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Ouachita senior Joshua Spiva publishes research paper in "Polymers"

Addie Woods

Office of Communications & Marketing

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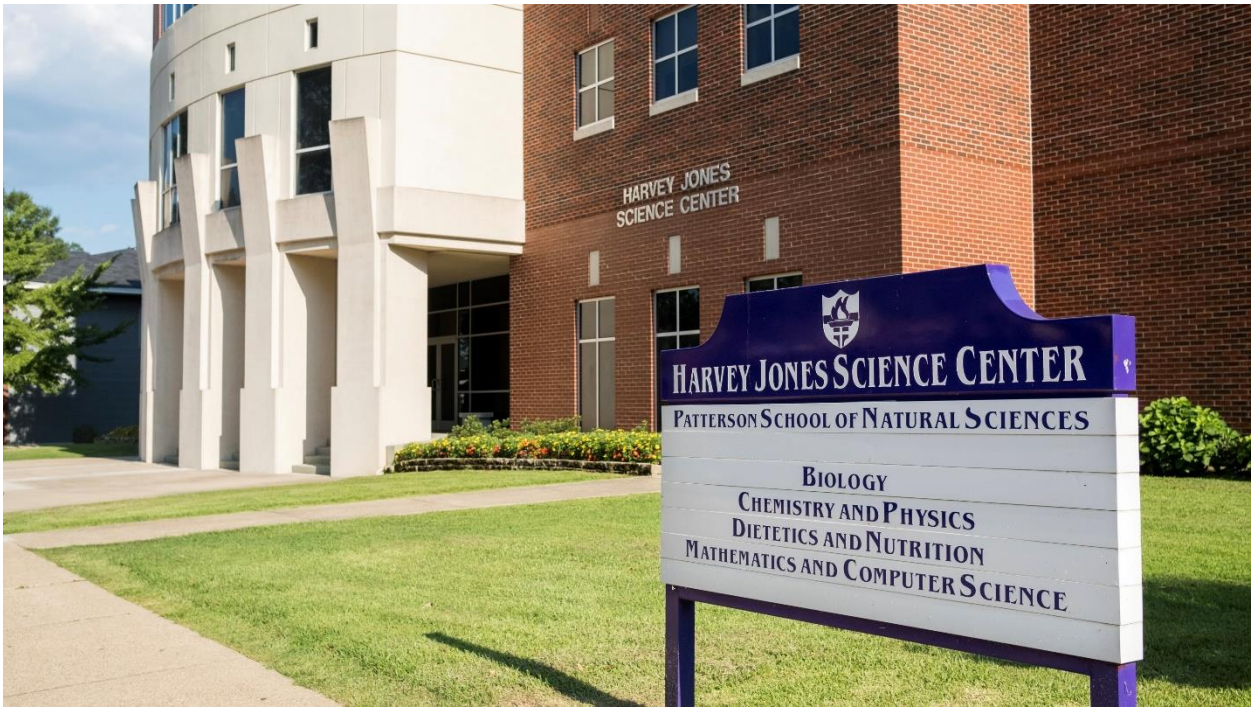

For immediate release

Ouachita senior Joshua Spiva publishes research paper in "Polymers"

By Addie Woods

May 5, 2023

For more information, contact Ouachita's news bureau at newsbureau@obu.edu or (870) 245-5208.

ARKADELPHIA, Ark. — Joshua Spiva, a senior biomedical sciences and chemistry double major from Magnet Cove, Ark., published a research paper in the scientific journal, "Polymers."

Photo 1 Joshua Spiva

The paper, titled "Electrospinning Drug-Loaded Alginate-Based Nanofibers towards Developing a Drug Release Rate Catalog," details the results of Spiva's research on creating a catalog to help biomedical scientists understand how drugs release from certain materials. He worked for more than 2 ½ years on the project with Dr. Sharon Hamilton, associate professor of chemistry at Ouachita, to complete research that Hamilton began with students at Delta State University, where she was an assistant professor of chemistry before joining the Ouachita faculty in 2018.

The team used alginate, a biocompatible polymer usually found in algae, as their base material.

"Alginate is a renewable resource, and it has no immunogenetic properties. We were able to compare this material to others and create a catalog of information to characterize different types of release depending on the material and additives," said Spiva.

“The data analysis portion of the project was very important to me because it allowed us to compare the data of multiple experiments,” he added, “so we could analyze what changes the outcomes of an experiment and where to start when going forward.”

“Faculty at small undergraduate institutions have high teaching loads compared to research institutions, and it can be difficult to find time to publish the research conducted in their labs,” Hamilton said. “This publication has been a long time coming, and I am happy to have published this manuscript to share our research with the public.”

After graduation from Ouachita, Spiva will attend the College of Medicine at the University of Arkansas for Medical Sciences in Little Rock.

For more information about Spiva’s and Hamilton’s research or about Ouachita’s Department of Chemistry, contact Hamilton at hamiltons@obu.edu or (870) 245-5092.