

SPOTLIGHT ON University of Georgia Veterinary Medicine

Advancing animal health and welfare through research

University of Georgia's College of Veterinary Medicine research-intensive centers improve human and animal health

Sharron Quisenberry, PhD; Jesse Hostetter, DVM, PhD, DACVP; Anumantha Kanthasamy, PhD; Lisa K. Nolan, DVM, PhD*

College of Veterinary Medicine, University of Georgia, Athens, GA

*Corresponding author: Dr. Nolan (lisa.nolan@uga.edu)

doi.org/10.2460/ajvr.23.08.0183

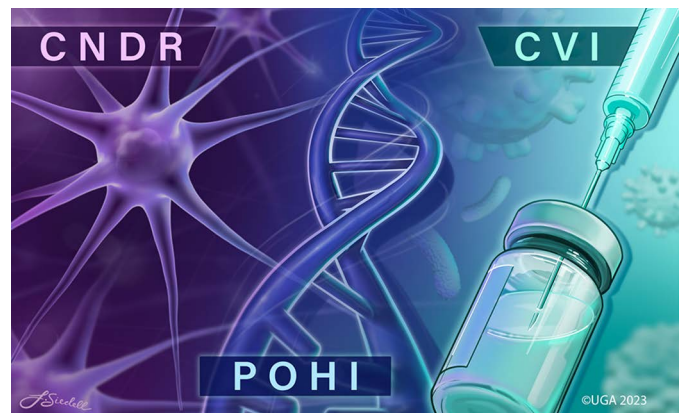
The University of Georgia College of Veterinary Medicine's (UGA-CVM) vision is to create a world in which healthy animals and people enrich each other's lives. Across our college and within our 3 research-intensive units, this philosophy is deeply rooted.

Center for Neurological Disease Research (CNDR)

CNDR, led by the John H. "Johnny" Isakson Chair, Dr. Anumantha Kanthasamy, is at the forefront of advanced neurologic research. CNDR houses 6 faculty members and over 50 affiliates who employ state-of-the-art techniques to study, prevent, and treat neurologic diseases. CNDR's mechanistic research focuses on cell death and survival signaling pathways linking protein aggregation, neuroinflammation, and organelle dysfunction through the use of recombinant *in vitro*, *ex vivo*, and *in vivo* model systems, including *in silico* modeling approaches. Investigators employ cutting-edge methodologies capable of single-cell resolution of epitranscriptomics and optogenetic neural circuit mapping to understand complex mechanisms underlying gene-environment interactions in the etiopathogenesis of chronic neurologic diseases. This includes the development of early-stage biomarkers that rely on minimally invasive biopsies. In addition, genetic engineering approaches are harnessed to enhance the metabolic capabilities of the gut microbiome for the sustained replenishment of certain major neurochemical deficiencies that manifest themselves as troubling autonomic, motor, and cognitive impairments.

Precision One Health Initiative (POHI)

POHI is led by Dr. Jonathan Mochele, a leading researcher in pharmacology and therapeutics. POHI has recruited 14 faculty with interests in understanding how genetics, the environment, and lifestyle inform the most efficacious approaches to the design of optimal preventive or therapeutic care with the ultimate aim of providing an individual with the best treatment or intervention at the best time. Key areas of precision one health are screening "at-risk" individuals, identifying mutations with importance in disease susceptibility and clinical course, vaccine and drug development, and molecularly guided treatment selection. Their one-health approach will improve healthcare for humans and animals, enhance preparedness for



The 3 research-intensive units of the University of Georgia College of Veterinary Medicine: Center for Neurological Disease Research (CNDR), Center for Vaccines and Immunology (CVI), and Precision One Health Initiative (POHI).

disease outbreaks and community health issues, and provide safeguards for individuals, public health, the food supply, agriculture, and our environment.

Center for Vaccines and Immunology (CVI)

CVI consists of a premier team of researchers, led by Dr. S. Mark Tompkins, the UGA Athletic Association Distinguished Professor in Virology and Immunology and Director of the NIAID-funded Center for Influenza Disease and Emergence Research. CVI faculty are leading the way in connecting basic and translational research to advance understanding of disease and disease intervention for animals and humans. UGA-CVM provides a strong home base for CVI because of its world-renowned expertise in infectious disease, veterinary medicine, immunology, ecology, and public health. UGA-CVM's world-class biocontainment resources coupled with the expertise of scientists from collaborating institutions allow CVI investigators to focus on translational studies to create and develop novel vaccines and immunotherapies in partnership with industry, governmental, and other academic institutions.