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Ouachita professor Nathan Reyna invited to National Science Foundation-funded mentor program

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NEWS

For immediate release

Ouachita professor Nathan Reyna invited to National Science Foundation-funded mentor program

By Katie Smith

September 1, 2017

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



Dr. Nathan Reyna

ARKADEPHIA, Ark.—Dr. Nathan Reyna, Ouachita Baptist University's associate professor of biology, has been selected to participate in the National Science Foundation's (NSF) mentor program, CURE Net.

Dr. Reyna will have the opportunity to serve as a mentor to other science professors in the country and teach them how to run course-embedded undergraduate research experiences (CUREs) in their own institutions. This program mirrors several programs Ouachita's J.D. Patterson School of Natural Sciences already sponsors, which is among the reasons Dr. Reyna was invited to participate.

Currently, Ouachita has five CURE programs embedded into its curriculum, coordinated primarily by Dr. Reyna and Dr. Ruth Plymale, associate professor of biology. One of these CUREs focuses on synthetic biology, where students select three different genes from different organisms and put them together. Reyna and Plymale received funding through the NSF-funded EPSCoR program to create the Arkansas CURE (AR:CURE) project to help faculty at other institutions develop similar programs. Over the summer, 18 undergraduate faculty from 10 states participated in a three-day workshop focused on this CURE. Dr. Reyna taught these professors how to execute the experiment in a classroom setting. This workshop was so successful, Reyna noted, that funding was secured to conduct the workshop for three more years.

"We teach them how to assess student learning, how to do all the different things over the course of the semester with groups that are never in the same spot at any given time," Dr. Reyna explained. "That's

what we do in the workshop, and that's what we do here at Ouachita. Several years ago, the biology department changed how we taught science. It is amazing that these ideas have now expanded to us helping other schools and universities."

Ouachita recently received funding to start another mentorship program with high school students and faculty. This program will take place next semester and will allow high school students and faculty to learn Ouachita's Bioinformatics CURE. This CURE allows students to use computers to analyze the genetic sequence of a bacteriophage. Ouachita students will now have the opportunity to teach and mentor people from surrounding high schools about this CURE. After the workshop, the high school faculty will have access to the program so they can share it with their students.

"We're going to call it a 'Genome Hackathon,'" Dr. Reyna said. "We're going to hack a virus during the course of a day. We're trying to get our students to serve as mentors, and we're getting role models into the community. We're trying to increase interest in science, technology, engineering and math in the area."

In addition to these two CUREs, Ouachita has three others, focusing on a phage lab, genetics and cell biology. Ouachita has five CUREs in total in its curriculum, whereas many schools have only one, according to Reyna. The hands-on learning opportunities are an important part of the high-impact educational process for Ouachita science students.

"Students will use this in the future, especially learning how to read a protocol," Dr. Reyna said. "A lot of times it won't be the same protocol, but it will be the same thing when someone says, 'Here, read this, I'll help you for a day, but then you're on your own to redo it and think about how to fix it.' Those skills are used forever. We are teaching students to learn and think like a scientist from day one."

Dr. Reyna will be able to use similar methods in place now in Ouachita's Patterson School for the NSF's CURE Net program. For more information on the CURE Net program or Ouachita's CUREs, contact Dr. Nathan Reyna at reynan@obu.edu or (870) 245-5240.

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AT <https://www.obu.edu/news/2017/09/01/ouachita-professor-nathan-reyna-invited-national-science-foundation-funded-mentor-program/>.