

TUSKEGEE UNIVERSITY COLLEGE OF VETERINARY MEDICINE

Research and Advanced Studies

News and Updates | January-June 2026

This midyear update recognizes recent accomplishments, scholarly activity, and collaborative initiatives across the College of Veterinary Medicine and its research community.

JANUARY 2026

Veterinary Scholars Program grant: Dr. Gemechu Wirtu received a Boehringer Ingelheim Veterinary Scholars Program grant in support of research and training efforts.

Posters presented at CRWAD: DVM students Laila Barnes, Quintera Gordon, and their advisor Dr. Rawah Faraj as well as four graduate students presented their research at the annual Conference for Research Workers on Animal Diseases (CRWAD). Pictured are TUCVM DVM and graduate students and Dr. Faraj at the Conference venue in Chicago.



Dr. Sherein Salem was invited to be a Guest Editor for *Biomedicines* (MDPI), Special Issue: *Advances in Infectious and Inflammatory Diseases*.

FEBRUARY 2026

AGBT Next Gen Leadership Awards. Kingsley E. Bentum, Asmaa Elrefaey, and Faith Wadzanai Kadzviti, all from TUCVM, were named 2026 AGBT General Meeting Next Gen Leadership Award recipients. Their presentations address microbial diversity in bovine feces, comparative genomic and virulence profiling of Shiga toxin-producing *Escherichia coli*, and genomic characterization of *Escherichia coli* from ruminants.

MEDIA / LINK: <https://www.agbt.org/pressmention/agbt-announces-2026-next-gen-leadership-award-recipients-for-the-general-meeting/>



Digestive Disease Week poster acceptance: Jamial Miller's abstract, "Smooth-Muscle Specific GPER Loss Disrupts the Gut Microbiome and Impairs Gastrointestinal Motility in Male Mice," was selected for poster presentation at Digestive Disease Week 2026 in Chicago and online, May 2-5, 2026.

Paper Published in *Veterinary Sciences*: Bentum, K. E., Leestemaker-Palmer, A., Nuss, S., Ballard, S., Montgomery, A., Abebe, W., Samuel, T., Pokoo-Aikins, A., & Bemudez, L. E. (2026). Gene Expression Analysis and Whole Genome Sequencing Reveal the Potential Mechanism of Ciprofloxacin Resistance in a *Salmonella* Dublin Isolate. *Veterinary Sciences*, 13(2), 177. <https://doi.org/10.3390/vetsci13020177>.

Paper Published in *Pathogens*: Nyarku, R., Kuufire, E., Bentum, K. E., Osei, V., Elrefaey, A., James, T., Woube, Y., Alocilja, E., Samuel, T., & Abebe, W. (2026). Optimizing Lysis and Extraction Workflows for Enrichment-Free qPCR Detection of *Salmonella enterica* in Poultry Matrices. *Pathogens*, 15(2), 229. <https://doi.org/10.3390/pathogens15020229>.

Paper Published in *EJVS*: Abdalhamed, A., Zeedan, G., Khafagi, M., **Abdelgayed, S.**, El Shafey, S., & dorgham, S. (2026). Evaluation of the Immunological Efficacy of Ginger–Gold Nanoparticle and Nigella sativa Oil Adjuvanted Experimental Enteric Vaccines. *Egyptian Journal of Veterinary Sciences*, (), 1-16. <https://doi.org/10.21608/ejvs.2026.457125.3397>.

MARCH 2026

PhD dissertation defense: Dr. Atiya Shahid: Atiya Shahid successfully defended her PhD dissertation, "The Effect of Structural Barriers on Black Women in the MACS/WIHS Combined Cohort Study (MWCCS)," on March 10. The Office recognizes her commitment to an important health and policy issue and acknowledges Dr. Stacy Lloyd, her major advisor.

PhD dissertation defense: Dr. Johnpaul Kagulire: Johnpaul Kagulire successfully defended his PhD dissertation on March 20. The Integrative Biosciences PhD Program also recognized his mentors, Dr. Bovell-Benjamin and Dr. Dibaba, committee members, and the IBS Deans Council.

Paper Published in the *Journal of Food Protection*: Franco, A. J., **Abebe, W.**, Conklin, T., Stearns, R., Woods, M., & Alocilja, E. (2026). A Sample-to-Detection (S2D) Nano-Biosensing System to Rapidly Detect Salmonella in Poultry Processing Samples. *Journal of food protection*, 89(3), 100712. <https://doi.org/10.1016/j.jfp.2026.100712>.

Paper Published in *Hayati J. Biosciences*: A. Mahmood, S., Muhsin, S. S., & **Faraj, R. A.** (2026). Evaluation of the MicroRNA184 Levels in Women with Miscarriage Association with Toxoplasmosis, Rubella, and CMV Infections. *HAYATI Journal of Biosciences*, 33(4), 889-893. <https://doi.org/10.4308/hjb.33.4.889-893>.

Paper Published in *Applied Biosciences*: Mohamed, D. A., Elbakry, H. F., Ibrahim, G. E., **Abdelgayed, S. S.**, & Mabrok, H. B. (2026). Integrated Phytochemical, Molecular Docking, and In Vivo Evidence for the Hypolipidemic Efficacy of Chamomile- and Thyme-Linseed Formulations. *Applied Biosciences*, 5(1), 17. <https://doi.org/10.3390/applbiosci5010017>.

Paper Published in *Scientific Reports*: Lotify, M. A., **Abdelgayed, S. S.**, & Mohamed, H. R. H. (2026). Quercetin and nanoquercetin mitigate high fat diet-induced obesity via lipid modulation, genomic DNA integrity restoration, adipokine regulation, and hepato-pancreatic tissue preservation. *Scientific reports*, 16(1), 9660. <https://doi.org/10.1038/s41598-026-41808-5>.

APRIL 2026

Publication in Cancer Research Communications: Researchers from TUCVM and the Tuskegee University Center for



Biomedical Research published "Spatial transcriptomics of TNBC across clinical states reveals subtype-specific wiring and immunosuppressive niches" in Cancer Research Communications. Fengyuan Huang, Nitish Kunte, Himani Khurana, Clayton Yates, and Deepa Bedi examined the evolution of triple-negative breast cancer across clinical states and reported an Immuno-Spatial Molecular Subtypes framework to characterize tumor heterogeneity and immune evasion patterns.

MEDIA / LINK: <https://aacrjournals.org/cancerrescommun/article/6/5/1246/785468/TNBC-Spatial-Transcriptomic-Analysis-across>

AGBT Agriculture Next Gen Leadership Award: Viona Osei of TUCVM and IBS was named one of nine 2026 AGBT Agricultural Meeting Next Gen Leadership Award recipients.

MEDIA / LINK: <https://www.businesswire.com/news/home/20260414533686/en/AGBT-Announces-Next-Gen-Leadership-Award-Recipients-for-the-2026-Agricultural-Meeting>



Biology Research Symposium recognition: The Annual Biology Decision Day and Biology Research Symposium celebrated student research presentations. **Jamial Miller** received third place among the poster presentation winners.

Paper Published in *Pathogens*: Osei, V., Kuufire, E., Nyarku, R., Bentum, K. E., James, T., Elrefaey, A., Samuel, T., & Abebe, W. (2026). Genome-Informed Identification of Species-Specific Diagnostic Markers for *Listeria* Using Pangenome Analysis. *Pathogens*, 15(4), 397. <https://doi.org/10.3390/pathogens15040397>.

AACR Poster presented: Wilkerson, M., Heath, J., & Abdalla, E. (2026). Disparities in 5-year relative survival rates of cervical cancer by age and stage at diagnosis between African Americans and Whites, in the USA, from 2016 to 2022. *Cancer Research*, 86(7_Supplement), 910-910.

Research Poster presented: Alhamza Taleb Nejres, Abtisam Jawad Ali, and Rawah Faraj presented their work "Prevalence, Molecular Identification, and Global Phylogenetic Comparison of *Mycoplasma synoviae* from Iraqi Fertile Chicken Eggs" at the 15th Scientific Conference and 4th International Veterinary Conference in Baghdad, Iraq.

MAY 2026

Guest editorship in *Pathogens*: Kingsley Bentum was invited as a Guest Editor for a *Pathogens* special issue on "Genomics and Rapid Detection Technologies for Foodborne Pathogens." Dr. Bentum is a 2025-26 graduate of IDPB.

Qualifying examination milestone: Asmaa Elrefaey passed the Integrative Biosciences PhD Qualifying Examination with a score of 100%.

One Health partnership with ADPH: TUCVM and the Alabama Department of Public Health Infectious Diseases & Outbreaks Division formalized a five-year Memorandum of Understanding to advance One Health research, education, public health service, and workforce development focused on vector-borne diseases in Alabama. The agreement was signed by Dr. Ebony Gilbreath, Dean of TUCVM, and Amanda Ingram, Director of ADPH-IDOD.

Paper published in BMC Genomics: Soku, Y. K., Lange, M. D., Abernathy, J. W., Sankappa, N. M., Shoemaker, C. A., Hayden, K., ... & Mohamed, A. (2026). Hepatic transcriptomics reveals immuno-metabolic interactions in juvenile channel catfish (*Ictalurus punctatus*) after *Aeromonas hydrophila* infection. *BMC genomics*.

Yale–Tuskegee Collaborative Grant – awarded to Dr Salem and Team: ‘Pathology Unveiled: A Digital Gross Pathology Library with AI-Enabled Diagnostic and Teaching Platform’ was through the Yale–HBCU ASCEND Faculty Collaboration Grant Program. Dr Salem serves as the Tuskegee University Lead Principal Investigator.

Publication accepted in BMJ Open: A systematic review protocol by Dr. Nelson Oranye, "School based versus community-based interventions for promoting mental health among school age children in marginalized or underserved populations," was accepted for publication in BMJ Open.

Paper published in NPJ Vaccines: Touray, B. J. B., Faburay, A. K., Mohamed, F. F., **Abdelgayed, S. S.**, & Talaat, A. M. (2026). Superior protection against tuberculosis using heterologous mRNA nanoadjuvant vaccines. *NPJ vaccines*, 10.1038/s41541-026-01476-y. Advance online publication. <https://doi.org/10.1038/s41541-026-01476-y>. Dr. Sherein Salem co-authored this paper.

JUNE 2026

TVSP student publication: DVM student Aniyah Ragland's 2025 Tuskegee Veterinary Scholars Program summer research project resulted in a peer-reviewed publication now in press. Abdelgayed SS, Ragland A. "Comparative gross and histopathological characterization of pulmonary lesions across multiple animal species: A necropsy-based study." *Journal of Applied Veterinary Sciences*. 2026;11(3). Dr. Sherein Salem mentored the student and led the project.

Paper Published in the J Basic and Applied Zoology: Hasan, S.M., Hosney, M., Eid, J.I. Jehane I. Eid, **Sherein S. Abdelgayed**, Anas A. Rasmy, Shaimaa M. Gomaa & Emad M. Elzayat. Adipose-derived mesenchymal stem cells attenuate doxorubicin-induced cardiomyopathy in rats: association with miR-146a/NF-κB/TLR-4 transcriptional modulation. *JoBAZ* 87, 56 (2026). <https://doi.org/10.1186/s41936-026-00598-y>.

Paper Published in the EJABF: Abdelrahman Said Talab; Ahmed Hussein; Doha Mohamed; Sherein S. Abdelgayed; Marwa E. El-Shamarka; Hala Elshahat Ghannam; Nano-Enabled Food-Packaging Materials Incorporating Spirulina Alga and Hibiscus: In Vivo Safety and Histopathological Evaluation, Pages 2835-2848. Doi: 10.21608/ejabf.2026.490847.7981.

RCMI Conference poster acceptance (tick-borne diseases). Dr. Rawah Faraj's abstract, "Tracking Tick-Borne Rickettsia of Public Health Concern in Alabama Wooded Ecosystems," was accepted for poster presentation at the 2026 RCMI Consortium National Conference in Bethesda, Maryland, July 19-22, 2026.

RCMI Conference poster acceptance (breast cancer): Fengyuan Huang's abstract, "Obesity, Genetic Ancestry, and Molecular Subtype Associations in Breast Cancer," was accepted for poster presentation at the 2026 RCMI Consortium National Conference in Bethesda, Maryland, July 19-22, 2026.

Congratulations to all faculty, staff, and students recognized in this update.