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# STETSON UNIVERSITY

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## **Stetson University Cardiac Cell Scientist Receives Funding**

*Heather Evans-Anderson, Ph.D., will conduct cardiac cell communication and science of learning research with funds*

DELAND, Florida, April 1, 2019 – [Heather Evans-Anderson, Ph.D.](#), assistant professor of health sciences at [Stetson University](#), is the recipient of a [PALM Network](#) fellowship and the 2019 [Willa Dean Lowery](#) grant. She will use the funds, totaling \$13,000, to create a student-centered, technology-rich and active-learning classroom for her anatomy and physiology classes and further her research on communication between cardiac cells during the early stages of heart development using CRISPR technology.

“Applying for funding requires persistence,” said Evans-Anderson. “These funds also will provide a great opportunity to conduct cutting-edge research that I would not otherwise be able to do. I apply for as many opportunities as I can in order to expand possibilities for my students.

“Understanding how different genes work together to build the heart can help create new therapies for addressing cardiac defects and disease,” said Evans-Anderson. Funding from fellowships and grants provides researchers with financial support to present and share research findings with field colleagues and experts, as well as at national conferences.

“Attending scientific meetings provides invaluable networking opportunities,” said Evans-Anderson. “In addition, the reagents that I need for conducting CRISPR studies, particularly the genomic sequencing, are very expensive. I wouldn’t be able to do these things or provide such exciting opportunities for my students without these funds.” CRISPR stands for Clustered Regularly Interspaced Short Palindromic Repeats.

The PALM Network is a national group of dedicated teachers committed to active teaching and learning in life science education and STEM classrooms. The fellowship, funded by the National Science Foundation (NSF) Research Coordination Networks, provides funding to support training in order to promote use of evidence-based, active-learning strategies in teaching.

The organization also provides a chance for fellows and mentors to collaborate on specific goals as well as participate in journal clubs to discuss teaching strategies that promote learning.

“The PALM Network program will provide me with an opportunity to grow as an educator by promoting my ability to conduct active-learning strategies in my classroom to enhance student engagement,” said Evans-Anderson. “Strategies, such as, peer collaboration and encouraging in-class participation will help students connect with and gain more from the course content. I also will be assessing my students’ learning success by comparing test results before and after implementing active-learning assignments and obtaining feedback from students.”

Evans-Anderson will be working with an expert on the science of learning. Her mentor, Mari K. Hopper, Ph.D., is the associate dean of biomedical sciences at Sam Houston State University’s

College of Osteopathic Medicine in Huntsville, Texas, has published several papers on active learning. Evans-Anderson will be presenting preliminary data from the pedagogical research that has been conducted as a result of The PALM Network program during the Human Anatomy & Physiology Society conference in Portland, Oregon, in May.

“Being part of The PALM Network fellowship program allows me to be a part of an elite group of dedicated teachers whose mission is to improve student learning,” said Evans-Anderson. “I am proud to be part of this organization and look forward to the exciting opportunities it will bring.”

The Willa Dean Lowery grant will provide Evans-Anderson with an opportunity to further her research using CRISPR technology, which allows a user to cut and replace DNA sections to edit genes in a living organism. Evans-Anderson and her students will use CRISPR to study endothelial and cardiomyocyte cell interactions by genetically modifying an invertebrate organism to investigate the regulatory mechanisms of heart development.

“Once my students and I successfully edit genes using CRISPR, we will then use next-generation sequencing to examine the entire genome of our mutants in order to determine the overall impact of target-gene editing,” explained Evans-Anderson. “This information will provide significant insight into how the selected target genes impact heart development as well as provide potential new targets to examine.”

Evans-Anderson collaborated with [Lynn Kee, Ph.D.](#), assistant professor of biology at Stetson, and her advanced genetics class students on preliminary work required for the Willa Dean Lowery grant. The students will present their work during the [Stetson Showcase](#) on April 17.

Evans-Anderson sees great potential with using CRISPR technology as an educational tool and will present her classroom work with CRISPR at the annual American Society for Biochemistry and Molecular Biology and Experimental Biology meeting in Orlando on Sunday, April 7.

Students also will have an opportunity to present preliminary research findings during the annual Biomedical Research Conference for Minority Students and American Society for Cell Biology conference next fall as well as the National Conference on Undergraduate Research, the Stetson Showcase and Florida Statewide Undergraduate Research Conference in 2020.

The project’s preliminary data will be used for additional grant applications. Evans-Anderson expects that she and her students will publish scientific research papers in academic journals.

Heart disease is the leading cause of death for both men and women. An estimated 610,000 people in the United States die of heart disease each year. The research findings may provide important clues that could support new treatments for preventing and treating cardiovascular conditions.

#### About Stetson University

*Founded in 1883, [Stetson University](#) is the oldest private university in Central Florida. Stetson focuses on intense learning experiences in a supportive community that allows students to develop their voice in a connected, inclusive environment. Stetson University ranks No. 5 on U.S. News & World Report’s 2019 list of Best Regional Universities (South), and has been recognized as one of The Princeton Review’s 384 Best Colleges, 2019 edition. [Stay connected](#) with Stetson on social media.*

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