UNIVERSITY OF CHICAGO
DEPARTMENT OF COMPUTER SCIENCE

PRESENTS:

"How to program your quantum computer – and get it right"

Robert Rand
University of Maryland

Abstract:
Quantum programs are hard to write, hard to test and hard to run. In this talk, we show how techniques from programming languages, formal verification and compilation allow us to write quantum programs that are as reliable as the given hardware allows. This provides a path towards writing reliable software for quantum computers, both as we envision them in twenty years and as they exist today.

Bio
Robert Rand is a Basili Postdoctoral Fellow at the University of Maryland and the Joint Center for Quantum Information and Computer Science. His research revolves around applying techniques from programming languages and formal verification to quantum computation. His dissertation focused on QWIRE ("choir"), a quantum circuit language and verification tool that he developed jointly with Jennifer Paykin at the University of Pennsylvania. He also developed SQIR ("squire"), a small quantum intermediate representation for compiling and optimizing quantum programs. His online textbook, "Verified Quantum Computing", introduces quantum computing using the Coq proof assistant.

Monday, February 24, 2020
3:30 pm
Crerar 390
Host: Fred Chong