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Sac State chemistry professor wins stimulus funds for summer student research

A Sacramento State chemistry professor has been awarded \$17,664 in federal stimulus money to support summer student work in biomedical research that seeks to develop a new class of anti-viral drugs.

The funding, provided under the American Recovery and Reinvestment Act, is a supplement to a \$198,000 parent grant that Professor Katherine McReynolds secured from the National Institutes of Health in 2005 to further her study of sugar-based molecules – called glycodendrimers – that potentially could be used to fight viral diseases such as HIV, which can lead to AIDS.

The supplement's chief purpose is to fund the hiring of two Sacramento State undergraduate students and one high school student for the research work.

McReynolds says the training and mentoring aspect of the research will help the two undergraduates, who have worked with her on other projects in the past 18 months and will be seniors in the fall, prepare for careers in chemistry after graduation. The high school student will gain valuable exposure to science, she says.

"In chemistry, I feel it is of the utmost importance for students to not only participate in their organized laboratory courses, but also to have an original research experience," McReynolds says. "In essence, laboratory research teaches the student problem-solving skills and independent thought, which are two of the most important skills a new scientist needs to have in their pocket.

"Working with students directly in the lab, it is great to see them grow and develop these skills and ultimately become independent researchers. This will give them their best start possible for successful careers, and make them valuable assets to future employers."

McReynolds notes that the three student researchers are on track to become the first in their families to earn a four-year college degree.

The professor's supplemental request was for \$37,525 over two years. The balance of nearly \$20,000 is expected to be awarded later for next summer's work.

The Recovery Act, signed into law in February 2009 by President Barack Obama to stimulate the U.S. economy, allots \$33 million to create paid research opportunities this summer and the next for college and high school students and science teachers at NIH-funded labs nationwide.

McReynolds says her students' work is generating knowledge in new aspects of chemistry that will contribute to a growing body of research on glycodendrimers and their effects on viruses. Because of adverse side effects and decreased drug effectiveness caused by viral resistance, development of new anti-viral drugs is crucial, she says.

Initial word of the supplemental funding approval came from the White House through U.S. Rep. Doris Matsui, D-Sacramento, who supported the Recovery Act in Congress.

"I am pleased that additional Recovery Act funding will be coming to California State University, Sacramento and specifically to fund student and teacher training opportunities in the sciences," Matsui says. "Investing in our local schools and fostering new opportunities for advancement in science and medicine are key components of the economic recovery package and will help encourage a new generation of doctors, nurses and scientists to compete in a competitive global market."

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