

RESEARCH & INNOVATION NEWS

UAMS

July 2023

Congratulations! Extramural Grant Awards



Michael Wilson, Ph.D., received an award from the Department of Health and Human Services “Improving Emergency Department Management of Acute and Chronic Pain Using Non-Opioid Strategies”
Period: 09/30/2023 – 09/26/2026
Total: \$1,500,000



Susan Emmett, M.D., MPH., received an award on the R33 portion of her R21/R33 award “mHealth Tympanometer: A Digital Innovation to Address Preventable Childhood Hearing Loss in Low- and Middle-Income Countries”
Period: 08/01/2023 – 07/31/2026
Total: \$857,147

Research Career Scientist (RCS) Award, Department of Veterans Affairs



Congratulations to **Andrew Morris, Ph.D.**, for being honored with the prestigious Research Career Scientist (RCS) award from the Department of Veterans Affairs (VA).

The Office of Research Development (ORD) within the VA recognizes the paramount importance of non-clinician scientists in driving forward the VA research program. In light of the overall contributions and steadfast commitment to the VA, ORD takes pride in supporting exceptional researchers like Dr. Morris through the RCS award mechanism.

The RCS award will provide Dr. Morris with salary support over a 5-year period, commencing on October 1, 2023, and concluding on September 30, 2028. With this continued support, we are excited to witness the profound impact of Dr. Morris's future research endeavors as he continues to pave the way for advancements in VA research. Dr. Morris's achievements serve as an inspiration to all members of our research community.

Once again, congratulations to Dr. Morris on this well-deserved recognition.

Diverse Horizons: UAMS Summer Research Experiences

In this newsletter, we recognize the bright minds that grace the UAMS campus during the summer months. With a flourishing community of summer researchers from diverse programs, including the Summer Research Internship (SRI), Summer Undergraduate Research Program (SURP), Summer Undergraduate Research Fellowship (SURF) Program, National Institutes of Health Partnership in Cancer Research (PCAR), and INBRE Summer Student Research Fellowship Programs, our institution offers an array of opportunities for students to immerse themselves in hands-on research. The students come from diverse institutions, not only across Arkansas, but from Texas, Georgia, Missouri, South Carolina, New York, and Rhode Island.

As they delve into their projects, these enthusiastic scholars also engage in seminars and social networking events thoughtfully organized by UAMS. Let us celebrate the passion, dedication, and discoveries of our summer researchers in this edition, who are undoubtedly shaping the future with their pioneering spirits. Top of Form

Summer Research Survey Key Findings

1. If you could describe your research project using only emojis, which emojis would you choose?



Option 1 26%

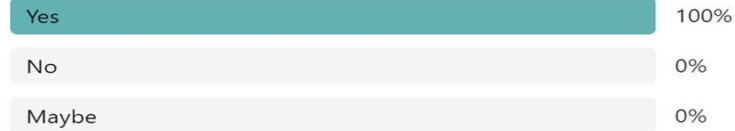


Option 2 74%



Option 3 0%

2. Did your summer research experience contribute to your personal and professional growth?



3. Considering your summer research experience, how would you describe UAMS as a research facility?

- It's the bee's knees! Absolutely top notch!
- It's pretty snazzy! I'm impressed.
- It's decent, nothing to sneeze at.



4. What was the most memorable "Eureka!" moment you had during your summer research?

- Understanding the standard procedures to complete a CCK-8 assay by myself.
- When my cell viability assay WORKED.
- When I received my results and I was able to understand a lot of them. I felt that I had really put in a lot of effort to the lab!
- It was when I started to figure out how to think like a scientist!
- I spent a considerable amount of time at the beginning doing research to try and fill in the gaps in a protocol that was given to me. I completed the protocol and got back my data and found that my changes actually worked, and that was a really cool moment. Since then I have spent the remainder of the summer further optimizing this protocol, but the first time through and seeing that it has the potential to be really good was the best eureka moment!
- Getting results from a western blot using an antibody that was tough to get to appear.
- When I was sitting with my PI as he was explaining how anion-exchange chromatography works, and it all suddenly clicked in my mind and started to make sense.

Click to view the [complete list of shares](#)



Voices from the Lab: Experiences Shared by Summer Researchers

Excerpt of an interview with Christian Lu, Sumer Research Internship Program

Q1. Can you tell us a little about yourself and what motivated you to participate in the Summer Research Program?

I'm Christian Lu, a student at Arkansas School for Mathematics, Science, and the Arts. I found this program when presenting a poster for UAMS's other program, the pathway program. Mr. Nick told me about the Summer Research Internship (SRI). I chose this because I was debating between career paths - microbiology, research, engineering (microbial engineering for medical purposes).

Q2. Can you tell us about your project? What is the main objective?

The challenge with treating glioblastoma, a common and aggressive type of brain cancer, is that the tumor tends to return after treatment. This is primarily due to the presence of treatment-resistant cancer stem cells that proliferate rapidly and rebuild the tumor. However, we are currently conducting tests on drugs derived from a natural compound group known as sesquiterpene lactones, which have the potential to target and eliminate these cancer stem cells.

Q3. What specific tasks or experiments are you engaging in during your research experience?

In the first half of the summer, I mainly observed my lab colleagues, learning basic tasks such as upkeeping cells, splitting cells, refeeding them, and counting. However, towards the end of the summer, I was entrusted with taking care of my own glioblastoma cell line, U87. We were conducting tests with various natural compounds on different glioblastoma cell lines, and U87 proved to be not very resistant. So, I've been responsible for tasks like splitting, refeeding, and counting my cells.

Q4. What were some of the challenges you faced, and how did you overcome them?

I made several mistakes, such as miscounting the cells and not properly mixing my media. The glioblastoma cells were still clumping, so I had to drive to UAMS over the weekend to restart the cell counting process. I made sure to thoroughly mix everything this time. Even though it felt like I wasted a week, this experience has taught me the importance of proper mixing in the lab, and it's now ingrained in my mind. I now feel more prepared and confident that I won't repeat those errors in the future. Rather than just being told what not to do, learning from my own experiences has been significant in overcoming these challenges.

Q5. Reflecting on your research experience, what are some skills or knowledge you feel you have gained?

During the SRI program, I had the opportunity to work in a lab with a mentor, which allowed me to gain valuable technical skills such as cell splitting, refeeding, counting, standard curve, GSH protein assay, and more. Additionally, SRI offered various sessions covering a wide range of topics. For example, we had a culinary medicine session where we practiced cooking healthy meals. We also participated in numerous presentation and poster sessions, which taught us how to effectively communicate our research findings. We also enjoyed social events like bowling, movie nights, and ice cream socials. So, we did not just learn technical skills but soft skills like networking.

Q6. How has the Summer Research Program impacted your personal and academic growth?

I was able to accomplish so much, from searching for colleges to handling school-related tasks, even improving my poster and presentation style. I remember after attending one of Dr. Allen's poster sessions, I went back to my computer and decided to redo a poster I was going to compete with at my school, Arkansas School for Mathematics, Science, and the Arts.

However, I recall that he came over and questioned whether I learned anything from his presentation. Others from my lab joined in, and they roasted my poster. It was tough, but their input was invaluable to my past and future research. I plan to model my future academic work, presentations, and posters based on the lessons learned from this experience. Making mistakes like contamination and poor mixing were crucial, as they taught me what not to do in the future. I hope I never repeat those mistakes.

* The interview transcript has been edited for clarity and readability.

[Click to watch the interview video!](#)

Andrew Shelton, IDeA Network of Biomedical Research Excellence (INBRE), shared his experience

"My name is Andrew Shelton, and this summer I have had the pleasure of working with Dr. Barger in the Alzheimer's Disease (AD) research group of the Institute on Aging. I have specifically worked with primary cell cultures to explore mechanisms connecting inflammation with astrocytic glucose transport. Astrocytic glucose transport is one of many brain mechanisms impaired during AD. Dr. Barger's lab uses transgenic mice and cell cultures to explore AD pathologies. While working here, I have been exposed to advanced real-world techniques used in groundbreaking research. The lab consists of uniquely complex instruments and substances not available to general undergraduate research. I have personally learned advanced pipetting techniques, cell

culturing and plating protocol, PCR protocol, CHIP protocol, and many other applicable skills. These skills will not only have relevance to my undergraduate studies but will assist in constructing a strong scientific foundation for my future career in medicine. Not only have I learned about laboratory techniques, but I have also gained important skills relevant to writing scientific reports and presenting findings. The job has required punctuality and professionalism but has been rewarding. Overall, I am thankful for the INBRE summer undergraduate research program and the National Institutes of Health for allowing me to do research at UAMS.”

Erica Lee, the National Institutes of Health Partnership in Cancer Research (PCAR) Program, shared her experience

“My name is Erica Lee. I’m a medical student at NYITCOM-Arkansas. Through the PCAR program, I had the chance to work in Dr. Leung's lab over the summer and learn more about prostate cancer. The main challenge that I faced was that I only had a short amount of time in Dr. Leung's lab, and since I'm not from UAMS, I couldn't return during the academic year to complete my project. In the short amount of time, I had to get trained and become familiar with the protocol to create trustworthy data. But even with extensive planning, there were still things that I wasn't able to control. Meeting others who share my enthusiasm and enjoyment for research was one of my experience's best parts. I didn't have a lot of time during the academic year to spend a lot of time in the lab, but after this summer's experience, I once again understood how much I valued conducting research. Additionally, I believe that overcoming the challenging aspects of research is what makes it enjoyable.”

10th Annual Arkansas Undergraduate Summer Symposium

After an enriching summer research program, young scientists proudly presented their research results at the 10th Annual Arkansas Undergraduate Summer Symposium. The event, organized and sponsored by the Department of Biochemistry and Molecular Biology in collaboration with the Graduate School and the Arkansas INBRE program, received support from the National Institute of General Medical Sciences (NIGMS) (P20 GM103429). Held on July 27, 2023, at the I. Dodd Wilson Education Building, the symposium hosted 2 oral platform presentations and an impressive 106 poster presentations.

Presenters showcased their research findings, and their efforts were acknowledged and celebrated. The symposium reached its pinnacle at 3:00 p.m. with the introduction of the keynote speaker, Dr. Sarah Eddy from Norton Rose Fulbright.

Congratulations to all summer researchers and their mentors for their dedication and hard work in making this symposium a resounding success!



News & Upcoming Events

UAMS Medical Research Endowment Awards Call for Applications!

We are excited to announce the availability of Medical Research Endowment (MRE) funding, aimed at supporting and stimulating research programs conducted by UAMS faculty. The MRE Fund, established in 1982, provides pilot funding for research projects focused on new areas of research for early-stage investigators and new avenues of research for mature investigators.

Key Details:

1. Funding period: 12 months, starting in January, 2024
2. Maximum award amount: \$15,000.

Eligibility to apply:

1. Permanent, full-time UAMS faculty members (assistant professor rank or above)
2. Full-time research and clinical faculty, including research assistant professors

Application Due Date: August 31, 2023

Please review the full [MRE guidelines](#) and apply through the online portal: [Click to Apply](#).

Upcoming UAMS Research Academy Workshops



I'm from Compliance and I'm Here to Help. (Truly!)

Kimberly J. Murphy, CMAR, CPIA, Sr. Research Compliance Analyst, Institutional Compliance, Office of General Counsel

Tuesday, August 8, 2023; Virtual: 12-1 p.m.

[\[Zoom\]](#)

The following presentations have been archived and are available for viewing:

1. [Anatomy of an impactful Specific Aims page](#): Mark Smeltzer, Ph.D.
2. [How to address the main review criteria in your research strategy?](#): Marjan Boerma, Ph.D.
3. [How do study sections review your proposal?](#): Alan Tackett, Ph.D.
4. [How to address reviewers' comments?](#): Charles O'Brien, Ph.D.
5. [Inclusion of human subjects in your research](#): Wendy Nembhard, Ph.D., MPH., FACE
6. [Writing a successful DoD grant application – How is it different from an NIH application?](#): Shuk-Mei Ho, Ph.D.
7. [Tips and tricks for productive scholarly writing](#): Amy Franks, PharmD
8. [Space management](#): Micky Thomas
9. [Office of Research Regulatory Affairs \(ORRA\): Overview of functions and services](#): Laura Adkins, MAP, CCRP, CCRA, CRS, AdvCRS
10. [Working with a scientific editor](#): Kerry Evans, Ph.D.
11. [NIH Data management and sharing policy](#): Fred Prior, Ph.D.
12. [MUSE Animal Ops and the Division of Laboratory Animal Medicine \(DLAM\)](#): Christy Simecka, DVM, DACLAM
13. [3 ways entrepreneurship can help your lab, lessons from UAMS technologies](#): Kevin Sexton, M.D.
14. [Managing multiple projects](#): Hari Eswaran, Ph.D.
15. [Mentoring as a Key Component to Research Productivity](#): Clint Kilts, Ph.D.
16. [OSPAN – What can they do for me?](#): Ty Stephens, CPA

Save the Dates!

Details to be announced soon.

September 12, 2023: Research Orientation and Reception

October 4, 2023: ABI Symposium

October 11, 2023: Research Expo

October 24, 2023 : Grant Writing Seminar & Workshop

Team R&I Announcements

Division of Laboratory Animal Medicine

Animal Operations in Muse will be available for researchers in late September. Keep an eye out for online trainings.

Office of Research Information Systems

Muse Research Suite is going down for maintenance.

It goes down on **Friday, August 11, at 5:00 pm CST** and will be online **Monday, August 14**, with the new Conflict of Interest (COI) and Animal Operations websites. It will impact all Grants, COI, Institutional Animal Care and Use Committee (IACUC), and Institutional Biosafety Committee (IBC) users.

Institutional Research Compliance – Conflict of Interest (COI) Office

Starting August 14, *Muse-COI* is for UAMS Officials and Academics participating in research only. Non-Academic employees must use *Workday* to certify any disclosures by July 31.

Each app manages UAMS employee private interest disclosures. *Muse COI* will be the record of truth for all UAMS officials, faculty, and researchers. It includes all UAMS faculty members, all UAMS principal investigators and co-principal investigators, and any other individuals at UAMS responsible for the design, conduct, or reporting of research performed at UAMS. It also includes the individual's immediate family members (UAMS policy 4.4.10). UAMS Official shall mean the Chancellor, Provost, Vice Chancellors, College Deans, Institute Directors, Service Line Directors, and employees who have been granted or delegated contracting authority on behalf of UAMS. UAMS Official also includes the individual's Immediate Family Member (policy 4.4.13).

Workday now manages an annual campaign for UAMS non-academic staff members who do not participate in research or represent academic staff or institutional officials. It includes all UAMS staff who do not meet the definition of an academic staff member described above and the individual's immediate family members (policy 4.4.11).

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Open Positions

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