

SPOTLIGHT ON Auburn University Veterinary Medicine

Advancing animal health and welfare through research

Improving animal health through research at Auburn University

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Since its founding in 1892, the Auburn University College of Veterinary Medicine (AUCVM) has improved animal health through research targeting common and devastating diseases of companion animals and livestock. Following are but 3 examples of the wide-ranging research pursuits of the AUCVM. For more information, see www.vetmed.auburn.edu.

Canine Performance Sciences

The mission of the Canine Performance Sciences (CPS) program is to innovate canine technology by exploring olfaction, behavior, genetics, and physical performance. The CPS program is home to the Detection Canine Science, Innovation, Technology and Education (DCSITE) program, established in 2022 through a \$24 million contract with the Department of Homeland Security Science and Technology Directorate. Anchored in the AUCVM, the DCSITE program fosters technological innovation in support of canine health and performance, sharpens responsiveness to emerging threats, facilitates creation of educational programs, and provides a nationally centralized hub for expertise and knowledge in the field. The DCSITE program engages experts in 5 colleges at Auburn University and multiple external partners in both public and private sectors.

Infectious Disease Surveillance and Treatment

Many animal species benefit from long-standing research and surveillance programs for infectious diseases. Important poultry disorders such as Newcastle disease and avian influenza are under investigation by the Animal Health and Agro-/Bio-Defense (AHAD) program, developed with \$6.5 million of support in partnership with the USDA Agricultural Research Service and scientists at the US National Poultry Research Center. Companion animals have long benefitted from our work on vector-borne pathogens such as heartworms, and cattle health has been improved through extensive study of bovine viral diarrhea virus. Dogs, cats, and other animals (including humans) are the targets of our research on rabies virus, which still kills untold numbers of animals and over 60,000 people/year worldwide. Rabies initiatives at Auburn include antibody titer measurement in pets, USDA-sponsored surveillance programs in wildlife, and development of gene therapy for patients with symptomatic rabies encephalitis.



Functional magnetic resonance imaging of an awake, unrestrained dog for the study of canine olfaction.

Similarly, both animals and people benefit from our patented plasmapheresis technology in a novel equine platform that generates raw material for medical countermeasures of value to the US Strategic National Stockpile.

Scott-Ritchey Research Center

Founded in the 1980s from generous gifts by Mr. Kenneth Scott and Ms. Eleanor Ritchey, the Center emphasizes molecular approaches to improving companion animal health. Four distinct areas make up the core of the Center's research efforts: neurologic diseases, companion animal contraception, cancer therapeutics, and feline obesity. In addition to developing therapies for inherited neurologic disorders such as Tay-Sachs disease, the Center prevented these disorders from decimating the European Burmese and Korat breeds through a screening program in US and international catteries, some of which had carrier rates of approximately 25%. Molecular contraceptive methods are being devised to reduce the number of stray and feral animals, thereby avoiding euthanasia of thousands of healthy animals each year. Next-generation therapies for lymphoma, osteosarcoma, and other cancers are in development. Also, in collaboration with the Boshell Diabetes and Metabolic Disease Program, the Center studies causes and treatment of feline obesity, which affects > 10% of the cat population.

