

Tulane University joins national consortium to educate next generation of quantum engineers

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Tulane University will be receiving part of a \$4.8 million grant to train a new generation of quantum engineers in advanced computing and communications technologies. (Photo by Shutterstock)

Quantum information technology is a rapidly emerging field that's expected to change modern communications, computing and other critical infrastructure.

To ensure the U.S. workforce is ready, the Department of Energy's RENEW Initiative has awarded a \$4.8 million grant to a seven-university consortium, which includes Tulane University. The funding will train a new generation of quantum engineers in advanced computing and communications technologies.

The Reaching an Advanced Computing Technologies Workforce through Education Initiatives in Quantum Information Science and Engineering (ReACT-QISE) Consortium consists of Tulane, the University of Illinois Chicago, Spelman College, Southern University and A&M College, Rensselaer Polytechnic Institute, Arizona State University and Morehouse College.

The Tulane University School of Science and Engineering will receive \$500,000 through the program to develop a quantum engineering certificate for undergraduates, which includes developing several new courses and adding new quantum modules to existing laboratory courses.

Ryan Glasser, associate professor of physics and engineering physics at Tulane, will work closely with colleagues at historically Black colleges and universities and other institutions in the consortium to empower research in quantum information science and expand the reach of their biannual Quantum Information Technologies in Louisiana Day conference.

“By working together with other leading academic institutions in the consortium, we can ensure that students from all backgrounds have access to the education and resources they need to succeed in this exciting field, and we can have a direct impact on the diversification of the future quantum workforce,” Glasser said.

Quantum computing and communications are among the most promising applications of emerging quantum technologies and are recognized globally as challenging in both a scientific and technological sense. The realization of advanced quantum computing and communications technologies requires a skilled, diverse workforce to bring ideas central to quantum information to real-world application outside of the laboratory.

ReACT-QISE institutions will work collaboratively to develop an undergraduate quantum engineering curriculum that includes key concepts in physics, computer science, theory and other essential areas. The shared resources will then be adapted by individual institutions to meet the needs of their own students and faculty, building new degree programs and research experiences.