Med School Watercooler

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

Wednesday, August 31, 2022

Meet a Med Student: Naden Kreitz

Naden Kreitz

Age: 24

Class of: 2025

Hometown: Montgomery, Alabama

Undergrad institution: University of South Alabama

Degree earned: Bachelor of Science in biology

Interests, hobbies: I enjoy hiking, traveling, teaching, and playing tennis and pickleball.

Something unique about me: I attended a boarding school in Princeton, New Jersey, when I was in the sixth and seventh grade.

Three of my favorite things: Visiting national parks, activities on a lake and attending a symphony

What I enjoy most about being a student at the Whiddon College of Medicine: My favorite part of South is the community. I have been able to create friendships that go beyond school and have impacted my time in medical school. I am thankful for classmates and faculty who have challenged and encouraged me during this journey.

Monday, August 29, 2022

USA scientist receives $2.3 million grant renewal for flea pathogen research

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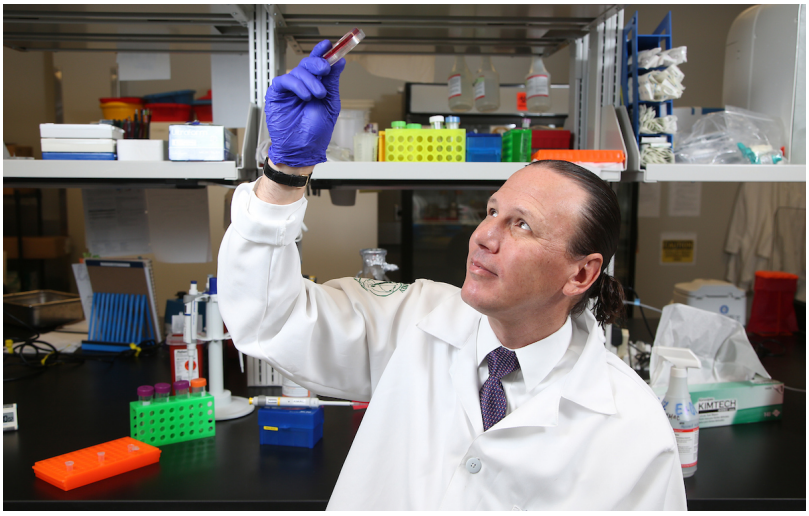

Kevin Macaluso, Ph.D., professor and chair of microbiology and immunology, is studying the transmission of diseases by fleas.

A $2.3 million grant renewal from the National Institutes of Health will help scientist Kevin Macaluso, Ph.D., and his colleagues at the Frederick P. Whiddon College of Medicine ultimately improve diagnosis and treatment of diseases transmitted by fleas and other insects.

There are no vaccines available to prevent rickettsial infections, and antibiotics are not recommended for prevention of such diseases.

Rickettsial infections, such as Rocky Mountain spotted fever, are bacterial diseases that can produce mild to severe, flu-like symptoms and are transmitted through the bites of arthropods such as fleas and ticks. If untreated, the toll of the disease on humans can be severe. In the United States, about 5,500 rickettsial infection cases are reported each year to the Centers for Disease Control and Prevention. That number is likely much larger because the majority of cases typically go unreported.

Macaluso, Locke Distinguished Chair and a professor in the department of microbiology and immunology at the Whiddon College of Medicine, said the grant is essential for his lab's continued work.

"Our ultimate goal for this research is to make clear the biological and molecular mechanisms that are critical to rickettsial transmission by fleas so we can better understand the epidemiology of flea-borne rickettsial diseases and identify novel points of intervention," Macaluso said.

Recent discoveries, including the transmission of flea-borne pathogens in the absence of a rickettsemic host and the identification of multiple rickettsial agents co-circulating in flea populations, have guided the research to determine if overlapping rickettsial agents circulating in flea populations influence the transmission of one another.

The assembly of the cat flea genome, which Macaluso and other collaborators first published details about in June 2020, also allows for investigation of the flea-derived factors that facilitate or prevent Rickettsia transmission.

Rickettsia felis originally was identified in the United States as a human pathogen in 1991 and now is associated with human infection in North America, South America, Europe, Africa, Asia and Oceania.

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