OAKLAND UNIVERSITY

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OU faculty win NSF support for science and technology initiatives

Press Release

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OU faculty members win NSF support for promising science and technology initiatives

Rochester, Mich. – The National Science Foundation is supporting both educational advancement initiatives and research work of Oakland University faculty members with more than $1.6 million in grant funding.

This NSF funding, which was been made available through the American Recovery and Reinvestment Act of 2009, will support the training of math and science professionals to become teachers in K-12 schools, as well as advance scientific investigations into chemical, materials and mechanical engineering.

A more than $893,000 grant has allowed three faculty members to establish OU's Robert Noyce Teacher Scholarship Program, which invites established math and science professionals to enroll in the Master of Arts in Teaching program with tuition and other expenses covered.

"We are preparing people for the toughest positions to fill in math and science education," said Mark Olson, an assistant professor of education and one of three Noyce scholarship program directors. "In that sense, we're very pleased because it will help answer a huge need in the state and also will help prepare students for the knowledge-based economy we're moving toward."

The program will admit a total of 10 students per year over the next three years, and the first cohort will be available to begin teaching in the fall of 2011.

Nessan Kerrigan, an assistant professor of organic chemistry at OU, has received a $340,000 grant to continue his work investigating the use of organic catalysts in the development of pharmaceuticals. His work focuses on processes used to develop drugs that treat a wide array of human disease, including cancer, Alzheimer's and depression.

Kerrigan said his research, which is now in its early stages, could lead to more effective and efficient manufacturing methods, which in turn could make pharmaceuticals more accessible to those in need.

"The grant funding reaffirms the viability of your ideas and the belief you have in the direction you're going," he said. "What it comes down to is the number of hours you can spend in the lab, and without the funding, you just can't do the work."

Meanwhile, Professor of Physics Kenneth Elder is using a $242,000 award to explore molecular patterns that form while various materials undergo change in states. Using mathematical modeling to develop a better understanding of the forces at work, he hopes to help establish methods of controlling this pattern formation. Applied to manufacturing, this research could have significant impacts on the quality and capability of microelectronics, for example.

"There are patterns all over the place," Elder explained. "Our challenge is learning to predict how they form, and with that knowledge harness the immense potential of designing structures we're interested in."

Also receiving NSF funding is Assistant Professor of Mechanical Engineering Xia Wang, who is investigating fluid and thermal transport in fuel cells.

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SUMMARY
Grants will support the training of math and science professionals to become K-12 teachers and advance chemical, materials and mechanical engineering research.

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