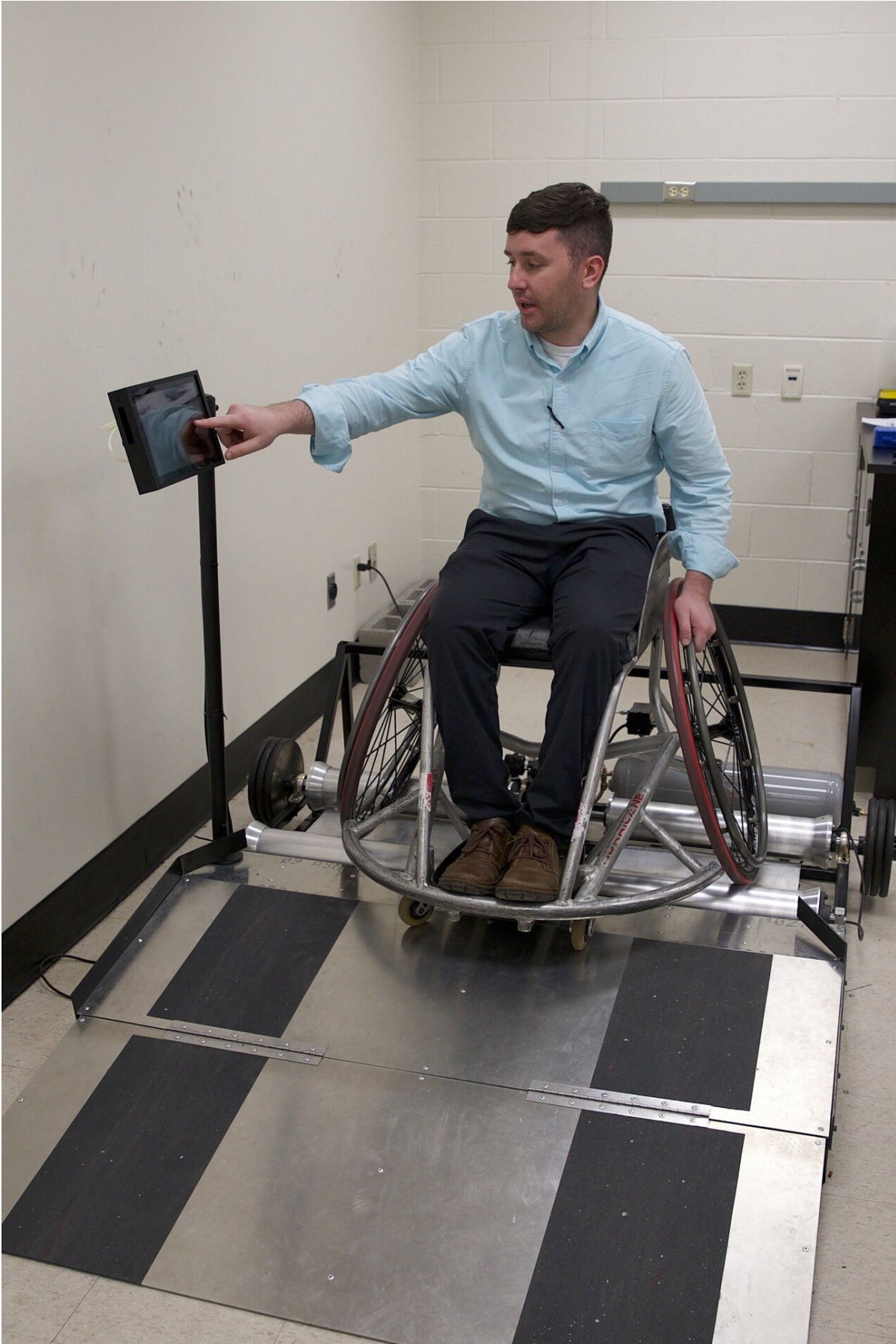


# **Engineering students build treadmill that helps athletes in wheelchairs work out**

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Brandon Griffin, team leader on the project and a mechanical engineering student, said the idea of a wheelchair treadmill had circulated among various senior design project teams for a number of years. Credit: UT Arlington

The eight-time national champion UTA Movin' Mavs might be getting even better soon, thanks to some ingenuity among mechanical engineering students.

A University of Texas at Arlington senior design project team built a treadmill that can be used by athletes in wheelchairs.

Brandon Griffin, team leader on the project and a mechanical engineering student, said the idea of a wheelchair treadmill had circulated among various senior design project teams for a number of years.

"There were about 12 to 14 projects that advisers put up on the board and that's the one that appealed to us," said Griffin, who is a former sergeant in a U.S. Army tank unit. "Previous teams tried, but failed for different reasons. We came up with something that worked."

The impetus for the project actually started with Movin' Mavs Coach Doug Garner, who wanted something that gave his players both a good workout and measured how much effort they were expending. He enlisted the help of Bob Woods, UTA professor of mechanical and [aerospace engineering](#).

Woods, who has run the student formula racing team for several decades, saw the project as a challenge for his senior design students.

Every fall semester, engineering seniors have to participate in a senior design project known as their Capstone Project. In the fall, they design their project; in the spring, they build it.

Woods said that years ago, a student team had measured the ergonomics of a wheelchair athlete, but that's where the project and data ended. Three years ago, another student team built a treadmill prototype that modern wheelchairs—and especially sport wheelchairs—will no longer fit on.

"This team has added a pneumatic lift, so it's not as jarring for wheelchair athletes to get into," Woods said.

Griffin is elated that something his team did has the potential to help others.

"It shows us how important even senior design projects are," Griffin said. "When we can help someone in a practical, real-life way, that's what it's all about."

Other mechanical engineering [team members](#) are Antonio Araujo, Matthew McCormick, Matthew Niestroy, Jason Gullede and Chad Goodlow.

The [wheelchair](#) treadmill isn't finished yet. A team of electrical engineering students is building an interface for digital readouts of work performed by the machine's users. Christopher Holland is leading that team. Other team members are Loc Ho and Zachary Kunkel.

Provided by University of Texas at Arlington

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