

UAMS News Bureau

Office of Communications & Marketing
4301 West Markham # 890
Little Rock, AR 72205-7199

uamshealth.com/news



News Release
Aug. 13, 2019

Media Contacts:

Leslie W. Taylor, 501-686-8998
Wireless phone: 501-951-7260
leslie@uams.edu

Liz Caldwell, 501-686-8995
Wireless phone: 501-350-4364
liz@uams.edu

**UAMS Scientist Awarded \$764,000 NIH Grant
For Highly Advanced Research Equipment**

LITTLE ROCK — A grant of almost \$764,000 from the National Institutes of Health (NIH) will allow the University of Arkansas for Medical Sciences (UAMS) to purchase biomedical research equipment with new capabilities unavailable elsewhere in Arkansas.

UAMS scientist Samuel G. Mackintosh, Ph.D., received the NIH S10 High-End Instrumentation Award totaling \$763,971 to fund the purchase of a mass spectrometer, a piece of equipment used to identify and compare proteins essential for the development of new therapies for cancer and other diseases.

Mackintosh serves as co-director of the UAMS Proteomics Core, a shared resource at the UAMS Winthrop P. Rockefeller Cancer Institute that provides access to technologies, services and scientific consultation for scientists throughout the university, across the country and in Puerto Rico.

“Our goal is to identify new avenues for diagnosis and treatment by comparing proteins present in diseases to proteins present in healthy individuals. The UAMS Proteomics Core supports this research by identifying and quantifying large numbers of proteins from cells, tissues, blood and other biological sources,” said Mackintosh, who also is an associate professor in the UAMS College of Medicine Department of Biochemistry and Molecular Biology.

The core facility is co-directed by Rick Edmondson, Ph.D., associate professor of medicine and director of proteomics. Core staff members include Renny Lan, Aaron Storey, Lisa Orr and Robert Brown.

“Investments by the College of Medicine and Winthrop P. Rockefeller Cancer Institute in the rapidly developing field of mass spectrometry have allowed us to keep up with the advances in the field, ensuring that state-of-the-art technology is available to UAMS researchers,” Mackintosh said.

Three NIH instrument grants have been awarded in Arkansas since 2015, with two going to Mackintosh.

The NIH grant also builds on recent efforts at UAMS to strengthen collaboration between research programs funded by the NIH Institutional Development Award (IDeA) program, which seeks to expand scientific research in 23 historically underfunded states and Puerto Rico.

It also will support proteomics research through three Centers for Biomedical Research Excellence (COBRE), IDeA research centers at UAMS and Arkansas Children's Hospital that focus on career development for young scientists and expansion of institutional research capabilities.

The COBRE research centers the grant will support focus on three areas:

- The Center for Translational Pediatric Research at Arkansas Children's Research Institute directed by Alan Tackett, Ph.D., associate director of basic research at the UAMS Winthrop P. Rockefeller Cancer Institute and professor in the UAMS College of Medicine Department of Biochemistry and Molecular Biology;
- The Center for Microbial Pathogenesis and Host Inflammatory Responses at UAMS directed by Mark Smeltzer, Ph.D., professor in the UAMS College of Medicine Departments of Microbiology and Immunology and Orthopaedics;
- The Center for Musculoskeletal Disease Research at UAMS directed by Charles O'Brien, Ph.D., professor in the UAMS College of Medicine Department of Internal Medicine-Endocrinology.

Other UAMS researchers supporting the instrument grant application include Kevin Raney, Ph.D.; Maria Almeida, Ph.D.; and Srinivas Ayyadevara, Ph.D.

The Bioinformatics and Systems Biology Core, directed by Stephanie Byrum, Ph.D., will play a key role in analyzing data generated by the new mass spectrometer.

This federal grant will bolster the Cancer Institute's ongoing efforts to receive National Cancer Institute Designation.

To achieve designation, cancer centers undergo a highly competitive assessment process that demonstrates an outstanding depth and breadth of research in three areas: basic laboratory, patient/clinical and population-based. The designation brings with it many benefits, including expanded access to federal funding for researchers and improved access to clinical trials for patients.

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. It 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 — cancer, colon cancer surgery, heart failure, hip replacement, knee replacement and lung cancer surgery. UAMS has 2,727 students, 870 medical residents and five 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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