THE UNIVERSITY OF CHICAGO | THE COMMITTEE ON COMPUTATIONAL AND APPLIED MATHEMATICS

THE UNIVERSITY OF CHICAGO DATA SCIENCE INSTITUTE

CAM & DSI JOINT COLLOQUIUM

LEXING YING

Department of Mathematics and
Institute for Computational and Mathematical Engineering
Stanford University

Quantum Numerical Analysis

THURSDAY, April 13th, at 4:00 PM
Jones 303, 5747 S. Ellis Ave. Chicago, IL 60637

ABSTRACT

Recent developments in quantum computers have inspired rapid progress in developing quantum algorithms for scientific computing, including examples in numerical linear algebra, partial differential equations, and machine learning. However, the noise of quantum devices and quantum measurements pose new questions in the area of numerical analysis of quantum algorithms. In this talk, I will discuss two of my recent works in this direction: (1) new low-depth algorithms for quantum phase estimation for early fault-tolerant quantum devices and (2) a new robust algorithm for computing phase factors in forming general functions of quantum operators.

Organizers:
Jeremy Hoskins, Department of Statistics (CAMI), jeremyhoskins@statistics.uchicago.edu & Yuehaw Khoo, Department of Statistics (CAMI), ykhoo@galton.uchicago.edu

CAM Colloquium URL: https://cam.uchicago.edu/events/cam-colloquium/

If you wish to subscribe to our email list, please visit the following website:
https://lists.uchicago.edu/web/subscribe/cam_colloquium/.