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UM Professor Awarded Grant to Create Giant Interactive Molecules By Sara Cody Collegian Staff

Dr. Craig Martin, a chemistry professor at the University of Massachusetts, Amherst, was recently awarded a grant to create a larger-than-life interactive display he has dubbed the Molecular Playground.

The Camille and Henry Dreyfus Foundation awarded Martin a \$45,000 special grant to construct the three-dimensional display in the lobby of the Integrated Sciences Building. Martin will be collaborating with Computer Science emeritus professor Allen Hanson and Microbiology emeritus professor Eric Martz to create colorful renditions of familiar molecules on a 6-by-9-foot wall.

"I hope that [people will] see molecules as real, three-dimensional structures and not abstract concepts," said Martin. "I don't expect anyone to get precise detail, but I want [the public] to get a feeling for molecules."

Students who have ever popped an ibuprofen at the onset of a headache, spritzed on perfume before going out to a party, or drank coffee to help stay awake in their early morning classes will be able to explore molecules such as these that they may come across every day.

The concept behind this display is that passersby will be able to walk up to the projection on the wall and physically explore the molecules. By using their hands to manipulate the projection, viewers will be able to control the movement, magnification and direction of the molecules.

Martin has been working with Hansen to coordinate the logistics of creating the display. Hansen will contribute to the project using his expertise with computers. By using an image processing algorithm, the camera and computers being used in the display will be able to detect when a person is actually interacting with the display as opposed to simply passing by.

Martin also plans on collaborating with Martz to generate the content of the exhibit. Martz's knowledge and experience with developing computer programs that allow people to explore molecules, particularly proteins will be the source of the theme behind the display.

The inspiration behind this exhibit came from an interactive display Martin saw at Bradley International Airport. Martin decided that an artistic approach may be a different way to get the public to try and relate with molecules.

"[I] very much intend it to be artistic. Because it will capture people's imagination the way art does and that's great," said Martin. "The whole point is to capture people's imaginations and to attract them to it and then maybe they'll say 'Hey, maybe I'll take that chemistry course.'"

In the future, Martin plans on collaborating with UMass chemistry professor Paul Lahti on synching the display with the content that is being taught in the lecture halls. "Students getting out of class [across the hall from the display] will be able to walk over to this wall and play with the reactions that were just talked about

in class," explained Martin.

This prospect has generated popular support among science students already. I think it's cool that it's interactive. Molecules are very difficult to understand. I think it will make people who understand them appreciate them even more," said Doug Taylor, a senior biology major at UMass.