

Med School Watercooler

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

Tuesday, December 12, 2023

Audia receives NIH grant to study antibiotic-resistant bacteria

Learning more about the pathogenesis of highly antibiotic-resistant bacteria that cause pneumonia and sepsis in critically ill patients is the goal of new research being conducted by scientists at the Whiddon College of Medicine.

The National Institutes of Health (NIH) recently awarded a two-year, \$400,400 grant to Jonathon P. Audia, Ph.D., a professor of microbiology and immunology, to study the virulence of *P. aeruginosa*, which is the most frequent Gram-negative, opportunistic pathogen causing pneumonia in patients who have chronic lung disease, are older and/or immunocompromised.

That same pathogen, *P. aeruginosa*, is also common in critically ill patients hospitalized with respiratory failure in intensive care units.

Coincidence? That is something Audia and other investigators would like to find out.

Importantly, Audia said, strains of the *P. aeruginosa* pathogen expressing what is known as the ExoU virulence factor, are associated with the highest levels of patient morbidity and mortality.

"We have discovered that ExoU triggers unscheduled inflammatory cell death in lung endothelial cells by activating an innate immune signaling complex known as the inflammasome," he said. A main goal of the new study is to determine the mechanisms underlying ExoU-mediated inflammation.

The scientists also want to further study how other bacterial infections in the lungs interact with endothelial cells to elicit inflammatory damage.

Previous research has led them to this point. "We discovered that when the bacteria interact with endothelial cells," Audia said, "it triggers a massive inflammatory response."

Amanda N. Tuckey, a Ph.D. candidate in the Audia laboratory, was a co-author on the previous work and will continue to move these newly funded studies forward.



Jonathon Audia, Ph.D., professor of microbiology and immunology, is the recipient of an NIH grant to study an antibiotic-resistant bacteria.

"The broader impact," said Audia, "is potentially identifying a novel target for the development of therapeutics against the bacteria and understanding the impact of infection of the host immune or inflammatory response, which may ultimately lead to a better understanding of why some patients suffer from long-term consequences."



Jonathon Audia, Ph.D., and graduate student Amanda Tuckey study the *P. aeruginosa* pathogen.

Mikhail Alexeyev, Ph.D., an associate professor of physiology and cell biology at the Whiddon College of Medicine, is also a collaborator on the work. "His renowned expertise in the molecular biology and genetic manipulation of cultured lung endothelial cells is an essential component of the project," Audia said, "and will help to create new tools that can be used to develop a better understanding of endothelial inflammatory responses."

Posted by Med School Watercooler at [12:41 PM](#)



Reconstructive urologist joins USA Health and Whiddon COM

USA Health is expanding its urology services with the addition of Jatinder Kumar, M.D., a urologist who specializes in reconstructive procedures involving the urinary tract and certain reproductive organs.

Kumar joins USA Health University Urology and will hold the academic title of assistant professor of urology at the Whiddon College of Medicine. He most recently was chief of the Department of Urology and director of outcomes research at the Armstrong Center for Medicine and Health in Kittanning, Pennsylvania.



Jatinder Kumar, M.D.

In addition, Kumar will be the only reconstructive urologist on the Gulf Coast.

"With reconstructive urology, we aim to restore normal function by repairing, rerouting or recreating areas of the upper and lower urinary tract," he said. "This helps patients by not only restoring function but also improving their quality of life."

Patients may require reconstructive urology because of injuries, birth defects, medical conditions or complications from surgery or other treatment.

"Dr. Kumar's unique skills and experience in reconstructive urology allows us to provide a wider range of treatment options for people in our region," said Christopher E. Keel, D.O., associate professor and chair of the Department of Urology. "We are excited to welcome him to USA Health."

Kumar earned a medical degree from Lala Lajpat Rai Memorial Medical College in Meerut, India. He completed an internship at Sardar Vallabh Bhai Patel Hospital in Meerut and residency in general surgery at King George's Medical University in Lucknow, India. He went on to a residency in urology at the Sanjay Gandhi Postgraduate Institute of Medical Sciences in Lucknow, India, and a fellowship in advanced and reconstructive urology at the University of Florida in Jacksonville.

Kumar said he is drawn to academic medicine by the opportunity to teach and train residents. "I will have the opportunity to share new ideas and different ways of treating patients," he said.

While at the University of Florida, Kumar started a program for holmium laser enucleation of the prostate, a minimally invasive procedure that uses laser pulses to remove tissue from inside an enlarged prostate. He also developed a program for mini-percutaneous nephrolithotomy, a minimally invasive surgery that removes kidney stones through tiny incisions.

He is the author of more than 30 articles in peer-reviewed scientific journals and has presented research at many national and international conferences. Kumar is a member of the American Urological Association and the Urological Society of India.

Kumar will see patients at University Urology in Mobile and at the Mapp Family Campus in Fairhope. To make an appointment, call 251-660-5930.

Posted by [Med School Watercooler](#) at [12:14 PM](#)



Perkins awarded \$16 million grant to help address national physician shortage



Allen Perkins, M.D., M.P.H., professor of family medicine, received a Health Resources and Services Administration grant that seeks to increase the number of primary care physicians in the state.

While improving healthcare access remains a challenge, a recently awarded grant and an ongoing initiative aim to help USA Health and the University of South Alabama address the issue head on.

Allen Perkins, M.D., M.P.H., a professor of family medicine at the Whiddon College of Medicine, was recently awarded a \$16 million Health Resources and Services Administration (HRSA) grant that seeks to increase the number of primary care physicians in states facing the highest projected shortages within the next two years. He also serves as a family medicine physician, chief ambulatory medical officer, and population health officer for USA Health.

The multi-year grant will fund a comprehensive approach to improving healthcare access in underserved communities that builds on its Primary Care Pathway program, which prepares medical students through a broad-based four-year program in primary care to serve patients in rural and underserved areas.

New to the program is a post-baccalaureate component that takes students from historically underserved communities, Perkins said, and prepares them for the rigors of medical school so they will be more likely to succeed once admitted. Additional training in the Whiddon College of Medicine prepares students for practicing in underserved communities in partnership with Franklin Primary Health Center and Accordia Health.

The new funding also allows for the Whiddon College of Medicine to hire an epidemiologist and biostatistician to help characterize the communities the students are training in and help to focus the student outreach and impact on the communities, Perkins said, noting "the students have now been in the communities for four years and are beginning to identify resource needs unique to each of the areas."

With the help of the Covey College of Allied Health Professions, USA Health Department of Family Medicine and the USA Center for Healthy Communities, the latest training model is an expansion of the Primary Care Pathway program. It will recruit and enroll up to 40 students from historically underrepresented groups or those who have had formative experiences in historically underserved communities and have expressed an interest in practicing primary care in such settings.

"This grant is a vital steppingstone for identifying these students, supporting them in medical school and keeping them focused on the care they are training to deliver," said John Marymont, M.D., M.B.A., dean of the Whiddon College of Medicine at USA and vice president for medical affairs. "The idea is that after medical school these new physicians will complete residency training and return to rural communities to provide much needed care."

For years, Perkins has championed reaching underserved communities through training primary care physicians and obtaining grants like this one.

"We're proud Dr. Perkins and his team continue to aggressively seek ways to address and alleviate the health disparities that persist in our community and throughout the United States," said Owen Bailey, MSHA, FACHE, chief executive officer for USA Health and senior associate vice president for medical affairs. "We are extremely optimistic this project will not only be transformational for the Whiddon College of Medicine, its educators and students, but also for residents of rural communities in southwest Alabama served by our academic health system."

Posted by [Med School Watercooler](#) at [10:09 AM](#)



Alumni, faculty participate in medical mission trip



From left, Bob Chagrasulis, M.D., '81; Desiree Soter-Pearsall, M.D.; Alan Shain, M.D.; Grace Lagasse, M.D., assistant professor of emergency medicine; Kyran Dowling, M.D., '81; Pat Nolan, M.D., '81; and Cindy Richendollar, Rotary Club member, were volunteers on a recent medical mission in the Dominican Republic.

For the past several years, alumni of the Whiddon College of Medicine and faculty from the Department of Emergency Medicine have traveled to the Dominican Republic to provide medical care to underserved populations.

Now, faculty hope to use the medical mission trip as an opportunity to further develop global health experiences for residents and medical students.

Bob Chagrasulis, M.D., a member of the Class of 1981, has led medical mission teams in the Caribbean country for 30 years in partnership with Rotary International and through established relationships with clinics, hospitals and local charitable organizations in the Dominican Republic.



Pat Nolan, M.D., '81, examines a patient in the clinic.

The mobile outreach clinics provide basic medical care to two primary populations: sugar cane cutters and their families who live in the sugar cane villages called *bateys*, and people in the city jails and government prisons. During the weeklong trip, volunteer physicians see 1,000 to 2,000 patients. They treat childhood illnesses related to water and sanitation issues, nutritional deficiencies, and acute and chronic adult diseases such as hypertension and diabetes.

Over the years, the team has included emergency medicine faculty and alumni from the Whiddon College of Medicine. Edward Panacek, M.D., professor and chair of emergency medicine and a 1981 graduate of the Whiddon College of Medicine, facilitated the connection between the faculty members and his medical school classmate, Chagrasulis.

Grace Lagasse, M.D., assistant professor of emergency medicine, was among the physician volunteers in February and again in November.

"For me, these trips have been an incredible experience," she said. "I have learned much about Dominican and Haitian culture and felt very fortunate to be able to provide both acute and primary care services to populations that do not regularly have access to physicians."

Lagasse has a special interest in global health initiatives. Prior to joining the faculty in 2020, she completed a global health fellowship in emergency medicine through the University of Cincinnati Department of Emergency Medicine.

She said, "I think these trips are an invaluable opportunity, and I am looking forward to being able to expand this opportunity to residents and medical students who are interested in having this type of medical experience."

In addition to Chagrasulis, Class of 1981 alumni volunteers included Kyran Dowling, M.D., and Pat Nolan, M.D. Community physicians included Desiree Soter-Pearsall, M.D., and Alan Shain, M.D.



Grace Lagasse, M.D., second from left, works in the pharmacy area with Cindy Richendollar and the Dominican nurse and physician who assist the team of volunteers.

Posted by Med School Watercooler at 9:47AM



Doctoral students receive inaugural Godwin Emerging Scholars Endowed Awards

Two doctoral students in the Basic Medical Sciences Graduate Program at the Whiddon College of Medicine – Samantha Chaney and Adeyeye Haastrup – are the inaugural recipients of the USA Center for Lung Biology Gary and Susan Godwin Emerging Scholars Endowed Award.

The purpose of the award is to support training opportunities for doctoral and postdoctoral scholars toward discovery of novel mechanisms in lung health and disease.

Chaney will use the award to attend the North American Vascular Biology Organization's Vasculata conference at Stanford University in summer 2024.

"I am excited to be able to network with a new group of researchers and learn about current vascular biology research and innovative techniques," she said. "This awesome opportunity will give me insights from new perspectives and help me to develop my own project and career."

Chaney is a third-year graduate student in the vascular biology and neuroscience tracks. Her research focuses on how systemic infections, such as pneumonia, cause vascular dysfunction in the brain, including blood-brain barrier breakdown.

Haastrup will use the award to participate in a training course in liquid chromatography-mass spectrometry (LC-MS) data analysis at the University of California–Davis in spring 2024.



Samantha Chaney



Adeyeye Haastrup

“This award is extremely useful toward equipping me with the tool set needed for the execution of my graduate project and making me a better scientist,” he said. “The only way to go is forward, as we expand our capabilities to provide scientific answers to pertinent questions, contributing toward advancing the course of humanity.”

Haastrup is a second-year graduate student in the bioinformatics track. His research focuses on the molecular mechanisms underlying bioenergetic crisis in sepsis with possibilities of identifying potential molecules as biomarkers for diagnostic, prognostic and therapeutic purposes. He received a pharmacy degree from Obafemi Awolowo University in Ile-Ife, Osun State, Nigeria.

Gary Godwin was a long-time announcer for the University of South Alabama Athletics. He developed idiopathic pulmonary fibrosis and received a lung transplant in 2010. He survived five years post-transplant before his death in late 2015. His experience with a lung disease of unknown cause motivated him and his wife, Susan, to empower the next generation of lung scholars to find solutions. Their generous contribution to the USA Center for Lung Biology supports the Gary and Susan Godwin Emerging Scholars Endowed Award.

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Monday, December 11, 2023

USA Student-Run Free Clinic receives grant from CeraVe



Members of the USA Student-Run Free Clinic provide free skin cancer screenings at community events.

With a \$20,000 grant from CeraVe, the USA Student-Run Free Clinic will be able to expand its dermatology services including free skin cancer screenings and biopsies.

The grant is part of CeraVe's Dermatology Expansion Program and awarded through the National Association of Free and Charitable Clinics, of which the USA SRFC is an active member. The grant supports the expansion of dermatology services in alignment with clinical guidelines by the American Academy of Dermatology.

"Through these funds, we plan to open a quarterly dermatological clinic where patients who are uninsured, underinsured, or who are having trouble accessing a dermatologist can receive dedicated dermatological care. This will include skin cancer screenings and biopsies," said Chandler Hinson, M.B.A., M.S., president of the USA SRFC and a third-year medical student at the Whiddon College of Medicine.

In addition, Hinson said the clinic plans to use the funds to increase the number of skin cancer screening events in the community, offered in partnership with the USA Health Mitchell Cancer Institute and the Dermatology Student Interest Group.

The grant will allow the groups to provide free skin biopsies or excisions with dermatopathological workup for any skin malignancies. Funding also will support new privacy tents, imaging equipment, and dermatological software that allows for appropriate long-term imaging and skin surveillance.

"We are incredibly honored and excited, as this is the second major grant that we have won this year," Hinson said.

Earlier this year, the USA SRFC received a \$20,000 grant from The McKesson Foundation to support the Food as Medicine initiative.