FORT VALLEY STATE UNIVERSITY

COLLEGE *of* AGRICULTURE, FAMILY SCIENCES *and* TECHNOLOGY

engage

2025 - 2026 RESEARCH REPORT

Fired Up!

Middle Georgia educators participated in a Fort Valley State University biotechnology workshop led by Sarwan Dhir, Ph.D., director of the Center for Biotechnology.

inside

FORT VALLEY STATE UNIVERSITY
EMPOWER *the* POSSIBLE.

From the President

For 130 years, Fort Valley State University (FVSU) has equipped students and communities with education and resources to excel and be prepared for the world ahead of them.

As president of FVSU, I've had the distinct honor and pleasure of serving during 10 of the University's 130 years. Throughout history, we have demonstrated unapologetic excellence through our determined students, dedicated faculty and diligent staff. As a university, this is our strength and one of the factors that keeps us marching forward.

With this in mind, I present to you the 2025-2026 Agricultural Research Report, Engage. This publication highlights the College of Agriculture, Family Sciences and Technology, an integral part of our institution that successfully helps us to fulfill the mission of teaching, research and outreach.

In this issue, research is presented about topics such as artificial intelligence (Al), biotechnology and public health. Moreover, the report highlights our graduate and undergraduate students' experiences. These experiences make a difference and propel our students towards success. The charge I propose to you is to share this information with someone unfamiliar or unexposed to FVSU. Our goal is to share our impact and to attract future Wildcats.

As president, I am continually thankful for your support and commitment to FVSU. I hope you enjoy the information within this publication and that you share it with friends, alumni and all those who want to see FVSU prosper.

Respectfully,

Paul Jones, Ph.D.
President, Fort Valley State University

From the Dean

In 2023, I embarked on a journey to Fort Valley State University (FVSU) to lead the College of Agriculture, Family Sciences and Technology as its dean. It has been my distinct honor to serve our accomplished faculty, dedicated researchers and staff, and—most importantly—our exceptional students.

Undeniably, FVSU's College of Agriculture is deeply aligned with the land-grant mission of academic excellence, community-focused research, and meaningful engagement through our Cooperative Extension programs. This year, we proudly celebrate the 130th anniversary of the signing of the Second Morrill Act of 1890, which established HBCU land-grant institutions. In that spirit, we remain steadfast in our commitment to strategically positioning our students as future leaders and impactful contributors to the agricultural workforce and beyond—solving complex problems that ultimately strengthen communities.

Equally important, we strive to create an environment in which our faculty and staff are empowered to excel in teaching, research, and outreach. These achievements are made possible through the unwavering support and dedication of our faculty and staff, who consistently go the extra mile to ensure the continued vitality and success of the College of Agriculture.

Each year brings new opportunities, challenges, and change, and I am confident that 2026 will be no different. As we look ahead, our priorities remain clear: student development and workforce readiness; experiential learning; innovative, hands-on research; and a strong commitment to scholarship and service.

As you explore these pages, you will learn how our students are engaging in once-in-a-lifetime experiences across the globe. You will also discover how our faculty are serving as leaders in their respective fields—conducting impactful research and sharing their expertise locally, nationally, and internationally. Additionally, you will read about students gaining a deeper understanding of sustainable agriculture through experiential opportunities alongside forestry, agricultural and natural resource professionals.

Furthermore, you will see how our faculty continue to contribute to the advancement of knowledge by presenting at conferences, publishing peer-reviewed journal articles, and authoring textbook content that expands the disciplines of agricultural research and food science.

As a servant-leader of this great college, I continue to see both promise and potential. The possibilities before us are limitless, and the work we do is invaluable. Together, let us continue to tell the world the story of Fort Valley State University—one success at a time.

Sincerely

Keith Howard, Ph.D.
Dean, College of Agriculture, Family Sciences and Technology

Fort Valley State students win research awards at national conference

Student winners Lilla Harris-Smith, Latvia Powell, Willoughby Caine and LaVonne Wilson-Taylor with Xiangyan Zeng, Ph.D., professor of computer science; Masoud Feizi, Ph.D., professor of computer science; and Sarwan Dhir, Ph.D., professor of plant biotechnology.

By CONTRIBUTED | LATASHA FORD

Fifteen students from Fort Valley State University (FVSU) recently presented their research at the American Association for the Advancement of Science (AAAS) Emerging Researchers National (ERN) Conference in Science, Technology, Engineering and Mathematics (STEM) in Atlanta, Georgia.

The ERN Conference in STEM aims to support undergraduate and graduate students in enhancing their science communication skills and gaining a better understanding of how to prepare for science careers in a global workforce. More than 1,200 students attended this year's event. Seven Wildcats earned AAAS travel awards, which covered all their expenses for attending the conference.

Four FVSU undergraduates won first- and second-place awards in the Mathematics and Computer Science and Biological Science categories.

Laila Harris-Smith took home first place for her poster presentation in the Biological Science category. The plant science-biotechnology major presented her research on the induction and development of somatic embryos in vitro cultures of Medicago sativa (alfalfa). Comfortable and excited to

> ***The ERN conference was a wonderful opportunity that helped me grow into a presenter and grow my network. Because of this event, I look at the science industry in a new light.***
>
> – Laila Harris-Smith, plant science-biotechnology major

share her research, the sophomore said it was an enjoyable experience.

"The ERN conference was a wonderful opportunity that helped me grow into a presenter and grow my network. Because of this event, I look at the science industry in a new light," Harris-Smith said.

Latvia Powell, who won second-place awards, said the conference was inspiring and unforgettable.

"It fueled my passion for research, connected me with brilliant minds and reminded me why I love science," she said. "Winning an award made me grateful and encouraged me to expect the unexpected, especially within my research." She is studying plant regeneration in valerian, a medicinal plant.

After graduation, Powell and Harris-Smith plan to pursue a master's degree and doctorate to continue their research work in the health care and STEM workforce.

Willoughby Caine, who won second place for oral presentation in the Computer Science Undergraduate category, expressed gratitude for gaining many tools to use in the future, including artificial intelligence.

"I also received the award for First Place Poster Presentation in Mathematics and Statistics, which has motivated me to continue with my work and will hopefully speak to the substance of my research as I apply to graduate schools in the coming semester," Caine said.

Furthermore, Lauren Morton, a graduate student in plant biotechnology, presented her research on hemp genetic transformation. She appreciated the opportunity to network at the conference.

"Attending a scientific conference as a student is an investment in my future," Morton said. "It is a platform to connect with other emerging scientists, explore ongoing research and cultivate skills that will benefit me in my future career."

Dr. Sarwan Dhir, FVSU professor of plant biotechnology and director of the Center for Biotechnology, said this huge distinction reflects the students' backgrounds and showcases their commitment to academics and community service.

"We are very proud of all who represented FVSU so well at this year's ERN," Dhir said. "They have exhibited scholarly excellence and are extremely involved on campus, making them role models for others."

Participation in the ERN Conference in STEM was supported by multimillion-dollar grants from the NSF HBCU-UP (HRD-2011903), S-STEM (DUE-1834046) and the Department of Education MSEIP (P120A2000016) at FVSU.

Bright IDEAS

Grant project sparks international innovation in Sub-Saharan Africa

By ChaNaè Bradley

Cedric Ogden, PhD, Fort Valley State University's (FVSU) Extension engineer and state coordinator for the Southern- Sustainable Agriculture Research and Education (SARE) program, traveled to Sub-Saharan Africa as a part of a research team to share his expertise in renewable energy systems, digital tools and remote sensing. Through Ogden's expertise in precision agriculture, FVSU has one of the largest solar farms located on a college campus at approximately 11 megawatts. In this Q&A, learn how his efforts are helping FVSU Extension connect with partners across the globe in innovation and technology.

Where did you travel to and why this location?

"I traveled to Windhoek, Namibia, July 4-13, to conduct a working group session and share information under a capacity building grant called IDEAS. Rayton Sianjina, PhD, served as the principal investigator of this grant project titled, "Establishing a Consortium and Cultivating Leaders Between FVSU and Selected Sub-Saharan Institutions." These Sub-Saharan countries were chosen because of the partnership between the University of Zambia, Midland State University and the host institution, the University of Namibia."

What was the purpose of this trip?

"The purpose of this trip was to increase our capacity to administer study abroad programs. We aim to expand our research agenda, foster international partnerships and drive progress in agricultural research and food systems. Our faculty working group focused on the areas of climate, energy and the environment, innovation and technology and global health."

Who traveled with you?

"Fort Valley State University traveled with a delegation of five. This included Rayton Sianjina PhD, director of FVSU's Global Studies Program. Andrea Romero, program specialist for FVSU's Global Studies and Engagement Program, Nirmal Joshee, PhD, FVSU associate professor of plant science/ biotechnology and Hamidah Sharif-Amanyi, EdD, FVSU associate professor of public health. Researchers and faculty from Midland State University, the University of Zambia and the University of Namibia were also in attendance."

Describe the location, people and the culture.

"When we traveled it was their winter in early July. The temperature ranged between 40 degrees and

Cedric Ogden, PhD, (bottom far left) with faculty, researchers and staff from Fort Valley State University, Midland State University, the University of Zambia and the University of Namibia.

the low 70's. We visited several markets in the Single Quarter community. There were a variety of diverse delicacies that ranged from barbecued wild game (kapana) to roasted mopane worms. We ate with the people and shared our upbringings and daily life. We saw several tribes and visited a reserve where we shared breakfast in the presence of white rhinos."

What role did you play in this initiative?

"I chaired a week-long working group session in innovation and technology. The theme of this working group session was titled, "Innovative technology - Providing a pivotal role in advancing sustainability across sectors." I focused on renewable energy, remote sensing technology, sustainable agriculture and artificial intelligence (AI) & machine learning."

What are some of the results/impacts of this trip?

"We are continuing to share knowledge and guidance in research and educational curriculums. We maintain communication and one day plan to host students and faculty here in Fort Valley. Also, we are looking into the artificial intelligence (AI) platform that the University of Zambia is using in their labs to collect information on the growing rates of forest stands. As a plant grows, they can monitor its growth rate and make recommendations based on environmental conditions. It's in development."

What was your most memorable experience and what role is Extension having in international agriculture?

"My most memorable experience is the comraderies that we had with faculty from the universities. We were able to share our challenges and successes in our respective careers and research areas. Regarding Extension's international outreach, this is the mission of Extension. Our purpose is to provide outreach and impact those who need it."

What are some next steps?

"We are still working on student engagement and student exchange with the study abroad program. We want to increase our student exposure so they can understand global challenges and work together for solutions."

What did this experience teach you?

"This experience has taught me the importance of not working in silos. This project allows us to work interdisciplinary. It taught me that we are all connected and should work outside our labs and across disciplines more often to address global concerns."

Fort Valley State University's Fab Lab connects students to technology, entrepreneurship, workforce training

By ChaNaè Bradley

Students across the state of Georgia are learning how to use advanced technology while simultaneously learning entrepreneurial skills through an innovative fab lab offered by Fort Valley State University's (FVSU) College of Agriculture, Family Sciences and Technology.

Heaven Whitby, director of the FVSU Fab Lab, is leading this effort. A fab lab is a facility that offers community workshops with digital fabrication tools for Computer Numerical Control (CNC) milling, bioengineering and more. The lab creates an environment for participants to design or create products.

Heaven Whitby shares information about the FVSU Fab Lab during the Middle Georgia Innovation Corridor held at the Warner Robins Museum of Aviation for Georgia AIM Week.

The FVSU Fab Lab is located inside FVSU's Warner Robins Campus. It was the first Chevron funded Historically Black College and University fab lab in the world.

Whitby, who joined FVSU three years ago, was selected to lead FVSU's Fab Lab. The Howard University alumna has a background in maternal and childhood epidemiology. She also has experience managing community start-ups. Prior to her role at FVSU, she served as director of Startup Macon, an entrepreneurship ecosystem builder that provides support to small businesses.

"Chevron and the Fab Foundation saw something in me, especially my background in community health, minority populations and strategizing," Whitby said.

Furthermore, Whitby discussed how the Fab Foundation prioritized bringing fab labs into African American communities. The Fab Foundation is a U.S. non-profit that emerged from the Massachusetts Institute of Technology (MIT) to facilitate and support growth of international fab lab networks as well as the development of regional-capacity building.

To be prepared for this opportunity, Whitby spent a week and a half at the Monterey Bay County Fab Lab in California to learn alongside their team. Whitby described the area as a farming community with a large Hispanic population.

After spending time in California to learn how fab labs operate, Whitby customized a lab that would be accommodating to students in Georgia.

As a result, Whitby interacts with students from schools in Bibb, Houston and Peach Counties. She also connects with educators in rural communities throughout the state with interests in technology and innovative practices.

As director, she provides basic instruction about digital design and the use of machines and tools. She also teaches students and young adults how to use cutting edge tools and software to bring their ideas to life, which allows them to make different products. Once they learn basic skills, they can be creative.

"You can literally do anything. You can build furniture, you can make trophies, plaques, desk signs," Whitby said. Students often make teacher appreciation gifts and acrylic pool passes that are water friendly.

Furthermore, Whitby said the Fab Lab is equipped with a full woodworking room and textile lab. "We hope to help a lot of girls make prom dresses this year," she said.

Students who visit the lab attend after school. Some homeschooled students visit during the daytime. Students also visit the lab as a school field trip. In addition to the lab on the Warner Robins campus, Whitby travels to schools with the mobile fab lab.

"Schools book me through email. Then I schedule a virtual meeting so I can understand the needs of the students, what resources they have, and I come prepared to meet their needs," Whitby said.

When Whitby is not traveling to schools, she is representing the FVSU Fab Lab in the community.

Through the Georgia Artificial Intelligence in Manufacturing (AIM) Program, FVSU and Central Georgia Technical College are working to advance science, technology, engineering and mathematics (STEM) education in Houston County.

Georgia AIM is a U.S. Economic Development Administration grant that connects Georgia residents seeking opportunities to grow an AI-powered manufacturing economy. Georgia AIM also supports efforts to reach students in grades K-12, technical colleges and four-year universities, as well as workforce training for Georgians without a college degree.

Whitby serves as manager of the Georgia AIM grant which includes the mobile stem labs and precision agriculture program.

For more information about the FVSU Fab Lab and the Georgia AIM grant, contact Whitby at (478) 825-6060 or heaven.whitby@fvsu.edu.

Heaven Whitby, director of Fort Valley State University's Fab Lab, leads a tour for students and educators on the Warner Robins campus.

Local teachers expand science instruction through biotechnology workshop

By LATASHA FORD

Ten science educators from middle Georgia spent a week in July 2025 taking part in Fort Valley State University's (FVSU) Research Experience for Teachers in Biotechnology workshop.

This summer enrichment program involved middle and high school teachers conducting a five-day laboratory research project in the Center for Biotechnology, directed by Sarwan Dhir, Ph.D. The teachers gained valuable skills in implementing molecular biology techniques in their classrooms. They also received a $3,000 stipend, a hands-on kit for teaching and a certificate of achievement.

Dhir explained that the goal of the workshop was to bring local teachers to campus for training in biotechnology. He noted the participation of two high school students, each receiving a $1,000 stipend, and four FVSU undergraduates who assisted with the instruction. The workshop was supported by a $900,000 grant from the Department of Education.

"They learned about tissue culture and transferring DNA, which is part of the curriculum that they can easily implement in the classroom," Dhir said, adding that the teachers plan to return in the fall with their students for a campus visit.

In addition to lab work, the educators toured other agricultural labs, greenhouses and research fields.

Alicia Williams, who teaches biology, chemistry and physical science at Central High School (CHS) in Macon, Georgia, appreciated the opportunity to return to her alma mater and expand her hands-on science skills. Williams, also CHS science department chair, earned a Bachelor of Science

Teachers tour Fort Valley State University's Nanotechnology Laboratory with Hari Singh, Ph.D., chair of the Department of Agricultural Sciences.

> ***Dr. Dhir has offered us real resources that we can use. It has given us a better look into what is going on right now that we can take back to our students. Teachers don't get that opportunity very often.***
>
> – Megan Netherland, biology teacher, Veterans High School

Middle Georgia high school educators Alicia Williams and Megan Netherland with Seema Dhir, associate professor of biology, and Sarwan Dhir, Ph.D., director of the Center for Biotechnology.

in biology in 2007 and a Master of Public Health in environmental health in 2010. With nearly 11 years of teaching experience, she emphasized the value of Dhir's workshop, noting that the lab techniques she learned will help her better prepare students for college. She also highlighted how the DNA kits provided during the workshop will benefit her school's forensic science class.

"Giving students hands-on experience to see what forensic science does can get them excited about the field and knowing how everything works and coincides with the real work," said Williams, who worked in Dhir's lab as a student.

Megan Netherland, who teaches biology at Veterans High School in Kathleen, Georgia, agreed that the workshop was viable for developing new research skills.

"Dr. Dhir has offered us real resources that we can use," she said. "It has given us a better look into what is going on right now that we can take back to our students. Teachers don't get that opportunity very often."

The five-year educator said the activities they learned can help engage students more in science.

"Our students are going to be entering a world that is exponentially more advanced than where we started. The technology is so much more advanced, and the knowledge is so much more advanced," Netherland said. "We need to advance what we are doing in the classroom to match what is going on in the real world so that they are prepared to make real change."

Also, Alton Brown, a student at Warner Robins High School in Warner Robins, Georgia, said joining his teacher for this workshop was an amazing and eye-opening experience. He excitedly highlighted propagating plants from a cutting and learning how to break down genes.

The 16-year-old junior stressed the importance of hands-on learning because many students like him grasp concepts more effectively through practical application. He appreciates that his teachers provide these opportunities at his school. He commended the impact they have had on his education and how they have helped foster his love for science.

"When you walk outside, science is everywhere," Brown said.

To learn more about FVSU's plant science program, visit *https://bit.ly/plantsciencefvsu.*

Check out the workshop highlights in this video: *https://youtu.be/k_e0FGPPi3A?si=RKgNK4lNlzXCj9JL*

Animal science graduate students travel to Egypt

Six Fort Valley State University animal science graduate students and research faculty embarked on a 12-day journey to Egypt in 2025. They gained hands-on experience with Cairo University's Faculty of Veterinary Medicine, explored agricultural innovations at Lamar Farm, and soaked up history and culture, from museums to the majestic Pyramids of Giza.

Watch this video to be inspired by their story: *https://youtu.be/SDU2byT8x78?si=CGrpp0KzKCcVGMqK*

Left: Student Davia Brown uses advanced learning technology to deepen her understanding of animal health.

Above: Students Lauren Wartley and Dream Valles browse educational books during their visit to Cairo University in Giza, Egypt.

Left: The Wildcat crew visits the historical landmark Citadel of Qaitbay in Alexandria.

Below left: The group explores various laboratories and lecture halls with the faculty of veterinary medicine at Cairo University.

Below right: Student Janan Fareed scans the shelves of books in the campus library.

Left: The FVSU group had an opportunity to experience a camel ride during their tour of the Pyramids of Giza.

Above: Part of the Egypt trip included students exploring Cairo University's clinics, laboratories and scientific departments.

Right: A visit to the Great Sphinx of Giza is another highlight of the group's trip.

Above: Student Janan Fareed interacts with a calf at Lamar Farm.

Right: Student Joshua Woodard assists successfully during a feline surgical procedure.

Above: The group takes in the history of the Pyramids of Giza while visiting the ancient site.

Right: With looks of amazement, students take part in clinicals with the faculty of veterinary medicine at Cairo University.

Prime Results

Extension and research collaborate to help beef cattle farmer

Researchers at Fort Valley State University use artificial insemination to help a farmer improve his beef cattle production.

By Russell Boone Jr.

Farmers and landowners rely on land-grant universities like Fort Valley State University (FVSU) to develop solutions to improve their agricultural operations.

Handy Kennedy Jr., a cattle farmer and owner of HKJ Ranch in Cobbtown, Georgia, witnessed his production fall short using traditional breeding and management methods.

He contacted Niki Whitley, PhD, FVSU Extension specialist for animal science, and discussed the problem. Since 2019, Whitley and FVSU have worked with Kennedy and AgriUnity.

Whitley shared the information with Adel Moawad, PhD, FVSU assistant professor of animal science. Together, they concluded that artificial insemination may help Kennedy improve his livestock genetics. She briefly explained the importance of a research and Extension collaboration.

"Researchers can do applied research and test new technologies or methods of farming in real world situations which increases their opportunities for external grant funding and provides opportunities for student research projects. Extension gets the latest research-based information and/or technologies to share with producers. It's also good public relations for FVSU," Whitley said.

Recently, the two FVSU faculty combined their efforts to successfully impregnate several of the herd through fixed-time artificial insemination. Out of 37 cows inseminated, 27 carried calves, for a success rate of 73%. This information allowed Kennedy to know the number of pregnant cows needed to be separated from the ones that weren't for economic reasons.

Moawad was not surprised with the outcome.

The Fort Valley researcher said at one point, particularly for beef cattle, the

chances for success using artificial insemination was low. However, with the addition of multivitamins, food additives and other techniques, the pregnancy rate using artificial insemination has improved.

Whitley said that Kennedy and other beef farmers have benefitted from this project.

"This allows them to improve their herds without a large investment. Also, improving the quality of their animals helps them gain access to additional markets looking for higher quality of beef," Whitley said.

Additionally, Moawad said that researchers collaborating with agents and clients can lead to positive results.

"We have a technique, and we're working consistently to improve it. Transferring that information to the farmers through Extension is very good because they now know we can introduce artificial insemination to help them establish a good herd of cattle. This can be used to help them improve their production," Moawad said.

Handy Kennedy Jr., co-founder of AgriUnity and owner of the HKJ Ranch in Cobbtown, Georgia, inspects some of the cattle in his herd.

Moawad also said it is important that students take part in such exercises. Whitley added that graduate and undergraduate research students get exposed to Extension work, which enhances their job prospects.

Lauren Wartley, a graduate student majoring in animal science is one of those students. She works for AgriUnity's cattle division as a livestock specialist. Her duties include visiting different farms, assessing their needs and helping farmers improve everyday skills in maintaining their livestock.

AgriUnity is an organization that helps ranchers raise value-added cattle. This allows ranchers to have access to multiple markets to sell their animals. The goal of AgriUnity is to help ranchers be successful by sharing experiences and best practices to help reduce mistakes and improve cattle operations.

Wartley, who completed her undergraduate degree in animal science at FVSU in 2021, began working for AgriUnity in 2024. The Columbus, Georgia, native said she has benefitted tremendously from working with the organization as a graduate student.

"I wanted to work with AgriUnity because I'm interested in becoming an Extension agent. I also enjoy working with them as a graduate student because I can apply what I learn in class to my training in the field," Wartley said.

The FVSU graduate student also said working with AgriUnity has helped her improve her public speaking, exposed her to grant writing and allowed her to work with different agencies. She said she looks forward to helping AgriUnity with future projects.

Moreover, Kennedy added that Wartley's work with AgriUnity is a welcomed asset to the organization and its members.

Kennedy describes a positive, long-lasting relationship with FVSU and University of Georgia (UGA) Extension. He said it is comforting to know that with a phone call or e-mail, he can access resources from Extension and research to help him solve a problem.

"They have really helped me take my farm from operating at a low profit margin to a recommended profit margin. The research, knowledge and skills that they shared has been invaluable to me," Kennedy said.

(L to R) Adel Moawad, PhD, FVSU assistant professor of animal science, Terra Odom, animal science graduate student, Lauren Wartley, animal science graduate student and Niki Whitley, PhD, FVSU Extension specialist for animal science.

He added that FVSU's Extension and research programs have unlimited access to information pertaining to farming. Farmers can capitalize on those resources to improve their efficiency.

FVSU, the 1890 Land-grant University in Georgia, is committed to serving the needs of all communities and families through science-based educational, research and technology.

For more information about FVSU's Cooperative Extension program, call (478) 825-6296 or visit *ag.fvsu.edu*.

FVSU educator honored by national association

By Latasha Ford

When the Association of Veterinary Technician Educators (AVTE) launched its Fellows Program in 2024, it aimed to honor educators whose dedication and expertise have influenced veterinary technician education throughout the U.S. and Canada. One of the first to receive this prestigious honor in 2025 was Dr. Oreta Samples, who recently retired as the program coordinator for Fort Valley State University's (FVSU) Master of Public Health (MPH) program.

"It was kind of nice to be in the first group," Samples said with a smile. "I hope that in some small way, I am paying it forward for what was done for me."

The AVTE Fellows Program recognizes individuals who have shown a profound commitment to advancing the veterinary technician profession through leadership, mentorship and innovation. The rigorous selection process, which included a comprehensive self-study, showcased Samples' dedication to the field and the students she serves.

Samples' connection to FVSU and veterinary science runs deep. She earned both her veterinary technology and Master of Public Health degrees from the 1890 Land-grant University before joining its faculty. Starting as a lead veterinary technician, she transitioned into teaching and then became the MPH program coordinator in 2013. She retired in December 2025.

"I was responsible for teaching the clinical laboratories," Samples explained. Her contributions included writing lab manuals for veterinary technology students and teaching courses in ethics, orientation, medical

Dr. Oreta Samples, retired program coordinator for Fort Valley State University's Master of Public Health program.

terminology, clinical pathology and parasitology. She also delivered numerous presentations throughout her career.

"From the day I started as the lead vet tech, I wanted to teach," she recalled. "I got my first chance, and I never looked back."

Her passion for teaching and encouraging others is evident in the many students she has impacted at her very own alma mater. She also mentioned the various alumni, like Drs. Terrence Ferguson and Vernard Hodges of Critter Fixer Veterinary Hospital, who continuously give back to the university by employing FVSU students.

"This is a testament to the students and the skills that they get here at Fort Valley State," Samples said. "It's really special when you can give back to the people right here at home and push them a little bit further."

For Samples, the fellowship is more than an honor; it's a reflection of her lifelong mission.

"When I came here, people gave me opportunities," she said. "I always said I hope I am in a position someday that I can do the same thing."

Her pride in FVSU is unmistakable. "It's just refreshing to see so much come out of Fort Valley," she said. "We have a great history here, which will continue long after we are gone."

Among her achievements are writing and editing textbooks used by veterinary technicians nationwide. She has co-edited major editions of McCurnin's veterinary technician textbooks and is now the lead editor for its 11th edition. She also co-edited a forthcoming book with Wiley on the One Health model, covering zoonotic diseases and public health.

Her advice to students is patience and persistence. "Sometimes you've got to wait because you think you're ready, but you're not," she said. "When it's time, it'll happen if you really want it bad enough."

As she reflects on her career, Samples sums it up simply: "I have been really blessed because anything and everything I have ever wanted to do, I have been allowed to do it here."

AVTE
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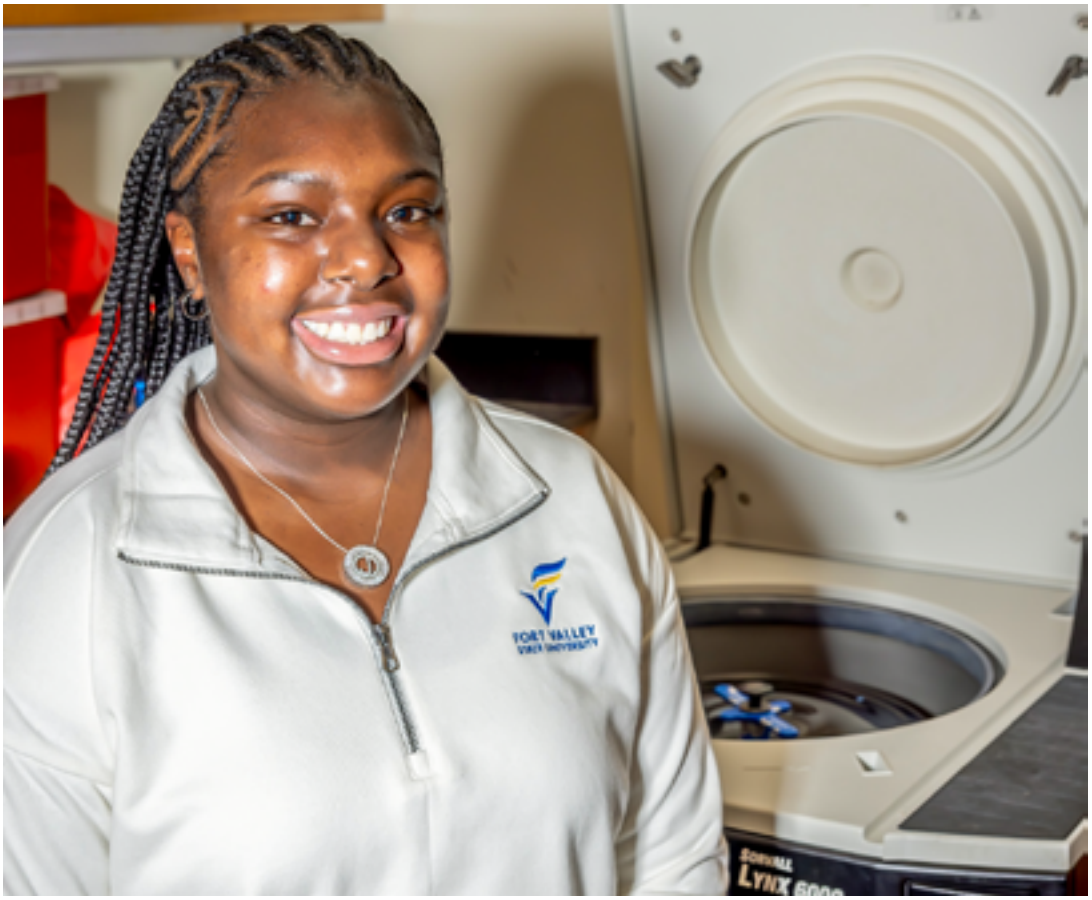
TECHNICIAN
EDUCATORS

Discovering animal science as pathway to pharmacy



Senior animal science major Jamiyah Parker plans to turn her passion for helping others into a career in pharmacy.

By Latasha Ford

Jamiyah Parker has deep roots at Fort Valley State University (FVSU). A senior animal science major from Warner Robins, Georgia, her decision to attend the historically Black university was shaped by family legacy and a growing passion for helping others.

Her mother is an educator and a proud Wildcat graduate. Not only did family ties influence Parker to attend FVSU, but so did its strong agricultural programs. Growing up, she witnessed the love and hard work her father's family poured into maintaining their farmland in Sylvester, Georgia. She remembers visiting and seeing crops like peanuts and cotton, along with animals such as horses, donkeys and a mule.

"Whenever I was younger, I wanted to be a doctor," Parker admitted. However, she changed her mind and realized that pharmacy was the path she wanted to take for a career after receiving support from her mother.

Not relating this profession to agriculture, she learned about the broadness of animal science from O'Sheta Harris, who is connected to her family and an administrative specialist for FVSU's College of Agriculture, Family Sciences and Technology. Harris shared how the program can provide the foundation for her pharmacy dreams.

"I want to go into pharmacy because I really want to help people," Parker said, recalling checking her great aunt's prescriptions because she grew up during a time when she couldn't trust doctors. This experience inspired Parker to be a reliable resource for communities that have historically lacked trust in health care systems.

Her academic path was further strengthened when she became an FVSU 1890 scholar. This removed financial barriers and allowed her to focus fully on her education.

"It helped offset those costs and helped me become debt-free," Parker said. Any remaining funds go toward books, supplies and required online course materials.

Opportunities beyond the classroom have included engaging in an eight-week summer research internship at the University of Illinois Urbana-Champaign in 2024. She worked in a toxicology lab under faculty mentor Dr. Indrani Bagchi and student mentor Ritwik Shukla. Her research focused on endocrine disruptors, specifically parabens, chemicals commonly found in cosmetics, food packaging and personal care products.

Her project, titled "The Effects of Propylparaben on Uterine Homeostasis in Mice," examined how exposure altered hormone levels, gene expression and tissue structure, findings that may have implications for human health. Parker said this research matters because the uterus is where development happens, and anything that disrupts that balance can have serious consequences.

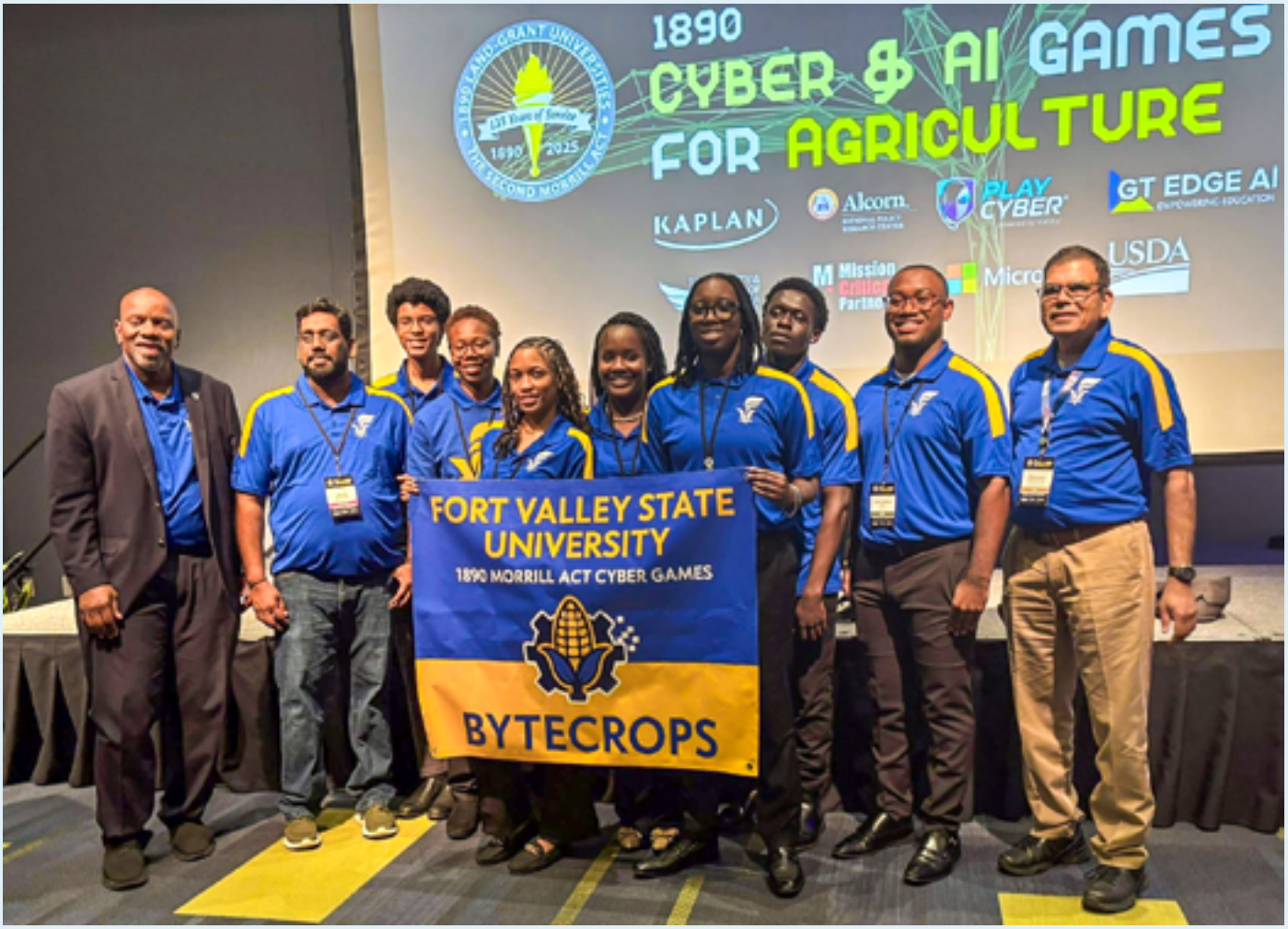
This experience sharpened her scientific skills and clarified her career goals. She became more interested in the pharmaceutical industry side of pharmacy.

> ***"I want to go into pharmacy because I really want to help people."***
>
> – Jamiyah Parker, animal science major, FVSU 1890 scholar

Her advice to other students: "Don't be afraid to apply yourself because you never know what's out there. Always put your best foot forward."

On campus, Parker has served as a Student Government Association Senate member, secretary of Minorities in Agriculture, Natural Resources and Related Sciences, a participant in the Honors Program and a McNair scholar. In 2024, she was also initiated into Delta Sigma Theta Sorority Inc.

"My parents were always active in church and in the community," Parker said. "I wanted to do the same thing – give back to the community that gave to me."



Wildcats secure third place in cyber games competition

By LATASHA FORD

Students from the 1890 Land-grant Universities and the University of the District of Columbia (UDC) met in Washington, D.C., to compete in the inaugural Cyber & AI Games for Agriculture, where Fort Valley State University's (FVSU) Team ByteCrops claimed third place.

Teams gathered Sept. 9-10, 2025, for a competition marking the 135th anniversary of the Second Morrill Act of 1890. The UDC hosted the event for the 1890 Universities Foundation, with PlayCyber organizing the competition and support from Kaplan. The challenges focused on growing threats to the United States food systems and agriculture, central to the research and education missions of 1890 universities.

FVSU research professional Aftab Siddique, Ph.D., traveled with the Wildcat team to Washington,

D.C. He said preparation for the Cyber & AI Games for Agriculture was hands-on.

"The focus was on exposing students to real-world problem-solving at the intersection of agriculture, artificial intelligence and cybersecurity," he said. "We emphasized teamwork, role clarity and adaptability, which helped students stay focused during live competition scenarios."

Seven students participated in the competition: Willoughby Caine (junior computer science major), Briana Madison (junior computer science major), LaVonne Wilson-Taylor (junior computer science major), Johnathan Allen (sophomore agricultural economics major), McKenzie McCluskey (sophomore animal science major), Haneefat Adanijo (sophomore computer science major) and Adetoro Adenuga (sophomore electronic engineering technology major).

"This multidisciplinary mix was intentional and added real strength to the team's performance," Siddique said.

Ramana Gosukonda, Ph.D., FVSU professor of plant science and biotechnology, led the team and provided guidance. Siddique credited Gosukonda's leadership with mentoring students and keeping the team focused throughout preparation and the competition.

"The students placing third out of 21 universities was an outstanding achievement," Siddique said. "More importantly, the experience gave them practical exposure to how AI and cybersecurity protect modern agricultural systems."

He noted the FVSU students demonstrated strong teamwork, leadership and technical growth under pressure. Several expressed that the event reshaped their career interests and reinforced the importance of applying technology for real-world and community impact.

"This was a meaningful learning experience that blended technical skill development with purpose-driven innovation," Siddique said.

For Adanijo, this achievement expanded her perspective on how vital cybersecurity and AI are to agriculture and critical infrastructure.

Students from the 1890 Land-grant Universities compete in the first Cyber and AI Games for Agriculture in Washington, D.C.

"It reinforced my interest in using technology for social impact and influenced my future goals to continue working at the intersection of cybersecurity, AI and community-focused innovation," she said.

As team captain, Adanijo led the group's planning, coordinated roles and helped the team navigate unexpected hurdles. They approached problem-solving by dividing tasks based on each person's strengths, communicating constantly and adjusting quickly when challenges changed. She said staying organized and keeping a clear strategy under pressure turned out to be the most effective approach.

Madison added that the competition was truly eye-opening, enjoyable and unforgettable. It strengthened her technical skills while introducing her to a new industry she can see herself exploring in the future.

"This experience expanded my perspective and showed me just how much opportunity exists at the intersection of agriculture and technology," Madison said. "Placing in the top three made it even more rewarding. I'm truly grateful to have been a part of the first cyber games and represented FVSU."

For more information about the Cyber & AI Games for Agriculture, visit *www.1890foundation.org/article*

Fired Up!

Students participate in a prescribed burn club to learn forestry management

By Russell Boone Jr.

Uncontrolled fires can have a devastating effect on forestry and the environment.

According to statistics from the National Interagency Fire Center, in 2024 there were more than 64,897 wildfires in the United States that destroyed more than 9 million acres.

However, a group of Fort Valley State University students, known as the FireCats, are learning how to use controlled burn techniques in practicing proper forestry management.

Dr. Cedric Ogden, the group's advisor and Cooperative Extension engineer specialist, said the group is a student prescribed burn club.

FireCat club members learn how to assemble and use torches needed in performing prescribed burns of forests.

He explained that a prescribed burn is a process where competing vegetation is removed from a forest using fire. This is vital in forestry management, sustainability and conservation.

Organizations such as the Student Association of Fire Ecology (SAFE) and the 1890 Land Grant Wildland Fire Consortium, which partners with the U.S. Forest Service, both focus on properly training students in prescribed burn and other firefighting techniques.

Ogden explained the importance of organizing a prescribed burn club at FVSU.

"It was created to give students a hands-on experience with the use of fire as a land management tool. This is essential in forestry sustainability and management," he said.

Doors were opened for an organization to be formed at FVSU thanks to a Longleaf for All Grant sponsored by the U.S. Department of Agriculture. Ogden said he corresponded with Tiffany Woods, the southeast director of private lands forestry programs for the National Wildlife Federation (NWF).

Ogden does not take credit for finding the group. He passes that honor to Bryan Hallman a fall 2025 FVSU plant science graduate from Albany, Georgia who's currently interning with the NWF through September of 2026.

During Hallman's NWF internship, Woods suggested the idea of forming a collegiate burn club at FVSU.

Presently, there are 20 students that are members of the FVSU FireCats. However, club activities are open to all FVSU students.

"I learned of FVSU's plans to restore the longleaf pine plot on campus and that led me to think about how undergraduate students could get involved in the process," Hallman said.

Furthermore, Hallman said another purpose for the club is to unite students interested in forestry and participating in outdoor activities such as hiking or camping. He also wanted to develop a platform that will educate students about proper land management tools.

"When I informed the NWF of my plans to form a club at FVSU, they

FireCat club members inspect a longleaf pine forest before performing a prescribed burn.

pretty much gave me free reign in laying down the groundwork," Hallman said. He said the NWF's southeast forestry team referred him to professionals who provided him with information, food for events and advice.

"Whether it was presentations, media posts or developing the club's charter, I had help," Hallman said.

Additionally, Ogden said services such as the Georgia Forestry Commission, U.S. Forestry Service, the Bureau of Land Management and other land management agencies value certified personnel with fire experience.

"Burn clubs help students develop teamwork, safety awareness and leadership skills that are critical for fire management careers," Ogden said.

According to Ogden, collegiate burn clubs are common at schools that have a strong forestry, natural resources, or agricultural programs. However, they are not universal and vary in prevalence and structure.

When discussing the need of exposing students to prescribed burns as a means of land management, Hallman added that being knowledgeable about it is a vital need and could give students an advantage in being hired for a job.

"In the times we live in, where forest fires are a huge threat with the rise in temperatures, it is vital to have this skill in your toolkit," Hallman said.

As advisor to the FireCats, Ogden said he can gauge students' interest in the practice, which is constantly gaining momentum. He says this allows him to properly prepare different presentations providing students needed information to

Above: FireCat club member uses a "fire swatter" (or fire flapper) to extinguish small fires in pine straw and brush.

Right: Tiffany Woods of the National Wildlife Federation provides instructions to FireCat club members.

handle various field situations. This includes issues not only related to forestry management but also wildlife preservation, environmental conservation and addressing climate change.

The FireCats have already put their fire control skills to use. In February of 2025 club members put their knowledge to the test by participating in a controlled five-acre burn near Swainsboro, Georgia. Hallman and another FireCat member also participated in a controlled burn at a blueberry farm in Tuskegee, Alabama.

Future projects for the organization include performing prescribed burns on the FVSU Campus during fall of 2026. Presently, the university is in the process of restoring 126 acres of unmanaged and overdeveloped forestry in efforts to develop a forestry management program.

Beginning in the spring of 2026, Hallman will pursue a graduate degree in plant pathology at Auburn University in Auburn, Alabama.

However, he will complete his internship with the NWF and be active with the FireCats until a new president is elected.

"The plan right now is to have students select the president at the end of the 2026 spring semester. In the meantime, I will be assisting the club through its early phases and organizing events and workshops through Dr. Ogden and the NWF," Hallman said.

Even though the group is less than a year old, Hallman sees it as a gateway of employment opportunity for students.

"I'm hoping to develop it into a platform where you see more African Americans have a presence in this field. I just want students to network with everyone we can in this area," Hallman said.

For more information about the FVSU FireCats, contact Ogden at (478) 825-6590 or email at ogdenc@fvsu.edu.

Matthew O'Conner of the Georgia Forestry Commission provides a explanation on the day's activity.

FVSU's Nirmal Joshee graduates from USG Executive Leadership Institute

Nirmal Joshee, Ph.D., interim dean for graduate studies and professor of plant sciences/biotechnology, graduated from the University System of Georgia's (USG) Executive Leadership Institute (ELI) as part of the 2024-25 cohort.

The institute is a highly selective, nomination-only leadership development program that prepares higher education professionals for senior-level roles within the USG. Joshee was one of 39 participants statewide to complete the program in his cohort.

Nominated by President Paul Jones, Ph.D., Joshee said, "I am extremely thankful to President Jones for nominating me for the 2024-25 cohort."

Over eight months, Joshee completed 120 hours of intensive leadership development and 40 additional hours of executive job shadowing with Carl Reiber, Ph.D., provost and executive vice president for academic affairs at Georgia Southern University.

The program concluded with a closing ceremony on April 22, 2025. Joshee received a commemorative plaque recognizing his completion of the program and commitment to leadership.

Nirmal Joshee, Ph.D., with Keith Howard, Ph.D., dean of the College of Agriculture, Family Sciences and Technology.

Learn more about ELI at *https://bit.ly/4kvYDXM.*

Research in Action

Warner Robins High School Students Visit FVSU

More than 30 students from Warner Robins High School toured Fort Valley State University's plant science–biotechnology lab and other research facilities to explore careers in agriculture and STEM.

Mahapatra Presents at IUVA World Congress

Ajit Mahapatra, Ph.D., professor of food engineering, attended the 2025 IUVA World Congress in Lisbon, Portugal. The event brought together more than 200 experts from 29 countries to highlight advancements in UV disinfection and sterilization. Mahapatra presented his research, "Pulsed UV Light Inactivation of Foodborne Pathogens on Pecan Halves: A Machine Learning Approach."

Ford Presents at National Meeting

Latasha Ford, research communications manager, presented at the 2025 Joint agInnovation and Cooperative Extension Meeting in St. Louis, Missouri. She co-presented "Communicating Our Land-grant Mission: Responding to Evolving National Priorities" with leaders from the University of California, University of Maine, University of Idaho and the U.S. Department of Agriculture's National Institute of Food and Agriculture.

Arowolo Presents at Creative Works Symposium

Master of Public Health student Jeremiah Arowolo presented his project on Academics Afield, a school-based learn-to-hunt program supported by the Georgia Wildlife Federation, at the 15th annual Research and Creative Works Symposium.

135th Anniversary of the Second Morrill Act

Celebrating the 135th anniversary of the Second Morrill Act of 1890, Fort Valley State University empowers students and supports rural and urban communities through education, agricultural research and Cooperative Extension. Watch the anniversary video: *youtu.be/NLlbUKWryc8*.

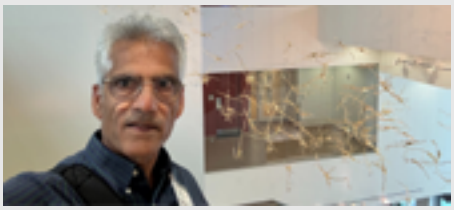
Awaogu Presents Pecan Research

Biotechnology graduate student Jessica Chinenyenwa Awaogu presented her research on pulsed ultraviolet light and pecan quality at the 2025 Pecan Research Workshop, hosted by the University of Georgia College of Engineering.

Graduate Students Represent at Academic Research Conference

Graduate students Babita Bastakoti, Bhawana Khanal and Mariam Dauda represented FVSU at the 2025 Academic Research Conference in Livingston, Alabama, presenting nanotechnology research led by Dr. Hari Singh in FVSU's Nanotechnology Laboratory.

Singh Participates in National CRISPR Course



Researcher Dr. Mahipal Singh took part in the inaugural CRISPR Course workshop hosted by the Center for Genome Editing and Recording and Tennessee State University. The event was held at the Massachusetts Institute of Technology and the Whitehead Institute.

Biswas Featured for Food Security Research

13 WMAZ featured Dr. Bipul Biswas and his students for their work on innovative approaches to address food insecurity. Watch at *bit.ly/4quZpWm*.

Agri-Demic Forum Honors Students

The College of Agriculture, Family Sciences and Technology recognized more than 231 students who earned a grade point average of 3.0 or higher during its annual Agri-Demic Forum Awards Banquet. Alumni Christina Ford and Kenneth Ford Jr. served as guest speakers.

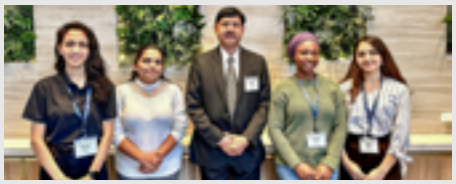
Valley Scholars Complete Research Projects

FVSU's Undergraduate Research Program hosted its closing ceremony for the Valley Scholars Program, where more than 18 students presented research projects across multiple disciplines.

AI Research Spotlighted on AgSposure

Researchers Thomas Terrill, Ph.D., and Aftab Siddique, Ph.D., discussed their development of an AI-powered app to help farmers identify *Sericea lespedeza* on an episode of AgSposure. *youtu.be/TE-tn9MEzjY?si=aNFyl2azS6um2np8*

Graduate Students Selected for Climate Change Conference



Graduate students Mariam Dauda, Babita Bastakoti, Bhawana Khanal and Sri Sandhya Manne attended the 10th annual HBCU Climate Change Conference in New Orleans. Their abstracts were selected from more than 150 submissions.

FVSU Delegation Visits Capitol Hill

University leaders, staff and local farmer Dr. Darlene Williams joined land-grant representatives in Washington, D.C., for the annual Council for Agricultural Research, Extension and Teaching Conference. The group met with Georgia's congressional delegation to highlight the role of 1890 Land-grant Universities.

MANRRS Hosts Biosciences Recruitment Event

FVSU's Minorities in Agriculture, Natural Resources and Related Sciences chapter welcomed representatives from Tuskegee University's Integrative Biosciences Ph.D. Program for a campus recruitment event.

Graduate Students Travel to Ghana for Research Exchange

Graduate students Lauren Wartley, Jasmine Jordan, Janan Fareed and Craig Harbin visited Accra, Ghana, where they toured the Food Research Institute and B-Diet company and presented at the University for Development Studies. The trip was supported by a USDA National Institute of Food and Agriculture Capacity Building Grant led by Dr. Ajit Mahapatra.

UGA Researcher Highlights Plant Interactions at FVSU

University of Georgia Ph.D. candidate Jordan Argrett visited Fort Valley State University to share his academic journey and discuss his research on plant parasitism and plant-fungal mutualisms. His presentation showed how these interactions influence ecosystem dynamics.

FVSU Students Attend National MANRRS Conference

Students represented FVSU at the 39th annual Training Conference and Career Expo in Memphis, Tennessee.

CAFST Ambassadors

The College of Agriculture, Family Sciences and Technology (CAFST) Ambassadors are a distinguished group of Fort Valley State University (FVSU) students who serve as leaders and proudly represent CAFST under the guidance of Fanisha Maze, marketing and outreach coordinator for the college.

By Latasha Ford

In this spotlight, meet FVSU alumni Rodney Brooks Jr. and Dajohn Head as they share their experiences as ambassadors and discuss their career aspirations.

Rodney Brooks Jr.: Carving his own legacy

Rodney Brooks Jr., a proud native of Albany, Georgia, has always believed that agriculture is the foundation of life.

"Agriculture is the root of the world," he said. "Without it, none of this would be possible."

That conviction led him to pursue a degree in animal science at Fort Valley State University (FVSU), where he not only excelled academically but also carved out a unique legacy of his own.

His journey into agriculture began in middle school when he enrolled in an advanced agriculture course. That early exposure opened doors to opportunities like participating in the National FFA Organization and showing livestock, experiences that sparked his passion for the agricultural sector.

Brooks' connection to FVSU runs deep. His father graduated from the 1890 Land-grant University in 2001 with a degree in agricultural economics and often brought him to campus events as a child.

"I spent a lot of time growing up here," Brooks recalled. "By the time I was ready to choose a college, the faculty already knew me. It felt like home."

While another university was briefly considered, FVSU's strong agricultural programs, family-like atmosphere and rich history sealed the deal. Choosing animal science was not just about following in his father's footsteps; it was about breaking barriers.

"Only about 2% of African American students graduate with an animal science degree," Brooks

> ***Understand the importance of agriculture. Once you do, your love for it will grow deeper. And remember, never give up.***
>
> – Rodney Brooks Jr., FVSU c/o '24 animal science graduate

declared. "That statistic motivated me to push through."

Among the various opportunities at FVSU, Brooks also learned to persevere during challenging moments. "If you want it, you have to work for it," he encouraged.

His time at his alma mater has been marked by leadership, involvement and success. He earned the FVSU 1890 Scholarship and distinction of College of Agriculture, Family Sciences and Technology Ambassador. He built connections with agricultural industry professionals and represented FVSU at national conferences like the Agriculture Future of America in Kansas City, Missouri. He also participated in internships through FVSU's Cooperative Extension Program and became a member of Phi Beta Sigma Fraternity Inc., continuing a family legacy.

Brooks aspires to become a senior epidemiologist with the Centers for Disease Control and Prevention (CDC), focusing on diseases that originate in animals and impact humans.

"When Ebola emerged, it fascinated me how bats could carry the virus without harm, yet it was deadly for humans," he explained. That curiosity shifted his career goal from veterinary medicine to epidemiology.

A 2024 graduate, Brooks is now pursuing a master's in public health at FVSU, positioning himself for future work with the CDC.

He credits his father as his greatest inspiration. "He's the epitome of a strong Black man," Brooks said proudly. "My father has done an exceptional job supporting and believing in me."

From overcoming personal hardships to building a successful career that now involves working with the United States Department of Agriculture's Farm Service Agency, his father has modeled resilience and excellence.

Still, Brooks is thriving in his own way. "Although we share the same name and love for agriculture, I'm creating my own path," he said.

His advice to future Wildcats: "Understand the importance of agriculture. Once you do, your love for it will grow deeper. And remember, never give up."

Dajohn Head: Building blocks to big goals

Fort Valley State University (FVSU) graduate Dajohn Head has always been driven by curiosity and a passion for building.

Growing up in Jonesboro, Georgia, as the oldest sibling and a first-generation college student, Head often found himself fixing or putting things together around the house. Those early experiences sparked a lifelong interest in engineering, ultimately leading him to pursue a degree in electronic engineering technology, which he completed in December 2024.

"For me, this major provided the best tools for my future and career goals," Head said.

His love for learning and staying challenged guided him through one of the most rigorous

> ***Don't be scared, you'll never know what's possible unless you try. Communicate, network and have fun. College is about experiences as much as education. Stay focused but enjoy the journey.***
>
> – Dajohn Head, FVSU c/o '24 electronic engineering technology graduate

programs on campus. "I wanted something that would keep me engaged," he noted.

Head's journey to FVSU wasn't traditional. Initially, he considered other schools, but the COVID-19 pandemic shifted his plans. A college fair at his high school introduced him to the historically Black university.

"I had never been to campus before, but I showed up on move-in day," he said, adding that the rest is history.

College life brought its share of challenges. Early on, Head faced setbacks that resulted in housing suspension and community service. But instead of letting those moments define him, he used them as opportunities to grow.

"While doing community service, I told myself I wasn't going to waste this chance. I started networking, asking questions and learning from people in leadership roles. That experience taught me the importance of communication and building connections," he said.

The FVSU alumnus learned the impact of being a representative of his university. "It is not just about me; it's the reputation of the school, which is a part of me," he said. This realization also came with the appreciation of mentors on campus who showed they wanted the best for him.

Those lessons unlocked leadership roles. Head served on the Golden Council, promoting Wildcat pride, student engagement and participating in recruitment trips, even in his hometown. This helped him step out of his comfort zone, later becoming an ambassador for the College of Agriculture, Family Sciences and Technology.

"The best part about being an ambassador is the ability to learn and meet people in the agricultural industry," Head said. "It opened doors I never imagined."

Looking ahead, he envisions a future where his engineering skills intersect with entrepreneurship.

"I want to become a successful contractor and contribute materials needed to build structures and create lifelong historical records," he shared.

His long-term goals include real estate development and land ownership, with a dream of building homes and training facilities.

"Don't be scared," Head advised. "You'll never know what's possible unless you try. Communicate, network and have fun. College is about experiences as much as education. Stay focused but enjoy the journey."

From hands-on projects at home to earning his degree and representing his college as an ambassador, Head's story is one of resilience, growth and vision. As he steps into the next chapter, his journey serves as an inspiration for first-generation students and anyone striving to turn challenges into opportunities.

"I want to continue to learn and grow," Head said confidently.

Vet tech senior finds calling in wildlife medicine

By Latasha Ford

When she was 7 years old, Jernae Darville lost her dog to jaw cancer. What she found meaningful was the veterinarian's compassion. His kindness and professionalism inspired her.

"That was the day I decided to be a vet," said Darville, who has always had a love for animals. "I realized it isn't just about playing with animals all day."

To fulfill her calling, the New Providence, Bahamas, native began volunteering at multiple local clinics with veterinarians who were Tuskegee graduates. She further gained hands-on experience working at the Bahamas Humane Society and an agricultural center and saw her older brother start farming produce such as watermelons and papayas.

Today, the future veterinarian is a senior in Fort Valley State University's (FVSU) veterinary technology program, with her sights set on veterinary school and a specialty in zoo and wildlife medicine.

Darville didn't want to attend a big campus when deciding where to go to college. She preferred small classes and a historically Black university that felt familiar to home. After researching online for schools that matched her interests, FVSU popped up. She was unaware that the 1890 land-grant is the only university in Georgia that offers a four-year veterinary technology degree.

Jernae Darville, a veterinary technology major, speaks about her internship with Zoo Atlanta during the signing of a memorandum of understanding between Fort Valley State University and Zoo Atlanta.

"Everyone here believed in me," Darville said, praising the program's nurturing environment.

Faculty mentorship made the difference. Her professors fostered a classroom culture where "not knowing" was an invitation to soak up new knowledge. In addition, she developed leadership skills in several student organizations, including the PHASES Dance Troupe, Every Mind Matters (mental health advocacy), the Student Government Association and the Campus Activities Board. She also tutored underclassmen.

This foundation prepared her for an internship with Zoo Atlanta in the summer of 2025.

However, this opportunity nearly didn't happen. When the zoo's website said it wasn't accepting interns, Darville accepted an animal care internship at a wolf sanctuary in Candy Kitchen, New Mexico.

After about two weeks, she returned home to the Bahamas when her uncle became ill. She later found out that Zoo Atlanta had an intern spot available after all and was still willing to bring her in for the rest of the summer. For six weeks with their veterinary team, Darville practiced blood draws, helped with lab tests, filled out anesthesia sheets, tracked TPR (temperature, pulse, respiration) and refreshed lab work.

She commended the veterinary technicians. "They worked with me a lot. If I couldn't get it, they would show me how to do it. I learned so much about reptile and bird anatomy," she said.

The FVSU Wildcat admitted she was able to adapt because of what she had learned at FVSU. The internship solidified her long-standing interest in wildlife. She's already submitted applications to five veterinary schools, with the University of Georgia as her first choice.

"If I do food animal or equine medicine, I can go back to the Bahamas," Darville said, pondering her career options. "If I do zoo medicine, I'll likely live abroad. It's not just a career decision; it's a life decision."

Also, with a desire to give back, she aims to help expand sustainable agriculture in the Bahamas, advocating for local production and food security. She eventually wants to retire there with a bed-and-breakfast, a small farm and horses. Reflecting on her dreams, she said mornings would start with trail rides, and she would grow her own food.

A fan of the late Australian zookeeper and conservationist Steve Irwin, Darville is a step closer to fulfilling her passion as well for working in zoo and wild animal medicine.

Fort Valley State University students, faculty and staff, along with alumni Drs. Vernard Hodges and Terrence Ferguson of Critter Fixer Veterinary Hospital, celebrate the university's partnership with Zoo Atlanta.

Alumni Spotlights

Fort Valley alumna sets sights on veterinary research

By LATASHA FORD

Destiny Absher is forging a path toward a future dedicated to the care and well-being of animals.

From the age of 5, her love for animals stood out as her true passion, surpassing other childhood dreams like becoming an astronaut or a singer. Her meaningful bond with small furry friends began with her grandmother's dog, Roscoe.

"He was my little protector," Absher said, smiling.

She recalled a family friend, who was a veterinarian, describing her occupation as helping animals, which sparked young Absher's curiosity as well.

Adding to her early exposure to animals, her mother, Diane, sponsored an elephant named Ellie at the Greenville Zoo. "That was my elephant," Absher declared. "I tend to call all animals that I interact with my babies. Animals always come to me."

This affection stayed with the Greensville, South Carolina, native as she and her mother moved to Fairburn, Georgia, during her middle school years. The animal science pathway at Creekside High School only magnified her adoration for animals.

"I ended up falling in love with a rabbit named Cookie," Absher said.

This classroom experience taught her the importance of spaying female rabbits due to health benefits like reducing the risk of uterine cancer. Her ambition is to one day open a veterinary clinic and provide pro bono days for schools and people who cannot afford to spay and neuter their fur babies.

As she began connecting the dots of animal care to agriculture, she also learned more about higher education opportunities since both of her high school advisers were Fort Valley State University (FVSU) alumni. They suggested she attend their alma mater or Tuskegee University to pursue her dream of becoming a veterinarian.

"Fort Valley was far enough that I could be myself but also come home," Absher said.

For her, FVSU provided a foundation in animal science to obtain the knowledge and experience she needed before pursuing veterinary school. In 2025, she earned a Bachelor of Science in agriculture, majoring in animal science. As a student, she earned several scholarships, including one from the United States Department of Agriculture (USDA) 1890 National Scholars Program.

"I would not have been in college if I had not had my scholarships," she said, noting her mother has disabilities.

A full-ride USDA scholarship under her belt, Absher interned for the National Centers for Animal Health's Farm Management Service in Ames, Iowa, in 2023. The Agriculture Research Service sponsored this learning opportunity, which involved her feeding, cleaning and performing health checks on cattle, sheep and horses. She also engaged in a research project on fetal bovine serum to test for specific diseases in sheep.

In 2024, Absher returned to the facility to continue her previous work and take on additional responsibilities, including caring for bottle-fed deer. She worked with several fawns, administering vaccinations and providing regular feedings. After gaining experience over two summers, Absher began

To learn more about FVSU's animal science program, visit *https://bit.ly/animalsciencefvsu*.

Destiny Absher, a 2025 Fort Valley State University graduate and U.S. Department of Agriculture's 1890 National Scholars recipient, aspires to become a veterinarian.

focusing on developing her clinical skills to further her veterinary training. She administered injections to treat animals and helped organize the pharmacy and feed warehouse.

"I gained clinical, organizational and social skills," Absher said.

In addition to her internship, she was actively involved on FVSU's campus as a member of the Minorities in Agriculture, Natural Resources and Related Sciences (MANRRS) chapter, where she took part in panel discussions and attended conferences.

The future veterinarian also participated in the pep squad, suicide prevention efforts and recruiting students from her high school. She paid it forward by guiding students based on her own experience and the foundation that FVSU provided for her. During her time as a Wildcat, she visited Creekside High School to share the many educational opportunities at FVSU. She said at least seven students told her they chose to attend the historic land-grant university and major in agriculture because of her. This excited Absher, knowing she played a major role in their decision.

Although college can be challenging, her advice to students is: "You can make it through. If I can do it, why can't you?"

Now a graduate of FVSU, Absher plans to pursue veterinary research with the USDA and hopes to gain international experience before attending veterinary school.

"I want to be the go-to expert in preventing diseases in animals and reducing transmission between animals and humans," she said.

As she works toward her goals, Absher draws her greatest motivation from her mother and her late uncle, who worked for the Internal Revenue Service.

"He spoke it into existence. I am going to make him, my mother and my family prouder," Absher said. "It is sheer determination. I worked hard to get to where I am. Nothing was getting in my way."

Fort Valley State graduate aims for global impact in public health

By Latasha Ford

Jeremiah Arowolo's journey from southern Nigeria to Fort Valley State University (FVSU) is fueled by a passion for public health and the well-being of others. Armed with international experience and a commitment to disease prevention, Arowolo is making a positive impact in communities locally and globally.

The 2025 FVSU graduate earned his undergraduate degree in agricultural economics and Extension from Ladoke Akintola University of Technology, one of Nigeria's leading universities. Graduating with honors, he earned the equivalent of summa cum laude (first class) distinction.

Arowolo is turning knowledge into action. His passion for food security and community outreach during his undergraduate studies sparked his interest in public health. His path ultimately led to the United States, where a friend who was already a student at FVSU connected him to the 1890 Land-grant University in middle Georgia.

At FVSU, he concentrated in environmental health and completed an 11-week internship with the South Carolina Department of Public Health under the National Environmental Public Health Internship Program. His experience included working on zoonotic diseases (transmitted from animals to humans).

"I worked on the rabies vector program, collected specimens from multiple cities and developed resource materials for community education," Arowolo explained.

Outreach opportunities involved the FVSU Wildcat conducting community engagement sessions to educate residents on rabies transmission, prevention and response. He also assisted with data analysis of hundreds of rabies incident reports.

"I met with department directors and regional heads to discuss strategies for improving public health. That was a major highlight for me," Arowolo said, smiling.

FVSU provided the foundation for him to build upon his skills in the public health sector. Earning his Master of Public Health in 2025, he praises his adviser, Dr. Oreta Samples, retired coordinator of the thriving program, for her encouragement.

Arowolo assisted Samples with research on zoonotic diseases and presented his work at conferences and community health fairs. He also advocated public health education and environmental safety as essential components of community well-being.

His advice to students: "Release your energy, your ability, your potential. Anything you are doing, make sure you do it well."

In addition to his academic achievements at FVSU, Arowolo earned multiple international health and safety certifications, including the prestigious National Examination Board in Occupational Safety and Health (NEBOSH) International General Certificate. He also achieved Certified Master Trainer status, enabling him to train organizations and industries worldwide in environmental, health and safety practices. He has trained more than 1,000 individuals in Nigeria and beyond.

Fort Valley State University alumnus Jeremiah Arowolo earned his Master of Public Health in 2025.

For the World Diabetes Foundation, Arowolo developed strategies to improve diabetes care and distributed free glucose meters to cities and states across Nigeria. He also conducted community outreach and education on diabetes management.

"We encouraged nurses and health facilities to follow up with patients, especially pregnant women with gestational diabetes," Arowolo said.

The young scientist plans to continue working in public health, with a focus on environmental health and safety. His goal is to leverage his knowledge and experience to impact global health, creating safe communities and improving lives worldwide. His philosophy is rooted in diligence and purpose.

"See a man diligent in his work? He shall stand among kings. Public health is about the well-being of others," Arowolo said.

For more information about FVSU's Master of Public Health program, visit https://bit.ly/fvsumasterpublichealth.

Published Work 2024 – 2025

Research at Fort Valley State University is published and presented through scholarly journals and shared through presentations at scientific conferences globally. Below is a list of published work and presentations of FVSU agricultural research faculty and staff from 2024 – 2025.

Hamida Sharif-Amanyi, DrPH

PEER-REVIEWED JOURNAL ARTICLES

- Sharif, H., & Hunt, L. (2024). Food surrogates? County-level association between vegetable production and food insecurity in the rural South. *Journal of Hunger and Environmental Nutrition.*
- Sharif, H., & Hunt, L. (2024). Health status, race, and poverty predict county-level food insecurity in Georgia. *Journal of the Georgia Public Health Association.*

PEER-REVIEWED CONFERENCE PROCEEDINGS

- Sharif, H. (2024). Enhancing graduate-level education: Strategic approaches to service learning for health professionals. In *Proceedings of the International Conference on Humanities, Social and Education Sciences* (pp. –). San Francisco, CA.

CONFERENCE & INVITED PRESENTATIONS

- Sharif-Amanyi, H. (2025). SISTAHS – *Exploring the intersections of race, place, and sustenance among Black women farmers in the U.S. and Ghana.* Accepted for presentation at the Fifteenth International Conference on Food Studies, University of Pretoria, Future Africa Campus.
- Sharif-Amanyi, H. (2025). Innovations in community-based food security: Lessons from Ghana and rural Georgia. IDEAS Global Health & Education Conference, University of Namibia, Windhoek, Namibia.

GRANT-FUNDED RESEARCH

Principal Investigator

- Sharif-Amanyi, H. (2024–current). *SISTAHS Study: Sisters Through Agriculture, Health, and Sustenance.* Evans-Allen Faculty Development Grant.
- Sharif-Amanyi, H. (2024–current). *NHIT–FVSU Cooperative Agreement: Social Determinants of Health Among Rural Farmers.* USDA Rural Development Grant ($100,000).

Co-Activity Director

- Sharif, H., & Akbar, M. (2022–current). *Center for Social Justice.* Title III grant-funded initiative ($189,000).

Bipul Biswas, PhD

PUBLICATIONS

- Biswas, B. K., & Kapsoiyo, A. J. (2025). Biotechnology to enhance stevia production: In vitro and in vivo cloning, sugar content (Brix) analysis, and industrial processing characterization of elite germplasm. *Biomedicine and Biotechnology*, 10(1), 11–19. https://doi.org/10.12691/bb-10-1-2
- Biswas, B. K., & Murty, K. S. (2025). From rainwater harvesting to hydroponics: A framework for integrating traditional Indian water knowl-

edge in modern farming. World Journal of Agricultural Research, 13(4), 72-87. https://doi.org/10.12691/wjar-13-4-1

- Mimbs, J. D., Hunlen, G., & Biswas, B. K. (2025). Critical provenance deficits in Pvc nanoplastics research: Implications for environmental fate and plant uptake studies. *Applied Ecology and Environmental Sciences*, 13(3), 94–103. https://doi.org/10.12691/aees-13-3-5

- Biswas, B., & Murty, K. S. (2025). A 150-Year Journey: Agricultural Evolution from Slavery to Modernity in the State of Georgia. *J Glob Perspect Soc Cult Dev*, 1(2), 01–https://doi.org/10.63620/MKJGPSCD.2025.

PRESENTATIONS

- Colvard, A., & Biswas, B. (2025, November 16–18). Growth beyond soil: *A comparative study between conventional agriculture and hydroponic farming* [Paper presentation]. PAWC Conference, Montgomery, AL, United States.

- Harris, C., & Biswas, B. (2025, May 1). *Study of Pb effects on lettuce using hydroponics farming technology* [Undergraduate poster competition abstract]. 2nd Integrative Precision Agriculture Conference, Perry, GA, United States.

- Mimbs, J. D., & Biswas, B. (2025, May 1). *How to study pollutant's (microplastics, and Pb) effects on crop using modern farming technology* [Graduate poster competition abstract]. 2nd Integrative Precision Agriculture Conference, Perry, GA, United States.

- Scott, J., & Biswas, B. (2025, May 1). *To increase crop production studying macro and micronutrients sources on hydroponics farming technology* [Undergraduate poster competition abstract]. 2nd Integrative Precision Agriculture Conference, Perry, GA, United States.

SUBMITTED PROPOSALS:

- **Proposal title:** Developing Elderberry Industry in the Southeast USA, A multi-institutional (FVSU, Alabama A&M and Lincoln University of Missouri, along with GA Elderberry Growers Association) collaborative research project currently under process to submit to USDA-NIFA for funding in November 2025.

- **Proposal title:** Establishing New Gen Agri-Education Hub to Train Students in High Producing Soilless Farming and Value-Added Products Creation. Submitted to Title III office FVSU in 2025.

- **Ongoing Project title:** Developing State-of-the-Art Facility for 'Future Agriculture' to 'Grow More in Less Space' Without Any Negative Effects of 'Climate Change and Comparing Crop Yield with Outdoor Traditional Farming. Funded by USDA-NIFA. Station Project: 2023-2028.

WORKSHOPS AND TRAININGS

- Workshop Organizer & Facilitator | FVSU Soil-Less Farming Workshop October 8, 2025
  - Coordinated and executed a high impact "Lunch and Learn" workshop on hydroponics and mushroom production for over 100 attendees, including academic professionals, local farmers, and government staff.
  - Collaborated with multi-institutional experts from the University of Georgia (UGA) and the Georgia Department of Agriculture (GDA) to deliver technical training on food safety and sustainable farming.
  - Facilitated hands-on demonstrations led by Dr. Biswas (Hydroponics) and UGA researchers (Mushroom Production) to bridge the gap between theoretical research and practical application.

- Summer Workshop 2025: Hydroponics | May 9, 2025
  - Organized and conducted the "Lunch and Learn" workshop, "Growing More in Soilless Farming," at SPH.
  - Featured Dr. Biswas as the keynote speaker, focusing on the design of cost-effective, DIY hydroponic units for various crop types.
  - Managed an audience of 80 + participants, including local farmers, community growers, students, and university faculty.

Published Work 2024 – 2025

Ajit Mahapatra, PhD

FUNDED PROPOSALS

- Improved Food Safety in Pecan Processing, USDA-Research, Education, and Economics, 2025-2026, $537,144.00.

USDA OR INDUSTRY RELATED PARTNERSHIPS:

- USDA-ARS, SE Fruit and Tree Nut Research Station, Byron, GA
- USDA-ARS, Crop Genetics and Breeding Research Station, Tifton, GA
- USDA-ARS, Eastern Regional Research Center, Wyndmoor, PA
- University for Development Studies, Tamale, Ghana
- Purdue University, West Lafayette, IN
- African Sustainable Agriculture Research Institute, University Mohammed VI Polytechnic, Laayoune, Morocco
- Georgia Peanut Commission/ National Peanut Board
- University of North Georgia, Gainesville, GA
- Complex Carbohydrate Research Center, University of Georgia

PEER REVIEWED JOURNAL ARTICLES

- Arthur, V., H. L. Degala, R. Gyawali, K. S. Chasteen, S. H. Sherman, P. de Souza, G. D. Kumar, B. A. Niemira, C. A. Bardsley, and A. K. Mahapatra. 2025. Inactivation efficacy of intense pulsed light and cold atmospheric plasma on spot-inoculated *Escherichia coli* on pecan halves. International Journal of Food Science and Technology 60(1): 1-11.
- Bardsley, C. A., K. S. Chasteen, S. H. Sherman, V. Arthur, A. K. Mahapatra, B. A. Niemira, and D. Shapiro-Ilan. 2025. Peracetic acid washes reduce *Salmonella* load on the surface of in-shell pecans and prevents cross-contamination between pecans during conditioning. Food Control 175(111248): 1-7.
- Talari, K., H. L. Degala, A. K. Mahapatra, R. Gyawali, R. M. Gosukonda, T. H. Terrill. 2025. Pulsed light decontamination and modeling of *Salmonella* reduction on pecan halves. International Agricultural Engineering Journal 30: 43-54.
- Gosukonda, R. M., A. Siddique, and A. K. Mahapatra. 2025. Comparative performance analysis of machine learning and regression models for predicting the angle of repose of Sericea lespedeza seeds. International Agricultural Engineering Journal 30: 27-42.
- Shahin, L., A. K. Mahapatra, and N. Joshee. 2025. Effect of drying methods on the leaf and flower tissues of *Paulownia elongata* and *P. fortunei* and resultant antioxidant capacity. Antioxidants 14(280); 1-18.
- Siddique, A., S. Khan, T. H. Terrill, A. K. Mahapatra, S. S. Panda, E. R. Morgan, A. A. Pech-Cervantes, R. Randall, A. Singh, P. Batchu, P. Gurrapu, and J. A. van Wyk. 2025. Smart farming with AI: Enhancing anemia detection in small ruminants. Veterinary Parasitology 338(110525): 1-11.
- Siddique, A., P. Batchu, A. Shaik, P. Gurrapu, T. T. Erukulla, C. Ellington, A. L. Rubio Villa, D. Brown, A. K. Mahapatra, S. Panda, E. Morgan, J. Van Wyk, D. Shapiro-Ilan, G. Kannan and T. H. Terrill. 2025. Evaluating the efficacy of bioelectrical impedance analysis using machine learning models for the classification of goats exposed to Haemonchosis. Frontiers in Veterinary Science 12 (1584828): 1-11.
- Panda, S., A. Siddique, T. H. Terrill, A. K. Mahapatra, E. Morgan, A. A. Pech-Cervantes, and J. A. van Wyk. 2025. Decision support system for *Lespedeza cuneata* production and quality evaluation: A WebGIS dashboard approach to precision agriculture. Frontiers in Plant Science 16(1520163): 1-17.

BOOK CHAPTERS

- Gyawali, R., H. L. Degala, P. M. de Souza, and A. K. Mahapatra. Pulsed Electric Field and Light-Based Technologies in Millet Processing. In: Innovative Millet Processing: Harnessing Novel Technologies for Nutritional Excel-

lence. New York: Springer Nature, 2025: 241–255.

- de Souza, P. M., A. K. Mahapatra, and E. P. da Silva. Emerging Technologies for Water Decontamination: Ensuring Safe and Clean Water. In: Emerging Trends and Technologies in Water Management and Conservation. Hershey, PA: IGI Global Scientific Publishing, 2025: 35-86.

PRESENTATIONS ABSTRACTS (WITH STUDENTS AND FACULTY)

- Gosukonda, R., C. D. Mahon, A. K. Mahapatra, R. Gyawali, C. A. Bardsley, P. M. de Souza, and J. H. Lee. 2025. Pulsed UV Light Inactivation of Foodborne Pathogens on Pecan Halves: A Machine Learning Approach. International Ultraviolet Association World Congress, September 7-10, Lisbon, Portugal.
- S. Afrin, H. L. Degala, R. Gyawali, C. A. Bardsley, A. K. Mahapatra. 2025. Use of Natural Antimicrobials to Inactivate *Salmonella* on Inshell Pecans. International Association for Food Protection Annual Meeting, July 27-30, Cleaveland, OH.
- S. Manne, K. Talari, H. L. Degala, R. Gyawali, A. K. Mahapatra. 2025. Efficacy of Pulsed UV Light in Reducing *E. coli* on Baby Spinach. American Association of Agriculture and Biological Engineering (ASABE) Annual Meeting, July 13-16, 2025, Toronto, Ontario, Canada.
- R. Gyawali, H. L. Degala, A. K. Mahapatra. 2025. Reduction of *Escherichia coli* and *Salmonella* Typhimurium on Romaine Lettuce Using Intense Light Pulses. American Association of Agriculture and Biological Engineering (ASABE) Annual Meeting, July 13-16, 2025, Toronto, Ontario, Canada.
- Arthur, V., S. Afrin, J. H. Lee, A. K. Mahapatra, and R. Gyawali. 2025. Physicochemical properties and oxidative stability of pecan kernels as influenced by intensive pulsed light and clove essential oil. American Chemical Society Spring Meeting, March 23-27, San Diego, CA.
- Awaogu, J. C., H. L. Degala, and R. Gyawali. 2025. Effects of Pulsed Ultraviolet Light on Selected Physical Properties of Pecan Halves. Pecan Research Workshop, August 24-25, University of Georgia, Athens, GA.
- Manne, K. Talari, H. L. Degala, R. Gyawali, A. K. Mahapatra. 2025. Pulsed UV Light as an Energy Efficient Processing Method for Baby Spinach Safety. HBCU Climate Change Conference, March 5-9, 2025, New Orleans, LA.
- Wartley, L., A.M. Shahat, T. D. Odom, R. Tunner, D. Brown, J. Fareed, A. Siddique, R. Gyawali, R, A. K. Mahapatra, N. C. Whitley, and T. H. Terrill. 2025. Impact of Sericea lespedeza Extract on the Quality of Cooled and Cryopreserved Bull Spermatozoa. 2025 ASAS-CSAS Annual Meeting, July 6-10, 2025, Hollywood, FL.

Hari P. Singh, PhD

PRESENTATIONS, ABSTRACTS, (WITH STUDENTS AND FACULTY):

- Singh, H. P., Bastakoti, B., Eneh, N., Howlader, A., & Degala, V. N. (2025) From Conventional to Nano: Advancing Agriculture through Nanofertilizer Innovation [Abstract]. CANVAS 2025, Salt Lake City, UT. *https://scisoc.confex.com/scisoc/2025am/meetingapp.cgi/Paper/170769*
- Bastakoti, B., & Singh, H. P. (2025) Green-Synthesized Silica Nanoparticles for Mitigating Drought Stress in Soybean (Glycine max). [Abstract]. CANVAS 2025, Salt Lake City, UT. *https://scisoc.confex.com/scisoc/2025am/meetingapp.cgi/Paper/169466*
- Gandham, N., & Singh, H. P. (2025) From Agro-Waste to Value-Added Product: Synthesis of Superabsorbent Hydrogel from Peanut Shells. [Abstract]. CANVAS 2025, Salt Lake City, UT. *https://scisoc.confex.com/scisoc/2025am/meetingapp.cgi/Paper/169483*
- Degala, V. N., & Singh, H. P. (2025) Effect of Carbon Nanotubes on Germination and Growth of Okra and Tomato [Abstract]. CANVAS 2025, Salt Lake City, UT. *https://scisoc.confex.com/scisoc/2025am/meetingapp.cgi/Paper/169471*
- Khanal, B., & Singh, H. P. (2025) Synthesis of Biochar-Based Nanofertilizer for Sustainable Agriculture [Ab-

Published Work 2024 – 2025

stract]. CANVAS 2025, Salt Lake City, UT. *https://scisoc.confex.com/scisoc/2025am/meetingapp.cgi/Paper/169460*

- Dauda, M., & Singh, H. P. (2025) User-Friendly Colorimetric Detection of Aflatoxin B1 in Peanuts Using Gold Nanoparticles and Aptamer [Abstract]. CANVAS 2025, Salt Lake City, UT. *https://scisoc.confex.com/scisoc/2025am/meetingapp.cgi/Paper/169470*
- Singh, H.P., Abanti Howlader, Jaabili Gosukonda, Arlese Owens, Jacquez Smith, and Venkata Degala (2025). Advancing Circular Bioeconomy: Value-Added Products from Cellulosic Biomass Waste for Agricultural and Environmental Sustainability. ASABE Annual International Meeting, Toronto, Canada, July 13-16, 2025.
- Neelima Gandham and Hari P Singh (2025). Biotechnology in Agriculture for Improved Food Production. 15th Annual Research and Creative Works Symposium, Fort Valley State University, Fort Valley, GA, April 23-24, 2025.
- Babita Bastakoti, Bhawana Khanal and Hari P. Singh (2025). Silicon Nanoparticles(SiNPs): A Novel Solution for Plant Resilience Under Abiotic Stresses Induced by Climate Change. 15th Annual Research and Creative Works Symposium, Fort Valley State University, Fort Valley, GA, April 23-24, 2025.
- Bhawana Khanal, Babita Bastakoti, Hari P. Singh (2025). Zeolite-Based Nitrogen Nano-fertilizers: A Climate-Smart Alternative. 15th Annual Research and Creative Works Symposium, Fort Valley State University, Fort Valley, GA, April 23-24, 2025.
- Mariam Dauda, Divya Shrestha and Hari P Singh (2025). Nanoparticles Based Techniques in Aflatoxin B1 Detection: A Response to Climate-Driven Food Safety Concern. 15th Annual Research and Creative Works Symposium, Fort Valley State University, Fort Valley, GA, April 23-24, 2025.
- Babita Bastakoti, Bhawana Khanal and Hari P. Singh (2025) Silicon Nanoparticles(SiNPs): A Novel Solution for Plant Resilience Under Abiotic Stresses Induced by Climate Change. 13th Annual Academic Research Conference (ARC), Livingston, AL, March 11-12, 2025.
- Bhawana Khanal, Babita Bastakoti, Hari P. Singh (2025). Zeolite-Based Nitrogen Nano-fertilizers: A Climate-Smart Alternative. 13th Annual Academic Research Conference (ARC), Livingston, AL, March 11-12, 2025.
- Mariam Dauda, Divya Shrestha and Hari P Singh (2025). Nanoparticles Based Techniques in Aflatoxin B1 Detection: A Response to Climate-Driven Food Safety Concern. 13th Annual Academic Research Conference (ARC), Livingston, AL, March 11-12, 2025.
- Babita Bastakoti, Bhawana Khanal and Hari P. Singh (2025) Silicon Nanoparticles(SiNPs): A Novel Solution for Plant Resilience Under Abiotic Stresses Induced by Climate Change. 10th HBCU Climate Change Conference, New Orleans, LA, March 5-9,2025.
- Bhawana Khanal, Babita Bastakoti, Hari P. Singh (2025). Zeolite-Based Nitrogen Nano-fertilizers: A Climate-Smart Alternative. 10th HBCU Climate Change Conference, New Orleans, LA, March 5-9,2025.
- Mariam Dauda, Divya Shrestha and Hari P Singh (2025). Nanoparticles Based Techniques in Aflatoxin B1 Detection: A Response to Climate-Driven Food Safety Concern. 10th HBCU Climate Change Conference, New Orleans, LA, March 5-9,2025.

Mahipal Singh, PhD

RECENTLY FUNDED PROPOSALS:

- Building Capacity For Teaching Novel Crispr/Cas Technology To Undergraduate And Graduate Students At Fort Valley State University. (9/1/2025-8/31/2028). $300,000.00; USDA-NIFA Capacity Building Grant. Mahipal Singh (role: PI). In collaboration with University of

Hawaii at Manoa, Honolulu, Hawaii (Co-PI: Dr. Zhiyan Du)

USDA OR INDUSTRY COLLABORATIONS AND PARTNERSHIPS:

- CRISPR/Cas9 workshop at MIT: fully paid weeklong inaugural genome-editing training organized by CGER and TSU at Broad Institute of MIT, Cambridge, MA July 7-11, 2025. Expected collaboration with sister HBCUs on genome editing technology from USDA funding possibilities.

PRESENTATIONS, ABSTRACTS, (WITH STUDENTS AND FACULTY):

- V. Nguyen*, S. Hareem, X. Ma, A. Moawad and M. Singh. Establishment of Fibroblast Cell Lines from Fetal and Adult Tissues and Their Use for β-Lactoglobulin Gene Editing in Bovine. To be presented in 22 Biennial Research Symposium of the Association of Research Directors, New Orleans, March 29, 2026.
- R. Alluri*, R. Polasa, V. Nguyen, X. Ma, A. Moawad and M. Singh. Establishment of a Granulosa Cell Line from Bovine Ovaries to Study Reproductive Processes between Oocyte and Granulosa Cells in an In-vitro Culture System. To be presented in 22 Biennial Research Symposium of the Association of Research Directors, New Orleans, March 29, 2026.
- S. Hareem*, V. Nguyen and M. Singh. Design of CRISPR Target Loci and Their PCR Amplification to Evaluate the Goat β-Lactoglobulin Gene-editing to Eliminate Milk Allergenicity. To be presented in 22 Biennial Research Symposium of the Association of Research Directors, New Orleans, March 29, 2026.
- R. Polasa1, *, X. Ma1, A. Pawar2, N. Joshee2, V. Nguyen1 and M. Singh1Recovery of Live Cells and Ultrastructural Changes in Goat Skin Tissues after Different Days of Postmortem Storage at 4°C. To be presented in 22 Biennial Research Symposium of the Association of Research Directors, New Orleans, March 29, 2026.
- Mahipal Singh, Adel Moawad and Xiaoling Ma. CRISPR-Cas 9 mediated β-lactoglobulin gene editing in caprine skin fibroblasts for somatic cell nuclear transfer. To be presented in International Embryo Transfer Society annual meeting Panama, January 19, 2026.
- Mahipal Singh, Venkata Degala, Xiaoling Ma. Establishment and characterization of a fetal fibroblast cell line for genetic modification in goats. To be presented in American Society of Cell Biology annual meeting, Philadelphia, Dec 8, 2025
- Singh, M; A. Abolude, X. Ma (2025). Evaluation of genetic variability in arylalkylamine n-acetyltransferase gene of seasonally polyestrous and year-round polyestrous breeds of *Capra hircus*.Presented in annual meeting of the American Society of Biochemistry and Molecular Biology, Chicago, April 12-15, 2025.
- Singh, M. Recovering life postmortem. Invited lecture delivered in College of Veterinary Medicine at Cairo University, Egypt, May 22, 2025.

Somashekhar M. Punnuri, PhD

RECENTLY FUNDED PROPOSALS:

- AFRI SAS Project with the University of Florida-CHEERS project. FVSU received a subaward in the amount of $224,996/- for five years beginning January 2025.

USDA OR INDUSTRY COLLABORATIONS AND PARTNERSHIPS:

- Recently developed new collaborations with the University of Nebraska Lincoln and the University of Idaho on sorghum data collection.

PRESENTATIONS, ABSTRACTS, (WITH STUDENTS AND FACULTY):

- Somashekhar Punnuri made one poster presentation at the PAG conference in San Diego, CA- Jan 2025.
- Graduate student Surakshya Ghimire presented poster and received first place in the Graduate STEM Poster Presentation at the 15th Annual Research and Creative Works Symposium (April 23–24, 2025) among graduate student categories.
- Somashekhar Punnuri led as guest editor on a special topic in Frontiers in Plant Science. The theme addressed climate change-related research. Sev-

enteen articles were collected which included one minireview and 16 research articles.

- Graduate students Sairam Vutla and Anvesh Sankuratri published an article about pearl millet in the publication Frontiers in Plant Science along with others from FVSU. Vutla et al., (2025) Mapping QTLs for Pyricularia leaf spot, nematode resistance, and yield related traits in pearl millet [Cenchrus americanus (L.) Morrone]. Frontiers in Plant Science. 16, 1588485. Graduate Student Sairam Vutla was the first author on this paper.
- Somashekhar Punnuri had the privilege of joining SEED (The Scientists Engaging and Educating Decision-makers) ambassadors from all 50 states, proudly representing the Tri-Society: ASA, CSSA, and SSSA@ ASA, CSSA, SSSA to show our support for Ag Research. He represented Crop Science as SEED Ambassador at Congressional Visits Day advocating for funding for Ag Science to two senators and one congressman from Georgia in Feb 2025.
- Four students presented in the oral and poster competition at the Georgia Entomological Society meeting. Two students presented oral and two students presented poster presentations at the Georgia Entomological Society meeting held in Brasstown Valley Resort, Young Harris, Georgia, April 9-12, 2025.
- High school student Risha Nayak presented a poster at the Georgia Entomological Meeting in Brasstown Valley, Blue Ridge, Georgia April 2025.
- 8.A postdoc presented a poster presentation at the Georgia Entomological Society meeting held in Brasstown Valley Resort, Young Harris, Georgia April 9-12, 2025.
- Two students and one research technician presented a poster at the CANVAS meeting held in Salt Lake City, Utah, November 9-12, 2025.
- Somashekhar Punnuri presented an oral presentation in the Plant Genetic Resources section.
- Somashekhar Punnuri mentored undergraduate student Surrayah Adams from the plant sciences program summer 2025 in the Valley Scholars Program at FVSU.

UPDATES FROM PUNNURI'S LAB FOR FALL 2025

- Two students graduated from Somashekhar Punnuri's lab; one joined the doctoral program at Tennessee State University, and one joined as a research technician at the University of Florida, Gainesville, Florida.
- Two graduate students attended and presented posters at the Crop Science Annual Meeting held in November 2025 in Salt Lake City, Utah.
- One of our papers in collaboration with USDA ARS Tifton in the Journal of Plant Registrations, JPR received the "Best Paper" award.
- An undergraduate student from the University of Idaho, Moscow visited our lab, sorghum fields and trained our students in data collection. Two FVSU undergraduate students from the plant sciences department were involved in training and were also recruited in the multistate adverse weather events project.
- Graduate students Sairam Vutla and Anvesh Sankuratri published an article on pearl millet in Frontiers in Plant Science along with others from FVSU; Vutla et al., (2025) Mapping QTLs for Pyricularia leaf spot, nematode resistance, and yield related traits in pearl millet [Cenchrus americanus (L.) Morrone]. Frontiers in Plant Science. 16, 1588485
- Somashekhar Punnuri and Dr. Thudi finished editing a guest editorial topic in Frontiers in Plant Sciences that collected 17 articles across different disciplines with one editorial article; Punnuri SM, Thudi M and Mir RR (2025) Editorial: Genetics and genomics of emerging and multifactorial stresses affecting plant survival and associated plant microbiomes. Front. Plant

Sci. 16:1738816. doi: 10.3389/fpls.2025.1738816.

PEER REVIEWED PUBLICATIONS

- Kumar et al., (2025) Genome-wide association mapping reveals novel genes and genomic regions controlling root-lesion nematode resistance in chickpea mini core collection. The Plant Genome 18(1)e20508 2025.
- Naik et al., (2025) Genomics, Pan-Genomics, and Super Pan-Genomics of Major Oilseed Crops. In Breeding Climate Resilient and Future Ready Oilseed Crops edited by Pandey et al., 7, Springer Publications-(Book chapter)
- Sahu et al., (2025) Consensus genomic regions and key genes for biotic, abiotic and key nutritional traits identified using meta-QTL analysis in peanut. Frontiers in Plant Science-16-1539641
- Naik et al., (2025) Exploring the multifaceted dynamics of flowering time regulation in field crops: Insight and intervention approaches. The Plant Genome 18(2) e70017
- Vutla et al., (2025) Mapping QTLs for Pyricularia leaf spot, nematode resistance, and yield related traits in pearl millet [*Cenchrus americanus* (L.) Morrone]. Frontiers in Plant Science. 16, 1588485
- Ranagri et al., (2025) Consensus Genomic Regions and Key Genes for Biotic, Abiotic and Key Nutritional Traits Identified using Meta-QTL Analysis in Peanut. In: Advances in Arachis through Genomics and Biotechnology (AAGB-2025), 23-25 March 2025, Novotel, Goa, India.
- Punnuri SM, Thudi M and Mir RR (2025) Editorial: Genetics and genomics of emerging and multifactorial stresses affecting plant survival and associated plant microbiomes. Front. Plant Sci. 16:1738816. doi: 10.3389/fpls.2025.1738816

AGRICULTURAL RESEARCH STATION
FORT VALLEY STATE UNIVERSITY
1005 STATE UNIVERSITY DRIVE
FORT VALLEY, GA 31030-4313

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