

# LOCAL NEWS UPDATES

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## [A vest that hugs and other student engineering projects](#)



(Photograph courtesy of UMass)

Student engineer Joe Patterson (left) with graduate student mentor Brian Mullen (right) as UMass Board of Trustees member Dennis G. Austin (center) models an inflatable vest designed for people who suffer from anxiety disorders and find comfort in the physical pressure from hugs.

By Andrew Ryan, Globe Correspondent

Joe Patterson spent his summer break building an inflatable vest that allows people to give themselves a hug.

The 21-year-old University of Massachusetts student isn't lonely. He's a budding engineer.

"This is just a prototype," Patterson said this afternoon, killing time before a matinee showing of the new Will Ferrell movie. "It's a vest with a lining inside with pockets that hold air bladders. It pushes against you and provides what is called 'deep-pressure stimulation.'"

The vest is designed for people who suffer from autism and other anxiety disorders and find comfort in the physical pressure from hugs. For an undergraduate engineering student, it was an ambitious project, which was precisely the point.

Patterson was one of 23 UMass engineering students who won \$6,000 grants to spend their summer vacations working on projects to simulate research typical of graduate school. With a national shortage of engineers, the idea is to encourage more undergraduates to seek advanced degrees, said Kathleen Rubin, an assistant dean at the College of Engineering.

The students presented their work today at the university's main campus in Amherst in a hodgepodge of ideas, projects and concepts. There was a weather radar, an examination of the West Boylston sewer system, a look at wind power and a study of an antenna for airborne radar. Another project, by Tuan Pham, examined the thermal history of Babb's Mill meteorite, a genuine hunk of space junk that fell from the sky.

The Research Experience for Undergraduate Program at UMass began this summer and is funded by a three-year, \$298,000 grant from National Science Foundation and other donors. Each student worked closely with a professor as if they were in graduate school.

Patterson, of West Dartmouth, spent 40 hours a week in a university research facility, collaborating with Professor Sundar Krishnamurty and Sean Mullen, a actual graduate student. The undergraduate did not come up with the concept for the vest, but his advisors gave him the guidance to build the prototype.

He fastened five airbladders into what looks like a puffy winter vest. The bladders are blown up by three pumps powered by 10 AA batteries in the front right pocket. The black vest takes a little more than a minute to inflate, giving the wearer a quick squeeze at the touch of a button.

For Patterson, the program seems to have worked. The mechanical engineering major said he has definite plans for graduate school, due in part to his job this summer.

"It made me realize," Patterson said, "I really do like to do research."

Posted by the Boston Globe City & Region Desk at [05:07 PM](#)