

Southern Miss Doctoral Student Places Third in Regional Thesis Contest

ARTICLE | THU, 03/12/2015 - 9:48AM | BY VAN ARNOLD



Southern Miss doctoral student Katrina Knauer, center, is shown here with Dr. Karen Coats, left, dean of the Graduate School, and Dr. Sarah Morgan, associate professor of polymer science and engineering. (Submitted photo)

Katrina Knauer, a doctoral student in the polymer science program at The University of Southern Mississippi, took home a third-place award in the Conference of Southern Graduate Schools Regional Three Minute Thesis® (3MT®) competition held earlier this month in New Orleans.

Knauer, a native of Jacksonville, Fla., finished third among 26 graduate students with her presentation: “Improving Water Filtration Through Fundamental Polymer Science.”

“I was definitely surprised to place third,” said Knauer. “Every single presentation was so excellent, and I was competing against very large universities such Florida State, University of Florida, Auburn University, and University of Alabama. I felt a little sorry for the judges because I know I would have had a very difficult time picking the winners. When my name was announced, I was ecstatic.”

The Three Minute Thesis® is a research communication competition originally developed by The University of Queensland in 2008. The exercise challenges master’s and doctoral students to present a compelling talk on their thesis/dissertation topic and its significance in three minutes or less.

Knauer earned her undergraduate degree in chemical engineering at Florida State in 2011. Since entering graduate school at Southern Miss, Knauer has worked closely with Dr. Sarah Morgan, associate professor of polymer science and engineering.

“Katrina Knauer is an exceptional student researcher, who has previously been recognized by The Society of Plastics Engineers and The American Chemical Society for excellence in written and oral presentation of her research,” said Morgan. “Kat is dedicated to sustainable materials development, with the goal of providing solutions for human needs (like clean water) while sustaining the environment and our natural resources.”

Knauer explained that her graduate research involves working with a group of polymers (long molecular chains) known as sulfone polymers that are typically applied as filtration membranes that have the ability to filter and purify water for safe human consumption. In membrane technology, surface properties are critical to the filtration performance.

“In my research I am trying to develop a better fundamental understanding of the key structural and environmental parameters that dictate the surface properties of sulfone polymer materials,” she said. “This understanding can allow us to tailor and manipulate the surface properties without the need for additional, and potentially harmful, surface treatments.”

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