

Scott Pakin

Session 4

Title

The State of Classical Software for Quantum Computers

Abstract

Quantum computing provides opportunities for solving computational problems faster than can be solved using any classical form of computing. However, quantum computing relies heavily on classical software—including HPC software—to translate a quantum algorithm into code that can run effectively on a quantum computer. In this talk we examine the state of the classical software ecosystem that powers quantum computing with the goal of shedding light on opportunities for further research and development.

Biography

Scott Pakin has worked since 2002 as a scientist at Los Alamos National Laboratory. He has researched over time a variety of Computer Science topics related to high-performance computing, including programming models, application performance analysis, energy efficiency, and high-speed communication. Circa 2015, Scott began investigating quantum computing, with a particular passion for designing classical programming models for quantum computers. Scott holds an M.S. and a Ph.D. in Computer Science from the University of Illinois at Urbana-Champaign and a B.S. in Mathematics/Computer Science from Carnegie Mellon University.