

CMU prof nabs cancer study grant

By IAN PATRICK GRAY
Sun Staff Writer

Central Michigan University has received the largest grant ever from the National Institutes of Health thanks to a chemistry professor with an interest in creating better cancer drugs.

George Kaminski, assistant professor of chemistry, won a \$1.37 million grant that will be used over five years to search for more efficient ways to create pharmaceuticals to combat cancer and other illnesses.

"This grant is usually given to research-oriented universities; it's a mainstay research grant," said Kaminski, who has worked at CMU since 2002. "The simulations I'll be doing will help us understand better how to make better drugs."

The product of Yale University (Ph.D. chem-

istry) and the Moscow Institute of Physics and Technology, Kaminski will hire two post-doctoral researchers as well as some CMU students to help with the research as well as purchase additional computer equipment for his project, he said.

Unlike the traditional image of a chemist, Kaminski is a computational chemist, which means that instead of beakers and test tubes and Bunsen burners, he uses complex computer projections and models to predict the outcome of chemical and biological interactions.

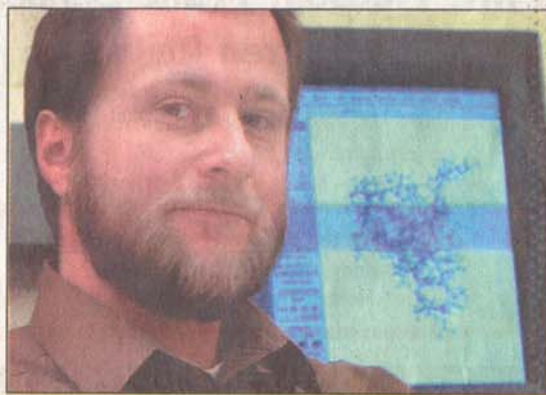
The results of his studies could greatly improve the speed and accuracy of drug research as well as save money by helping researchers avoid dead-end studies.

"I'm looking at the interaction of proteins with other molecules," he said.

"Harmful proteins are the cause of many sicknesses. It all depends on the specific proteins. If we can find a way to boost good proteins or kill bad proteins, that would be a very good thing. My main research is related to cancer, but the techniques can be applied to anything."

Although other scientists have created computer-modeling programs, Kaminski believes his will be far superior in speed and accuracy because of his focus on one of the smallest particles in the universe: the electron.

"Electrons move around the atom and because of that the interactions (of proteins) with other molecules change," Kaminski said. "If you don't account for electron movement, it affects that accuracy of your results. Others do some of this, but this will probably be the fastest and most



Sun photograph by VICTOR FITZSIMONS

George Kaminski, assistant professor of chemistry at Central Michigan University, is shown in his research lab with a model of a protein he is studying. Kaminski won a \$1.37 million grant from the National Institutes of Health to research improved drugs for cancer and other illnesses.

accurate method."

A key focus of the project is how well drug molecules will bind with farnesyl transferase, a protein that plays a role in up to 30 percent of all human cancers. Blocking farnesyl trans-

ferase could prevent or eliminate many cancers.

Despite the lofty goals and large size of the grant, Kaminski doesn't plan to be one of those university faculty students never see or

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learn from. He expects to be in the classroom a lot.

"I believe faculty as a university should teach," he said. "Someone who is active in research can teach better than someone who is not. Some of my best teachers were world-renowned researchers. There should be a healthy mix of research and teaching."

His success in gaining the NIH money, however, wouldn't have happened without the aid of CMU and its own efforts to promote research and creative endeavors.

"The last five or six years, CMU started devoting efforts to promoting research," Kaminski said. "I took advantage of grants from the Office of Research and Sponsored Programs and I would have had no change to get the external funding without them. The grants from the President's Research Investment Fund, helped me get preliminary results and data."