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# Wrapping Up a Year of Success at the Sarver Heart Center

DECEMBER 2023 E-NEWSLETTER



# For the 2023-2024 grant cycle, the University of Arizona Sarver Heart Center awarded seven Investigator Awards.

This funding is most often provided to early career investigators and trainees for innovative pilot projects. The Sarver Heart Center sees a return on the investment, as preliminary data collected from the projects frequently lead to large external grant awards.

"Investigator awards are the epitome of the mission of the Sarver Heart Center. It encourages and supports heart research, which could mold the future care of patients in the years to come," said **Elizabeth Juneman, MD**, Sarver Heart Center interim director.

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#### Shanna Hamilton, PhD

Dr. Shanna Hamilton is investigating disturbances in calcium and redox balance and their impact on heart health. Her study utilizes a model to uncover the cellular processes leading to arrhythmias and test the therapeutic potential of a novel protein to mitigate the condition. This research could pave the way for identifying new treatments for heart arrhythmias.



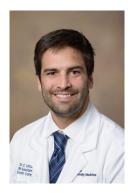
#### Dallin Tavoian, PhD

Dr. Dallin Tavoian proposes inspiratory resistance training (IRT) as a non-pharmacological treatment for high blood pressure in older adults. In only five minutes a day, IRT has been shown to cause a substantial reduction in blood pressure that could substantially improve cerebrovascular health. This research holds promise for advancing treatment of Alzheimer's disease and other types of dementia.



#### Wei Zhou, MD

Dr. Wei Zhou aims to enhance treatment options for diabetes patients with atherosclerosis. This research seeks to identify reliable biomarkers that predict vulnerable plaques in diabetes patients, so that treatment strategies can be tailored based on specific intraplaque lipid composition. Characterizing these unique lipid signatures in diabetic and non-diabetic patients will help unveil novel lipid-targeted therapies to prevent and manage atherosclerosis in diabetic patients.



### Cole Uhland, MD

Dr. Cole Uhland, a T32 cardiovascular medicine fellow, is investigating pulmonary arterial hypertension (PAH) associated with methamphetamine use, which is increasingly prevalent. The goal is to gain a better understanding of the transcriptomic differences between methamphetamine-associated PAH and idiopathic PAH, which could offer valuable insight into potential therapeutic pathways.



#### Robbert Jan Van der Pijl, PhD

Dr. Van der Pijl is studying the underlying hypertrophy mechanisms in cardiomyocytes and their connection to dilated cardiomyopathy (DCM), a leading cause of heart failure. He uses innovative genetic models to explore the intricate mechanics of longitudinal hypertrophy in these cells. The findings hold promise to inform new treatment strategies for patients with DCM.



#### **Sofia Garber**

Sofia Garber is an undergraduate student researcher in the lab of Michael Grandner, PhD. Her research focuses on cognitive and emotional factors related to nighttime wakefulness, which can lead to unhealthy eating choices and other behaviors impacting cardiovascular health. This study seeks to uncover how sleep and behavioral factors play a role in the development of obesity and cardiovascular diseases.



#### **Michael Amadei**

Michael Amadei is an undergraduate student researcher in the lab of Michael Grandner, PhD. His research investigates how sleep duration, timing, and quality affect resting heart rate and variability. He hypothesizes that increased heart rate during wakefulness can contribute to stress-related unhealthy eating behaviors. The study holds promise to enhance our understanding of how to achieve better heart health through improved sleep and health behaviors.

#### Eclipsing Heart Failure Challenges at the 2023 Heart Failure Symposium

The first annual Heart Failure Symposium was held on Oct. 14th, the same day the year's second solar eclipse occurred. The Symposium drew participants with diverse medical backgrounds from across Southern Arizona, with topics spanning cardiovascular medicine that ranged from updates in guideline-directed medical therapy to early referral and beyond. The event also featured a success story from a former patient who received a left ventricular assist device at Banner– UMC Tucson and was treated by a medical team of Sarver Heart members and affiliates, including Interim Director Elizabeth Juneman, MD. The event's impact was substantial, awarding 3.0 CME credits to medical providers who attended and providing a forum for sharing medical knowledge, ideas and experiences about this complex disease.

# The Sarver Heart Center welcomed seven new members in 2023, including Department of Medicine Chair, James K. Liao, MD

University of Arizona Newsletter



James K. Liao, MD joined the faculty of the University of Arizona College of Medicine – Tucson as professor and chair of the Department of Medicine in January 2023. A distinguished cardiovascular researcher, Dr. Liao brings extensive leadership experience, having served as cardiology section chief and cardiovascular research director at the University of Chicago's Pritzker School of Medicine. His career spans prestigious institutions, including Harvard Medical School and Brigham and Women's Hospital. Dr. Liao's research, continuously funded by the NIH for over 30 years, focuses on cardiovascular disease prevention, lipid disorders and vascular biology. As an accomplished scholar, he holds numerous patents and has authored over 250 peerreviewed articles and 13 textbook chapters. Dr. Liao is recognized nationally and internationally, contributing significantly to esteemed journals and conferences. His appointment as core faculty in Tucson underscores his commitment to advancing medical education and research at the Sarver Heart Center.

#### Other new Sarver Heart members from 2023:

**Stephanie Worrell, MD** brings a wealth of experience as the clinical associate professor and Thoracic Section chief in the Division of Cardiothoracic Surgery at the University of Arizona.

**Chris Lim, PhD** an assistant professor in the Department of Community, Environment and Policy at the University of Arizona, joins the Sarver Heart Center with a diverse background in environmental medicine and biostatistics.

Shanna Hamilton, PhD a new assistant professor in the Department of Cellular and Molecular Medicine at the University of Arizona, brings a strong academic background to the Sarver Heart Center.

**Scott Chicotka, MD** joins the Sarver Heart Center as a thoracic surgeon with over a decade of academic and clinical experience in surgery.

#### University of Arizona Newsletter

**Nanda Pullela, MD** an assistant professor and former UArizona Sarver Heart fellow, joins the Sarver Heart Center as an interventional cardiologist.

**Ravi Vuthoori, MD** also joins the Sarver Heart Center as an interventional cardiologist, with training and experience in both Grenada and the United States.

**Roderick Tung, MD** chief of the Division of Cardiology at the University of Arizona College of Medicine – Phoenix, joins the Sarver Heart Center as a renowned expert in cardiovascular care.

**Omar Meziab, MD** assistant professor in pediatric cardiology at Banner University Medical Center-Tucson and the University of Arizona Health Sciences, brings extensive expertise in pediatric cardiology and electrophysiology to the Sarver Heart Center.

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#### Land Acknowledgment

We respectfully acknowledge the University of Arizona is on the land and territories of Indigenous peoples. Today, Arizona is home to 22 federally recognized tribes, with Tucson being home to the O'odham and the Yaqui. Committed to diversity and inclusion, the University strives to build sustainable relationships with sovereign Native Nations and Indigenous communities through education offerings, partnerships, and community service.