

## UTA spearheads Quantum For All science initiative

By James Ward, The Shorthorn staff  
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Dr. Karen Matsler, assistant professor of practice, is one of the principal investigators for Quantum for All at UTA. Quantum for All is an initiative focusing on supporting K-12 educators and students in learning quantum information science.

Photo by Ronaldo Bolaños

Led by UTA, the National Quantum STEM Camp gathered over 70 students and professors at Martin High School last month, aiming to remove some of the mystique around quantum information science by giving teachers the tools to teach it.

The camp is part of a larger initiative called Quantum For All. Funded by the National Science Foundation and sponsored by UTA, the initiative focuses on providing workshops, camps, institutes, resources and support for K-12 educators and students.

According to a UTA press release, QIS is used in everything from cybersecurity to medical equipment, yet, in most schools quantum science isn't taught until the college level. The shortage of QIS education is making it difficult for people to capitalize on the QIS technology market, which will be worth \$44 billion by 2028.

Dr. Karen Matsler, principal investigator for the project and assistant professor of practice at UTA, said Quantum For All's goal is to get quantum information science into curriculums — not just in Texas, but nationwide.

The camp began with 35 teachers from across the country coming together for four days, learning how to teach quantum topics in preparation for the student camp.

“It's basically an opportunity for teachers, high school teachers, in the United States that are teaching STEM content areas to come learn about quantum. How it could be integrated into their classroom,” Matsler said.

This year's student camp had 41 high schoolers from across the Metroplex learn quantum topics from a historical approach, going over topics dating back to the 1800s.

Distinguished professor of physics Ramon Lopez said quantum physics is behind almost all modern technology and will become even more important in the future.

“Even if you're not a scientist, you should have some rough idea of where some of this stuff is coming from,” he said.

Quantum For All also has camps outside of Texas, expanding its work to states like New York and Minnesota.

Matsler said quantum science should be accessible to everyone who wants to learn it, not just AP students. She said that it's possible to teach quantum in “fun and engaging ways.”

“We have shown that what we are doing is working, because we get some pre and post-test, and we show that they are learning it,” she said. “So there's no reason not to teach it to them,”

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