

UAMS News Bureau

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**UAMS Researcher Awarded \$1.7 million NIH Grant
To Study Deadly Pathogen that Causes Severe Pneumonia**

LITTLE ROCK — The National Institute of Allergy and Infectious Diseases, part of the National Institutes of Health, has awarded a five-year \$1.7 million grant to a University of Arkansas for Medical Sciences (UAMS) researcher studying the pathogenesis of pulmonary infection.

The UAMS laboratory run by Roger Pechous, Ph.D., an assistant professor in the College of Medicine's Department of Microbiology and Immunology, is specifically interested in *Yersinia pestis*, the causative agent of plague and one of the deadliest pathogens known to man.

Pechous was initially awarded \$249,635 to enable him to gather data to justify the research, and that preliminary work prompted the NIH to recently upgrade the grant by providing an additional \$1,496,382 to continue the research through 2026.

"I'm interested in understanding the progression of severe pneumonia, and this type of pneumonia is as severe as it gets," Pechous said.

Specifically, he's interested in the bacteria that caused the bubonic plague, also known as the Black Death of the Middle Ages, and two other types of plague, including pneumonic plague, which affects the lungs. His lab studies how, once a pathogen enters the lung, it is able to cause an infection and avoid being killed by a person's immune system.

"It is somewhat applicable to SARS [Severe Acute Respiratory Syndrome, a viral respiratory disease caused by a coronavirus], in that it looks at how a pathogen avoids getting cleared initially from the lungs, and more importantly, what is causing the failure of your immune system to control infection," he said.

His goal is to figure out how a person's immune system stifles the invader once it gets in, and why in the case of some microbes this does not occur.

UAMS is the state's only health sciences university, with colleges of Medicine, Nursing, Pharmacy, Health Professions and Public Health; a graduate school; hospital; a main campus in Little Rock; a Northwest Arkansas regional campus in Fayetteville; a statewide network of regional campuses; and seven institutes: the Winthrop P. Rockefeller Cancer Institute, Jackson T. Stephens Spine & Neurosciences Institute, Harvey & Bernice Jones Eye Institute, Psychiatric Research Institute, Donald W. Reynolds Institute on Aging, Translational Research Institute and Institute for Digital Health & Innovation. UAMS includes UAMS Health, a statewide health system that encompasses all of UAMS' clinical enterprise including its hospital, regional clinics and clinics it operates or staffs in cooperation with other providers. UAMS is the only adult Level 1 trauma center in the state. *U.S. News & World Report* named UAMS Medical Center the state's Best Hospital; ranked its ear, nose and throat program among the top 50 nationwide; and named six areas as high performing — COPD, colon cancer surgery, heart failure, hip replacement, knee replacement and lung cancer surgery. UAMS has 2,876 students, 898 medical residents and four dental residents. It is the state's largest public employer with more than 10,000 employees, including 1,200 physicians who provide care to patients at UAMS, its regional campuses, Arkansas Children's Hospital, the VA Medical Center and Baptist Health. Visit www.uams.edu or www.uamshealth.com. Find us on [Facebook](#), [Twitter](#), [YouTube](#) or [Instagram](#).

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