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Cornell, Buffalo professors update wheelchair-friendly building standards

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DRYDEN -- Researchers at Cornell University and the University at Buffalo hope that their research into the changing needs of individuals in wheelchairs will inform the way people design everything from automatic doors to water fountains.

Cornell professor David Feathers is using three-dimensional modeling technology to better understand the needs of wheelchair users. By measuring the range of motion and maneuverability of people in wheelchairs, he hopes that architects will better understand the needs of the wider population.

"We assess the person and their wheelchair together as a system, and look at that system in how it relates to the built environment," said Feathers.

Feathers is working with Buffalo professor of architecture Edward Steinfeld, who was instrumental in researching design standards for accessibility that are upheld to this day. However, gradual changes in wheelchair design and the needs of individuals with disabilities have rendered some standards obsolete, according to Steinfeld.

"The current standards for accessibility for wheeled mobility devices are based on research I did in the 1970s," said Steinfeld. "We were asked to do this [current] work to develop the data that's used to develop accessibility codes for wheelchair users."

Feathers agrees that wheeled mobility devices, including scooters and powered wheelchairs, have increased in size since early legislation such as the Americans with Disabilities Act.

Feathers and Steinfeld advocate "inclusive design," a philosophy to encompass the needs of everybody, and not just people with disabilities. Both hope their research will help inform the next round of revisions to the Americans with Disabilities Act, and to the implementation of worldwide accessibility standards.