

Med School Watercooler

NEWS FROM FREDERICK P. WHIDDON COLLEGE OF MEDICINE
AT THE UNIVERSITY OF SOUTH ALABAMA

Wednesday, September 6, 2023

Meet a Med Student: Cana Brown

Cana Brown

Age: 24

Class: 2026

Hometown: Helena, Alabama

Undergraduate education: B.S. in biomedical sciences, University of South Alabama

What do you enjoy most about being a medical student at the Whiddon College of Medicine?

I love how South encourages students to pursue growth in the classroom, the clinics, and in our personal lives.

Are you involved in any research, organizations or other initiatives at the Whiddon College of Medicine?

I worked in the Borchert Lab while in undergrad, during my gap year, and the summer before my first year at the Whiddon College of Medicine. I now serve as treasurer of the Student-Run Free Clinic, social media chair for the Pediatrics Interest Group, a member of the Family Medicine Interest Group, and a member of a Bible study with the Christian Medical Ministry of South Alabama.

What are your interests and hobbies?

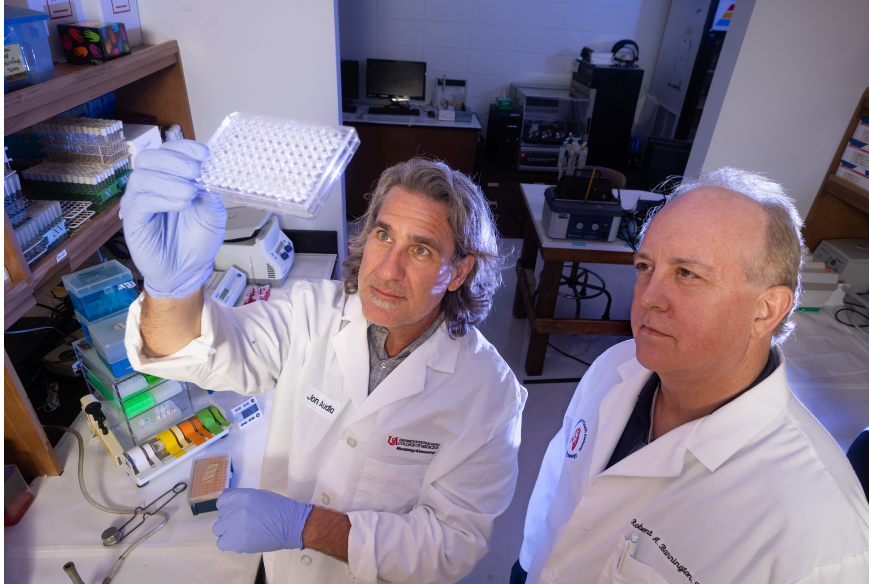
I enjoy playing piano, hosting game nights with my friends, getting to see my family, and volunteering with my church's preteen ministry.

What is something unique about you?

I auditioned to be a contestant on Wheel of Fortune.



USA scientists awarded national grant to study body's innate immune response to infection



Jonathon P. Audia, Ph.D., and Robert A. Barrington, Ph.D., are principal investigators of the research, funded by the National Institutes of Health.

Better understanding the complexities of how the human body protects itself against infection is one goal of research now being conducted at the Whiddon College of Medicine. The National Institutes of Health awarded a two-year, \$423,500 grant to USA scientists to conduct research on the amyloid precursor protein and its role in activating neutrophils to protect against bacterial infections.

Principal investigators for the research are Jonathon P. Audia, Ph.D., a professor of microbiology and immunology; and Robert A. Barrington, Ph.D., an associate professor of microbiology and immunology.

The amyloid precursor protein (APP) is best known for producing amyloid-beta, a key pathogenic molecule implicated in the development of Alzheimer's disease and related dementias. However, there have been relatively few studies on the normal biological functions of APP, noted Audia.

Recent evidence suggests that the amyloid precursor protein functions as part of the innate immune response to infection. USA scientists Audia and Barrington said they have made the exciting discovery that APP plays an important role in directing the neutrophils during bacterial pneumonia using their established model of *Pseudomonas aeruginosa*-induced lung injury.

"This new line of work for the group was developed in large part due to the Whiddon COM's Intramural Grants Program," Audia said, "and will further our understanding of how we defend ourselves against infections." Additionally, this research has the potential to cast light on mechanisms underlying the long-term health problems faced by patients' post-recovery from intensive care unit stays.

Established in 2017, the [Intramural Grants Program](#) supports basic, clinical and translational research through an annual competition for faculty members in the Whiddon College of Medicine. The program provides seed funding to develop innovative projects that are conceptually new or to obtain critical preliminary data to strengthen revised grants submissions. Each year, the Whiddon College of Medicine commits up to \$250,000 to this program.

Audia said he and his colleagues are excited about the new project "to understand the role of the amyloid precursor protein in neutrophil-mediated defense against invading pathogens."

Medical student to present tick transmission research at national conference

Parker Norman, a third-year medical student, is the recipient of a \$500 student travel award to attend the American Society of Tropical Medicine and Hygiene Annual Meeting this fall in Chicago. He will present research conducted at the Whiddon College of Medicine on the transmission of a tick-borne virus.

Recipients of this award have been asked to present a five-minute "lightning talk" during a symposium at the ASTMH annual meeting planned for Oct. 18-22. Specifically, Norman will present on the interspecies co-feeding transmission of Heartland Virus between a native tick species and the invasive East Asian tick. He will give an additional presentation about his research on ectoparasite-borne diseases.



Parker Norman

He earned the national award through a competitive application process. "I'm very happy his hard work was recognized by the American Committee on Arthropod-Borne and Zoonotic Viruses," said Meghan Hermance, Ph.D., assistant professor of microbiology and immunology at the Whiddon College of Medicine.

Norman conducted an independent research project as part of the [M.D. with Research Honors Program](#) as a member of the Hermance laboratory where he is working with the emerging tick-borne virus, Heartland virus, and studying co-feeding transmission dynamics of Heartland virus between two tick species.

A Fairhope native, Norman earned an undergraduate degree from Auburn University, where he studied a different arthropod – mosquitoes. In the summer of 2022, he completed the USA COM Summer Medical Student Research Program where he investigated the co-feeding transmission of Powassan virus between the invasive tick species *Haemaphysalis longicornis* and the native tick *Ixodes scapularis*.

"As my experience with arbovirology research grows, so does my fascination with the virus-tick model and other arthropod-virus interactions," Norman said. "*H. longicornis* is a unique invasive East Asian tick that is now in 17-plus states throughout the U.S. Its expanding territory is an evolving public health threat."

The Hermance lab is studying, among other things, this invasive East Asian tick's ability to acquire, maintain, and transmit North American tick-borne viruses to better predict and prepare for future complications with its rise in population, Norman said.

As a medical student, Norman said attending and presenting at conferences is helping to strengthen his skills as an educator and allow him to learn from leading experts.

Founded in 1903, the American Society of Tropical Medicine and Hygiene is the largest international scientific organization of experts dedicated to reducing the worldwide burden of tropical infectious diseases and improving global health. The annual meeting is typically attended by more than 4,500 members from across the globe.

"I am excited to continue pursuing a career in academic medicine," Norman said, "and I hope to one day be able to pass my knowledge onto others much like Dr. Hermance has for me."