Michael Mislove, chair of the Department of Computer Science at Tulane, is studying new approaches for quantum computing. (Photo by Paula Burch-Celentano)
that quantum programs can be proved correct before they’re run on an actual computer,” he said.

"The looming appearance of universal quantum computers makes it imperative to devise methods for correctly programming such devices."

Professor Michael Mislove

Mislove, chair of Tulane’s computer science department and the Herbert Buchanan Professor of Mathematics, is leading a team of researchers from Tulane, the University of Pennsylvania, the University of Iowa and Stanford University as part of the Department of Defense’s Multi-University Research Initiative (MURI) program. MURI projects involve teams of researchers investigating high priority topics that range across a wide variety of disciplines.

The grant, titled “Semantics, Formal Reasoning and Tool Support for Quantum Programming.” is funded for three years, with the possibility a two-year extension for a total of $6.34 million.