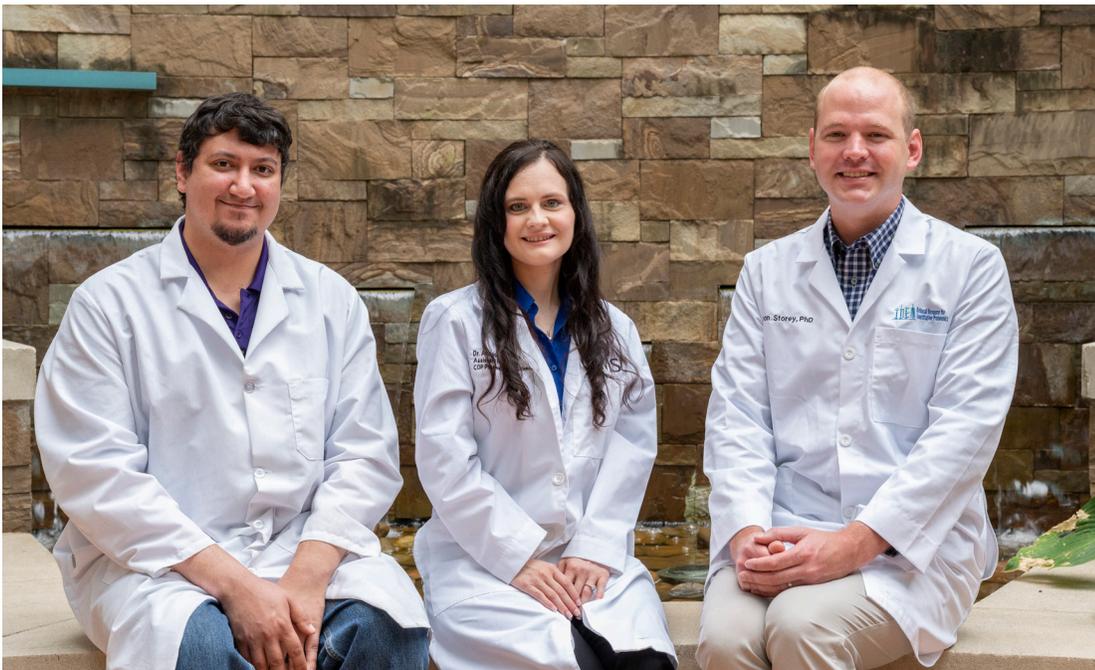


THE TRIBUNE

AUGUST 2022

‘Secret Sauce’

How Entrepreneurship Trainees Are Succeeding with SBIR/STTR Funds



Samir Jenkins, Ph.D., Amanda Stolarz, Pharm.D., Ph.D., and Aaron Storey, Ph.D., are advancing translational research using their TRI-supported entrepreneurship training and NIH small business funding.

For Amanda Stolarz, Pharm.D., Ph.D., inspiration as a postdoctoral fellow from a UAMS Entrepreneurship Boot Camp in 2016 has led to new opportunities and success.

Now an assistant professor in the College of Pharmacy Department of Pharmaceutical Sciences, Stolarz said the training inspired her to co-found Rejuvenics Technologies LLC (doing business as Rejuvenix), which has made strides

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Dear Colleagues,

The NIH began the Clinical and Translational Science Awards (CTSA) program in 2005 with the idea of stimulating innovation, accelerating discoveries and moving them more quickly from bench to bedside.

A novel aspect of this translational science initiative at TRI is our Health Sciences Innovation and Entrepreneurship (HSIE) Program, which is teaching

postdoctoral fellows how entrepreneurship can help them achieve their goals. We write in this issue about three of our former entrepreneurship trainees whose work has been significantly aided by funds from the NIH Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs.

I congratulate Samir Jenkins, Ph.D., Amanda Stolarz, Ph.D., and Aaron Storey, Ph.D., for their innovative work and skillful application of their entrepreneurship training. I am also grateful for the inspired leadership of this program by Nancy Rusch, Ph.D., and Kevin Sexton, M.D. They are our

true pioneers as we build capacity and cultivate a vibrant research culture that values entrepreneurship.

Research Expo

TRI is excited to sponsor the first in-person Research Expo since 2019. Research Expo, formerly known as Research Open House, is the big research event of the fall, featuring displays and one-on-one discussions with the leaders of numerous research resources and services at UAMS, Arkansas Children’s Research Institute and the Central Arkansas Veterans Healthcare System. We encourage you to drop by this fun, informative event **Sept. 21, from 4:30 – 6:30 p.m.**, Stephens Spine & Neurosciences Building, 12th floor.

Sincerely,

A handwritten signature in black ink, appearing to read 'Laura James, M.D.' with a stylized flourish at the end.

Laura James, M.D.
Director, TRI
Associate Vice Chancellor for Clinical and Translational Research, UAMS

‘Secret Sauce’ (continued from page 1)



Robert Griffin, Ph.D.

Sam M. Walton College of Business, and it includes coursework and opportunities for collaboration and business team development.

Thanks in part to a collaboration with a new HSIE trainee in 2019, Samir Jenkins, Ph.D., Rejuvenix secured a \$438,213 NIH Small Business Innovation Research (SBIR) contract (75N91020C00054).

UAMS' Robert Griffin, Ph.D., Rejuvenix's vice president of Research and Development, led the successful SBIR application process in 2020. Griffin is a professor and radiation biologist in the College of Medicine Department of Radiation Oncology. He is also Jenkins' mentor and manages the research projects.

Jenkins, now a research instructor, found in 2019 that his knowledge of nanomaterials and chemical science was a good fit for the Rejuvenix project, which aims to reduce the side effects of chemotherapy by delivering and releasing the drugs directly to the tumor.

Jenkins' research interests include nanomaterial synthesis, and he has worked on UAMS projects involving radiation, nanoparticles, cancer biology and the gut microbiome.

"I think my training and experience put me in a good position to contribute to the Rejuvenix project," Jenkins said.

A key to the project is development of a liposome (microscopic bubble made from lipids) that can carry the drugs without leaking and release its therapeutic agent inside the tumor only when hit by precision-focused radiation due to the sensitivity of the patented chemistry loaded into the liposomes with the drug.

Jenkins, under Griffin's leadership, helped the team develop the successful application for the SBIR contract, said Stolarz, the company's chief science officer.

"He has had an integral role in the company, helping us think through some of our challenges, and his lab work as part of the SBIR subaward to UAMS has been instrumental in characterizing the chemical

advancing a patented technique for delivering chemotherapy drugs to tumor cells.

The boot camp training program, supported by TRI, was the foundation for TRI's Health Sciences Innovation and Entrepreneurship (HSIE) Program, a two-year program established in 2019. It continues the boot camp's key partnership with the University of Arkansas

properties of our liposomal formulation as well as the drug chemistry inside the liposome," she said.

The team wrapped up work on the first SBIR contract in March, establishing a proof of concept with animal data, and it plans to apply for a phase 2 SBIR this fall.

HSIE Training Aids STTR Effort

As a postdoctoral fellow in 2019, Aaron Storey, Ph.D., wanted to build an interactive computer dashboard to help make sense of vast amounts of proteomics data, and the HSIE program provided him the time and resources to do it.

The dashboard, he said, has been the "secret sauce" for development of a precision medicine-based diagnostic tool for membranous nephropathy and to secure an NIH Small Business Technology Transfer (STTR) grant.

"Working on the dashboard has paid dividends because I can lay out the proteomics data analysis in a way that's much more efficient for identifying and drawing insights from these large proteomics datasets," said Storey, an assistant professor in the College of Medicine Department of Biochemistry and Molecular Biology. He is also part of the UAMS research team that makes up the IDeA National Resource for Quantitative Proteomics at UAMS.

Storey's work with co-Principal Investigator Chris Larsen, M.D., executive director of Arkana Laboratories, led to a one-year, \$250,000 phase 1 STTR contract in 2021 (1R41DK130702-01). Their phase 2 application for \$1.8 million received an excellent score in July, but the funding decision was still pending at press time. Arkana processes about a third of all kidney biopsies in the United States, which provides the project a robust source of tissue samples.

Storey's dashboard, custom-designed for the project, helped identify several of the antigens responsible for membranous nephropathy.

Membranous nephropathy is an autoimmune disorder in which immune complexes in the blood build up in the kidney and impair renal function. About 20 antigens are known to cause the waste-filtering small blood vessels (glomeruli) in the kidney to become damaged and thickened, Storey said.

"We've used the dashboard and our workflow to identify and study several novel antigens associated with membranous nephropathy," he said. "Now there is a diagnostic problem: there are too many possible antigens and not enough biopsy material to test using conventional methods."

The team's goal to commercialize its mass spectrometry-based workflow as a service that can identify and classify all the antigens could translate to personalized treatments that reduce the need for multiple kidney biopsies, Storey said.

Research Expo 2022!

Research Expo 2022 will be held **Wednesday, Sept. 21, 4:30 – 6:30 p.m.**, in the Jackson T. Stephens Spine & Neurosciences Institute building, 12th floor.

Sponsored by the Translational Research Institute and the Division of Research and Innovation, the expo will feature more than 30 institutional research services and resources, including from UAMS, Arkansas Children’s Research Institute and the Central Arkansas Veterans Healthcare System.

Drop by to talk to representatives of each of the service areas and have your questions answered. Join your colleagues for this special event and enjoy the food and wine and a chance to win door prizes. You’ll leave with helpful new contacts and information you need to succeed.

Please let us know if you plan to stop by. Just provide your name and email via the QR code.



Register Here

TRI Study of the Month



(l-r) TRI’s David Avery, Senior Director of Clinical Research Operations, with UAMS investigators Gohar Azhar, M.D., and Jeanne Y. Wei, M.D., Ph.D.

■ **UAMS Investigators:** Gohar Azhar, M.D., professor, Department of Geriatrics; director of Clinical Research, director of the Pat Walker Memory Clinic and Research Center, and co-director of the Cardiovascular Aging Program, UAMS
Jeanne Y. Wei, M.D., Ph.D., the Jackson T. Stephens Professor

of Geriatrics; chair, Reynolds Department of Geriatrics, College of Medicine; executive director, Reynolds Institute on Aging, UAMS, and

■ **Summary:** The Pragmatic Evaluation of Events and Benefits of Lipid-Lowering in Older Adults (PREVENTABLE) trial is a multi-center study

that will follow adults ages 75 and above without cardiovascular disease for five years as they receive either atorvastatin 40 mg or a placebo.

- **Significance:** This large study aims to demonstrate the benefit of statins for reducing the primary composite of death, dementia and persistent disability and secondary composites including mild cognitive impairment and cardiovascular events.
- **TRI Services:** Medicare coverage analysis, study budget development, regulatory management, biomedical informatics/clinical data extracts through the TRI-supported UAMS/Arkansas Clinical Data Repository (AR-CDR) and Epic support.
- **Sponsor/Clinical Coordinating Center:** Duke University
- **Funding Agency:** National Institute on Aging

Two Teams Receive TRI Team Science Voucher Awards

Two teams were selected to receive TRI Team Science Voucher Program Awards this year. The program provides up to \$20,000 to support early-stage, cross-disciplinary collaborations.

The awarded projects and the investigators are:

Effects of Hypothermia on Rotational Elastography (ROTEM) in Trauma Patients



Joseph Margolick, M.D. (principal investigator), assistant professor, College of Medicine Department of Surgery, Division of Trauma, Acute Care Surgery and Surgical Critical Care.



Ginell Post, M.D. (co-investigator), professor, College of Medicine Department of Pathology

Exploring the Association between Medical Marijuana Status and Antiemetic Overuse



Kanna Nakamura Lewis, Ph.D. (principal investigator) assistant professor, College of Medicine Department of Family and Preventive Medicine; assistant director, Health Policy Research, Arkansas Center for Health Improvement



Laura Gressler, Ph.D. (co-investigator), assistant professor, College of Pharmacy Department of Pharmacy Practice, Division of Pharmaceutical Evaluation and Policy



Sajjad Akbar Bhatti, M.D. (co-investigator), assistant professor, College of Medicine departments of Internal Medicine and Hematology and Oncology.



Cheng Peng, Ph.D. (co-investigator), assistant research professor, College of Pharmacy Department of Pharmacy Practice, Division of Pharmaceutical Evaluation and Policy

The awardees were selected through a competitive peer-review process with priority going to new teams proposing innovative research approaches with high potential for future funding and impact.