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Biology Student & Faculty featured in GS Foundation Annual Report

November 18, 2014

These stories can be found in the [Georgia Southern University Foundation 2014 Annual Report](#)



IN OUR DNA

Kori Williams, Biology Major

Senior Kori Williams has had a lifelong fascination with how life systems function and to explore the field of developmental biology will allow her to fulfill her academic and professional research goals.

The Biology major from Augusta, Georgia, says the undergraduate research opportunities available at Georgia Southern helped guide her decision to attend this University. "I thought I only loved genetics, but I am also passionate about neurodevelopmental disorders," she says. "I want to understand how they happen, where they happen and if there is a way to prevent them from occurring. Imagine if we could detect autism at its inception? My goal is not to change the children from their normal, but to find preventative measures and more rational treatments for neurodevelopmental disorders."

Trained in molecular research by Professor Vinoth Sittaramane, Ph.D., Williams is currently working on a project stemming from an observational study in a Northern Finnish human population. Some individuals in the population have autistic behavioral tendencies at a relatively young age. It has been found to be a common trend. "Our research is working to modify and understand expression of this protein

during brain development in zebrafish embryos, in hopes of relating it back to the Northern Finnish study as it relates," Williams explains.

"Professor Sittaramane has great ideas and is very knowledgeable on how experimental design needs to be executed," she says. "His expertise is key in interpreting and understanding the results we receive. It is evident that he enjoys the research he conducts, and helps the other lab members to become successful research scientists."

Williams has a 3.75 GPA, is a member of Beta Beta Beta, National Biological Research Honor Society and is a recipient of a Charles Foundation research scholarship, which was made possible through the generosity of Charles and Sandra Quisenberry, a couple who moved to the Statesboro area in 2001. The scholarship provides a stipend, along with travel expenses for conferences and reimbursement for lab supplies.

"I had the opportunity to meet the benefactor at a reception and was happy to represent my gratitude towards the scholarship. A real confidence booster," Williams says. "It means a lot to receive research scholarship because it shows that what we are doing is important, and getting this type of support to fund my passion is simply amazing and encouraging."

Kori is making plans to attend graduate school once she graduates next spring.

HOLISTIC APPROACH

A popular aquarium pet is proving to be just the right model for the complex embryonic development research being performed by Professor Vinoth Sittaramane, Ph.D., and several graduate and undergraduate students in the new Biological Sciences building.

The study zebrafish has been used in scientific research for nearly two decades, but it was introduced to Georgia Southern students when Sittaramane joined the faculty two years ago. The developmental biologist says the tiny fish is a great model because it is genetically similar to humans, and is easy to produce, maintain, manipulate and study in the lab.

Sittaramane explains his student researchers are able to observe from day one the entire range of a living embryo as it grows from a single cell into a newly formed fish. This holistic perspective gives students invaluable direct hands-on experience in the new field of developmental biology. And this type of research could lead to the design of therapeutics for several human neurodevelopmental disorders such as autism.

As a result of their research, Georgia Southern students have been able to publish their data in important journals and present their findings at regional and national meetings. Sittaramane acknowledges it is expensive to provide students with top-notch research opportunities like these. "We are doing a good job venturing into this new field, but it takes a lot of money to maintain what we are doing here," he said. "Our gift to Georgia Southern will help to introduce more students to this exciting field of research."



Kori Williams and Vinoth Sittaramane, PhD

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