>
<tr>
<td>11. Taiwan</td>
<td>20</td>
</tr>
<tr>
<td>12. Spain</td>
<td>18</td>
</tr>
<tr>
<td>13. Pakistan</td>
<td>14</td>
</tr>
<tr>
<td>14. Sri Lanka</td>
<td>13</td>
</tr>
<tr>
<td>15. Vietnam</td>
<td>13</td>
</tr>
</tbody>
</table>

Fall 2019 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.

**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-sessional 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.

global.auburn.edu/map

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**Student Profile**

<table>
<thead>
<tr>
<th>TOTAL ENROLLMENT</th>
<th>30,460</th>
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</thead>
<tbody>
<tr>
<td>Undergraduate students</td>
<td>24,594</td>
</tr>
<tr>
<td>Graduate students</td>
<td>4,765</td>
</tr>
<tr>
<td>Professional students</td>
<td>1,101</td>
</tr>
</tbody>
</table>

Fall 2019 data

Auburn graduate students hail from 86 countries.
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)

**Samuel Ginn College of Engineering**
- Aerospace Engineering
- Biosystems Engineering (Interdisciplinary)
- Chemical Engineering
- Civil Engineering
- Computer Science and Software Engineering
- Cybersecurity Engineering
- Data Science and Engineering
- Engineering Management
- Electrical and Computer Engineering
- Industrial and Systems Engineering
- Materials Engineering
- Mechanical Engineering
- Polymer and Fiber Engineering

**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)

**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

**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/](http://graduate.auburn.edu/prospective-students/areas-of-study/).
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.

Online Education Offers Flexible Options

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

1,330
Number of full-time faculty

1,330
full-time instructional faculty

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

19:1
student-to-faculty ratio
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](http://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**

- Aerospace Engineering
- Agricultural Economics and Rural Sociology
- Agronomy and Soils
- Biosystems Engineering
- Civil Engineering
- Community Planning
- Computer Science and Software Engineering
- Consumer and Design Sciences
- Entomology and Plant Pathology
- Fisheries
- Geography
- Horticulture
- Industrial and Systems Engineering
- Industrial and Systems-Any Options
- Industrial and Systems-Product Innovation
- 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](http://graduate.auburn.edu/abm).
Estimated Cost of Attendance  
2020-21 Academic Year – Fall and Spring Semesters

<table>
<thead>
<tr>
<th></th>
<th>Alabama resident (9 hours)</th>
<th>Non-resident (9 hours)</th>
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<tbody>
<tr>
<td><strong>Tuition and fees</strong></td>
<td>$11,796</td>
<td>$31,956</td>
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<tr>
<td><strong>Room and board</strong></td>
<td>$13,778</td>
<td>$13,778</td>
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<tr>
<td><strong>Miscellaneous</strong></td>
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<tr>
<td>(books and supplies,</td>
<td></td>
<td></td>
</tr>
<tr>
<td>transportation and personal)</td>
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<td></td>
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<tr>
<td><strong>TOTAL COST</strong></td>
<td>$32,208</td>
<td>$52,838</td>
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**Fees**

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<tr>
<th>Fee</th>
<th>Amount</th>
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<tbody>
<tr>
<td>Student services fee</td>
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<tr>
<td>Auditing fee</td>
<td>$560 (resident)</td>
<td>$1,620 (non-resident)</td>
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<tr>
<td>GRA/GTA enrollment fee</td>
<td>$700</td>
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<tr>
<td>International student fee</td>
<td>$130</td>
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</tr>
<tr>
<td>Harbert College of Business fee</td>
<td>$200 per credit hour</td>
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**Professional tuition and fees**

<table>
<thead>
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<th>Field</th>
<th>Alabama resident (9 hours)</th>
<th>Non-resident (9 hours)</th>
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<tbody>
<tr>
<td>Architecture</td>
<td>$20,436</td>
<td>$40,596</td>
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<tr>
<td>Pharmacy</td>
<td>$32,928</td>
<td>$53,088</td>
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<tr>
<td>Veterinary Medicine</td>
<td>$33,964</td>
<td>$66,124</td>
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**Professional books and supplies**

<table>
<thead>
<tr>
<th>Field</th>
<th>Amount</th>
<th>Amount</th>
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<tbody>
<tr>
<td>Architecture</td>
<td>$5,150</td>
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<tr>
<td>Pharmacy</td>
<td>$4,040</td>
<td></td>
</tr>
<tr>
<td>Veterinary Medicine</td>
<td>$3,328</td>
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</tr>
</tbody>
</table>

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. Phillip Palmer serves as the assistant dean in the Bayer School of Natural and Environmental Sciences at Duquesne University in Pittsburgh where Palmer is involved in a myriad of activities ranging from recruitment and retention efforts directed at both the graduate and undergraduate levels, college in high school programs, alumni affairs, marketing communications, community outreach and strategic planning for the school and university, respectively. Palmer brings significant leadership through his academic, and professional experience in basic research, marketing, science education, outreach, academic career development and diversity and inclusion-related initiatives. Palmer received his undergraduate degree in zoology and a master’s degree in nutrition and food science from Auburn University and earned his Ph.D. in biomedical science from Meharry Medical College.

“...the decision to attend Auburn has to be one of the most important decisions in my life. Being a graduate student in the Department of Nutrition and Food Science engaged in research in conjunction with the Alabama Cooperative Extension System provided a great network to be successful. I quickly found and gained access to resources, support systems and faculty that challenged me in a very productive and nurturing manner gaining valuable lifelong lessons. During my graduate experience, I was afforded the opportunity to work on collaborative projects in the area of public health promoting nutrition education programs with both the March of Dimes and the United States Department of Agriculture. This research would have direct implications for Alabamians as well as members of the Lakota Native American tribe in South Dakota. I can truly say that Auburn supported, and believed in me. Thank you, Auburn, for being what you are and having such a strong impact on my life. War Eagle!”

Phillip Palmer, Ph.D.
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 child care 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.
Seun Oladipupo is a doctoral student in the Department of Entomology and Plant Pathology with a keen interest in the biology, physiology and management of urban pests. His research leverages lessons from plant-insect interactions to substantiate the consideration of essential oils as worthy probes to address physiological questions. He has a Bachelor of Technology (B.Tech.) in biology and a Master of Technology (M.Tech) in environmental biology and public health, both from the Federal University of Technology Akure (FUTA) in Nigeria. Oladipupo is an alumnus of The Association of Commonwealth University Summer School, and a three-time Royal Commonwealth Society (RSC) judge. He currently serves as the treasurer for the F.S. Arant Entomology and Plant Pathology club at Auburn. He is committed to making an impact and contributing to tackling issues faced by students in graduate school.

Folasade Adekanmbi is a master’s student of biomedical sciences in the Department of Pathobiology. She graduated with her bachelor’s in biology from the Federal University of Technology, Akure in Nigeria. Her research currently focuses on the role of filth flies in the transmission of acquired carbapenem resistance in the environment. She is also an executive member of the Biomedical Science Graduate Students Organization (BMS-GSO).

Chidinma Odili is a doctoral student at the Mansoorabadi lab in the Department of Chemistry and Biochemistry at Auburn. She received both her Bachelor of Science (BSc) and Master of Science (MSc) degrees from Nnamdi Azikiwe University in Nigeria, where she also worked as a lecturer before commencing her Ph.D. studies. She is currently researching the post-translational modifications and heterologous expression of methyl co-enzyme M reductase (MCR). For being in the top 15% of her class, she was inducted into the Golden Key International Honor Society where she is currently an active member in promoting academic excellence and community service. Odili is of African of Nigerian descent, and identifies with the Auburn African community through the Auburn University African Students Association (ASA) where she has served as the secretary of the association. Odili believes in giving back and is excited about her role as the GSC vice-president of student affairs as it will allow her to promote the welfare of graduate students in Auburn, especially in the areas of health care insurance and financial compensation.

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.

Brian Barrontine is pursuing his Master of Business Administration at the Raymond J. Harbert College of Business. He earned his bachelor’s degree in industrial and systems engineering from the University of Alabama in Huntsville. He has his Master of Science degree in operations research and systems analysis from the Florida Institute of Technology and a Master of Strategic Studies from the United States Army War College. Barrontine is retired from the United States Army, and has experience in the facilities management, aerospace, automotive and law enforcement sectors.
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:

<table>
<thead>
<tr>
<th>By Check</th>
<th>Securely Online</th>
<th>Credit/Debit Charges</th>
<th>Contact Us</th>
</tr>
</thead>
<tbody>
<tr>
<td>Payable to &quot;Auburn University Foundation&quot; 106A Hargis Hall Auburn, AL 36849</td>
<td>Visit graduate.auburn.edu/give</td>
<td>Give with a credit card over the phone by calling 334-844-2160</td>
<td>Call the Graduate School at 334-844-2160</td>
</tr>
</tbody>
</table>
THE IMPACT OF GIVING

The Future Scholars Summer Research Bridge Program was an invaluable experience for me. Coming from Morehouse College (a Historically Black College), I was not very familiar with the matriculation processes of graduate school. In this program, however, my unique culture and experience were celebrated while I was made aware of the opportunities and community that Auburn has to offer. My pedagogical and research-based experiences in the program have now transitioned into my line of inquiry which I will be pursuing throughout my academic career.”

Cory Dixon is pursuing his doctorate in kinesiology with a formal concentration in physical education teacher education/pedagogy. His research included pedagogy that develops culturally competent preservice teachers. Dixon participated in the Summer Bridge Program in 2014, and the summer before he was accepted into the physical education teacher education master’s program in the School of Kinesiology.
GRADUATE SCHOOL STAFF

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Martha Bryant  
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