

FSU Biomed

Florida State University College of Medicine

www.med.fsu.edu/BioSci



Student News



Sediqa Bufford received a prestigious McKnight Fellowship. The FEF's McKnight Doctoral and Dissertation Fellowship Programs are designed to address the underrepresentation of African American and Hispanic faculty at colleges and universities in Florida by

increasing the pool of citizens whose doctoral degrees qualify them to teach at the college and university levels.

<https://news.fsu.edu/news/students-campus-life/2023/02/22/fourteen-fsu-graduate-students-join-latest-cohort-of-mcknight-fellows/>

Sediqa is our second McKnight Fellow. She joins Daniel Betancourt in this distinction.

Upcoming Events

March 21

B.I.G. Sponsored talk

March 22

Seminar Series: Paul Janssen

March 27

BMS Faculty Meeting

March 30

Special Presentation: Adie Wilson-Poe

April 5

Seminar Series: Daniel Betancourt & Paula Nieto Morales

April 12

Seminar Series: Mohammad Nasirpour & Danah Alquraish

April 19

Seminar Series: Tania Sultana & Sunmin Kim

April 26

Seminar Series: Sima Sabbagh

April 20

BMS Executive Committee Meeting

April 24

BMS Faculty Meeting

Isabella Coscarella has been selected as a finalist for the 2023 Graduate Student Excellence in Visual Arts Award for her work titled "Flow of Life."

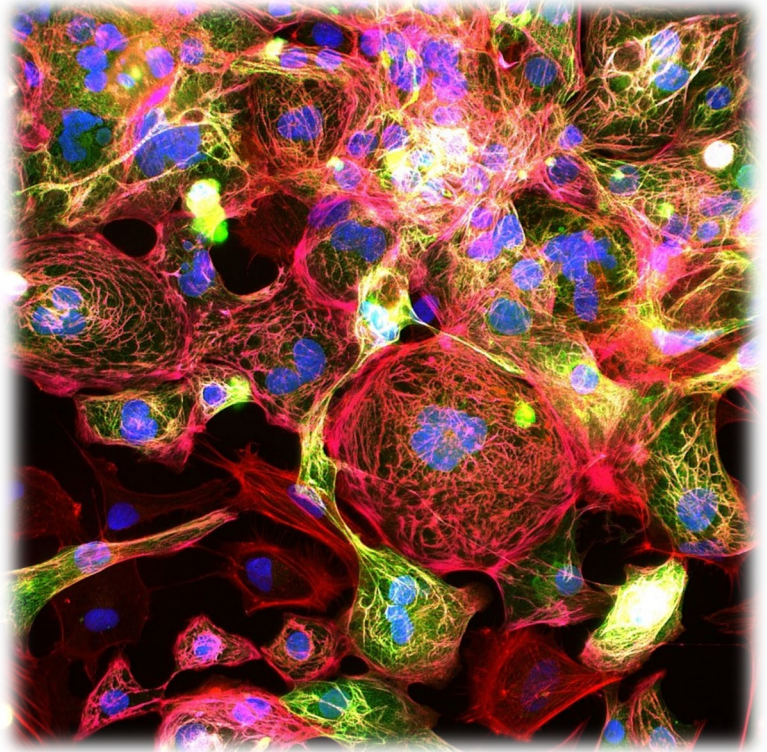
Artist Statement

This is an image of human induced pluripotent stem cells (hiPSC) cardiomyocytes. These cells were reprogrammed into stem cells using CRISPR-Cas9 technology, and mutations associated with cardiomyopathy were introduced. Cardiomyopathies are diseases of the heart muscle in which the heart loses its ability to pump blood effectively. Since heart diseases are the leading cause of death in the United States of America, it is crucial to research the major causes of the pathology. Cardiomyopathies can be genetically inherited or acquired throughout life. Acquired cardiomyopathy can be a result of viral infections, autoimmune diseases, infiltrative disorders or inflammatory

factors, and there is no cure as of today. Cardiomyopathies can trigger a variety of different alterations in morphology and function of proteins related to the contractility of the heart and therefore the heart's performance. Then, it is important to investigate the functionality of proteins and its presence (or expression) in certain conditions. In the image, marked proteins that exert mechanical forces (such as myosin – green – and troponin – purple –) show their expression, checking the presence of contractile apparatus of these cardiac cells. Over the years, scientists try to find ways to target these proteins and develop specific medications that would act directly on them, helping the heart to pump properly. If these specific targeted proteins are treated and start working correctly again, the muscle recovers its pumping mechanics. With the heart working properly, a patient originally diagnosed with cardiomyopathy can now live normally and have a higher quality of life.

Artwork Description

This is an Immunofluorescence microscopy of hiPSC (human-induced pluripotent stem cells) cardiomyocytes. The cardiomyocytes are treated with fluorescent markers to show specific proteins of interest. In the image, we have filamentous actin in red, ventricular myosin light chain in green, troponin T in purple and the nucleus is dyed in blue using a common dye called DAPI. These cells were cultured in favorable conditions for at least 30 days before the image can be acquired.





Leah Kiros, a high school junior from Maclay School and a member of the Megraw Lab, won first in Physical Sciences and first in her category at the Capital Regional Science and Engineering Fair on February 10th for her project in the Megraw lab entitled "Modeling Nuclear Migration in the Drosophila Early Embryo". She will advance to the International Science and Engineering Fair.

The Pinto Lab recently attended the Biophysical Society Meeting in San Diego, California. **Isabella Coscarella** and **Maicon Landim Vieira** (postdoc) both received Travel Awards to the meeting.



Faculty News



Toni Nemec was selected as the 2023 Florida Undergraduate Research Association Mentor of the Year. This annual award recognizes one outstanding faculty mentor from across the state of Florida. Congratulations!

Items of Interest



Biotechnology Interest Group (B.I.G.) Sponsored talk by Dr. Andon Placzek Director of the Altos Innovation Hub

March 21

"Altos is dedicated to unraveling the deep biology of cellular rejuvenation programming. Our mission is to restore cell health and resilience through cellular rejuvenation programming to reverse disease, injury, and disabilities that can occur throughout life. Altos is designed to integrate the best features of academia and industry -- from academia, the freedom to pursue the most challenging problems in biology, and from industry, the focus on a shared mission, and the ability to foster deep collaborations, and the passion and commitment to transform science into medicines. Dr. Andon Placzek is the director of the Altos Innovation Hub, where they are using cutting-edge technology to explore the role of bioelectricity in aging and rejuvenation. He is a graduate of the University of Florida and did his postdoc research at Baylor College of Medicine in Texas."



FSU MACHINE LEARNING EXPO 2023

When: Saturday, April 22, 2023, from 9 a.m. to 5 p.m.

Where: The Jim Moran Building

111 S. Monroe Street, Tallahassee, FL, 32301

Lunch provided

Machine learning has made remarkable advancements in recent years and already impacts many facets of our lives. The Interdisciplinary Data Science Program at Florida State University is organizing a one-day conference, MLX23, to provide insights into the breadth of this influence and explore how individuals are leveraging this new-found paradigm. The event will enable attendees to understand how machine learning affects us all.

REGISTER

Deadline: April 10, 2023

https://fsu.qualtrics.com/jfe/form/SV_a8EfDNn4cXsP7X8



The **Bryan W. Robinson Endowment for the Neurosciences** is offering Grants of \$4,000 for research in neuroscience by individuals enrolled in PhD, MD (Resident), or MD/PhD degree programs at Florida State University or the University of Florida. The applicants must be enrolled in one of the above degree programs as of April 1, 2023.

The deadline for submission is April 15, 2023. Everyone receiving funds for their research should plan to present the results of their research at our annual meeting, the first Wednesday of June.

Application information may be found at: <https://www.tmh.org/services/neuroscience/bryan-robinson-endowment>.

Award applicants and their professors are invited to our annual meeting by Zoom on Wednesday, June 7, 2023. Award recipients are announced at the meeting. Awards will be mailed to the recipients the following day. Award recipients receiving a Grant are expected to present their research findings at the annual meeting by Zoom on the first Wednesday in June the following year. If applicants cannot agree to present their research, they should not apply.



Elective Opportunity:

This summer (May 17-June 22), Dr. Jose Pinto and Dr. Gary Ostrander will offer the 2-credit elective course “**Scientific Presentations**”. It will be taught Wednesday and Thursday afternoons from 3:00-5:00 pm in Room 1303 and provide an excellent opportunity to enhance your presentation skills by learning from two accomplished and experienced scientists who know how important it is to give clear, interesting, and professional presentations. Because of the close mentoring involved in this course, it is limited to the first 14 people who sign up.

Funding News

Judy Delp has received an R01 grant from NIH for the project, “Role of Adiponectin in Reversal of Age-related Vascular Dysfunction”

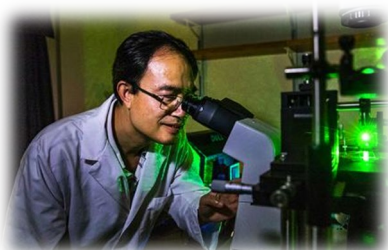
Devon Graham received a 2022-2023 Committee on Faculty Research Support (COFRS) award for her project, “Transcriptional mechanisms underlying behavioral changes following developmental fentanyl exposure.”

Choogon Lee has received an R01 grant from NIH for the project, “A novel cell-based platform to study human circadian disorders.”

Robert Tomko has received an R01 grant from NIH for the project, “Engagement and Communication Between Proteasomal Subcomplexes.”

Julia Wang's Lab recently received two grants. The first grant is American Diabetes Association Junior Faculty Development Award. The goal of the study is to identify the molecular basis of the sex differences in pancreatic endocrine functions. The second grant is funded by UF-FSU CTSI precision health initiative. This grant aims to examine the molecular subtypes of pancreatic neuroendocrine neoplasm.

Publications



Dr. Zucai Suo's lab has three new publications:

Hade, M. D., Suire, C. N., and Suo, Z.* (2023) "An effective peptide-based platform for efficient exosomal loading and cellular delivery of a microRNA", *ACS Appl. Mater. Interfaces*, 15, 3851-3866.

Stephenson, A. A., Taggart, D. T., Xu, G., Fowler, J. D., Wu, H., and Suo, Z.* (2023) "The inhibitor of κ B kinase β (IKK β) phosphorylates I κ B α twice in a single binding event through a sequential mechanism", *J. Biol. Chem.*, 299, 102796.

Abdullah, M. A. F., McWhirter, S. M., and Suo, Z.* (2023) "Modulation of Kinase Activities In Vitro by Hepatitis C Virus Protease NS3/NS4A Mediated-Cleavage of Key Immune Modulator Kinases", *Cells*, 12, 406.

Save the Date

May 21-24

39th International Symposium on
Microscale Separations and Bioanalysis
(MSB 2023)
<https://msb-conferences.org/>

Do you have news to share? Send it to DL-MedBMSPRTeam@med.fsu.edu.