

SWOSU Student Involved in Pharmaceutical Science Research

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Southwestern Oklahoma State University student Kelly Fine (left) of Dalhart, Texas, was recently awarded a NASA scholarship to perform pharmaceutical science research under the direction of Dr. Muatasem Ubeidat (right), assistant professor in the SWOSU Department of Biological Sciences. Fine will be exploring the cell-specific expression of genes and how they correlate to phases of health and disease. Also pictured is Djufu Yimfor, who is a SWOSU student who has been involved in the research.

Southwestern Oklahoma State University student Kelly Fine, a freshman pharmacy major from Dalhart, Texas, was recently awarded a NASA scholarship to perform pharmaceutical science research under the direction of Dr. Muatasem Ubeidat, assistant professor in the SWOSU Department of Biological Sciences.

Ubeidat said every research project in biomedical molecular biology utilizes a specific model organism to study the function of a protein and its regulation on the DNA and RNA levels. A model organism is a simple, well-studied organism that is small in size, with small and well known genome, easy and cheap to maintain. Fine's research is focusing on how two proteins in the model organism *Dictyostelium discoideum* are produced from DNA and how are they regulated.

Fine will be exploring the cell-specific expression of genes and how they correlate to phases of health and disease. The objective of the research project is to study the functions of alkaline phosphatase by studying the effect of mutations in specific amino acids in proteins. The work will attempt to accurately sequence the alkaline phosphatase gene from the model organism *Dictyostelium discoideum*. Ubeidat said the work could help determine the chemoattractant receptors which play a key role in inflammation, arthritis, asthma, and lymphocyte tracking.

SWOSU is a member of the NASA Oklahoma Space Grant Consortium, which provides scholarship funds for students in science and technology areas at member institutions. SWOSU matches these funds with an equivalent amount of its own. All scholarship awardees are required to volunteer 10 hours of their time to either the Stafford Air and Space Museum located in Weatherford or another appropriate community service organization.

The grant investigator is Madeline Baugher, faculty member in the Department of Entrepreneurship and Computer Systems. Students may submit research proposals for a spring funding cycle until January 31, 2008. A description of the program and an application may be found at <http://www.swosu.edu/academics/ace/compsci/nasagrants.asp>.