10-18-2011

CPD Partners in Research to Improve Emergency Evacuations

Center for Persons With Disabilities

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Existing computer models that building engineers use to develop escape plans are based on a bunch of able-bodied young adults.

It’s time for a more accurate model. And thanks to a $600,000 interdisciplinary grant, Utah State University researchers will develop one that accounts for the estimated one-fifth of Americans who have limited physical mobility.

The research will simulate emergency evacuations for those with physical disabilities or stamina impairment, using data gathered through high-tech means. Radio frequency identification and video tracking will catch and observe the exact movement of real pedestrians.

The project will measure their behavior in normal circumstances and under an evacuation scenario. The team will then look at how those with disabilities walk, the speed at which they move and how they react when put in close contact with others. The project will take approximately three years, and it builds on prior research.

“There are differences in behavior in people who are different from one another. In an evacuation, these small differences can have a big effect,” said Keith Christensen in an interview with the Salt Lake Tribune last week. Christensen is a CPD faculty fellow, an associate professor in the Landscape Architecture and Environmental Planning Department, and a co-principal administrator of the grant. He continued: “We need to understand how people with disabilities behave in an evacuation, and we need to understand how people without disabilities behave with them.”

(The Trib’s article includes information from Andrew Riggle of the Disability Law Center in Salt Lake. Check it out if you can—it’s a good read.)

When the project concludes in fall 2013, the team will provide its findings to companies and engineers who create evacuation plans for new buildings around the nation, improving the safety and welfare of those with disabilities.

The CPD is one of three university research centers participating in the grant. Christensen said the CPD will cooperate in recruiting participants, arranging experimental facilities, and working on feedback and evaluation. Other partners include the Center for Self-Organizing and Intelligent Systems and the Utah Transportation Center. Also involved are researchers in USU’s College of Agriculture and the Jon M. Huntsman School of Business.

Prior to joining the faculty of the Landscape Architecture and Environmental Planning Department, Keith Christensen worked as a research scientist with the CPD. There he explored the relationship between design and social access, social values, human rights and social justice.