

Neuroscience Lab at SWOSU Receives Additional Funding from National Science Foundation

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Southwestern Oklahoma State University recently received additional funding of \$163,295 from the National Science Foundation for a research project in the neuroscience lab on the Weatherford campus. Involved in the project are (front from left): students Ashley Rodriguez, Tyler McLemore and Elizabeth St. John; administrative assistant Debbie Flaming; Dr. Andrea Holgado (principal investigator); student Abby McKisson; and research associate LaKeshia Seals. Back from left—Dr. Joseph Maness (chair, Biological Sciences Department) and students Caleb Hubbard, Kody McKay, Nile McCullough, Michael Caniglia, Jamin Brown and Monte Stone.

Southwestern Oklahoma State University has received additional funding of \$163,295 from the National Science Foundation for a research project in the Department of Biological Sciences on the Weatherford campus.

Associate Professor Dr. Andrea Holgado and her research team received the grant for a project in the neuroscience lab entitled “RUI: Modulation of Synaptic Vesicle Exocytosis in *C. elegans*.”

Holgado said *C. elegans* are microscopic worms with a nervous system that is much simpler than that of humans. Because of its simplicity, the team can target specific sections in the nervous system and research what proteins are being used in synaptic transmission.

The lab partners also examine worms containing DNA mutations affecting neuronal communication to see if there is anything that can be done to “rescue” those animals from that genetic disease. Through this research, the neuroscience lab hopes to help identify new drug targets and contribute to the understanding of conditions that involve problems in the communication of nerve cells or synaptic transmission. Some of these conditions include Alzheimer’s, schizophrenia and epilepsy.

Holgado said the research project engages undergraduate students, visiting high school teachers and high school students in the process of discovering novel facts about the nervous system and brain. To date, the SWOSU neuroscience group has produced over 70 scientific presentations, received three national and 10 regional awards, and published in three peer-reviewed professional publications.

This additional funding brings to \$719,085 the total amount awarded for this neuroscience research at SWOSU.