PISM Penn Initiative *for* the Study of Markets

rethinc. LABS UNC Chapel Hill Kenan Institute of Private Enterprise

Quantum Computing Applications in Economics and Finance

Call for Papers, Conference
Penn Initiative for the Study of Markets
University of Pennsylvania
April 11, 2025

Announcement of Special Issue
Journal of Economic Dynamics and Control
Jesús Fernández-Villaverde, University of Pennsylvania
Eric Ghysels, University of North Carolina - Chapel Hill and Kenan-Flagler Business School
Isaiah Hull, BI Norwegian Business School

Quantum computation, a paradigm shift in computer science, holds the potential to affect research in economics and finance profoundly. Quantum algorithms, such as quantum annealing and the Quantum Approximate Optimization Algorithm, can significantly speed up optimization and asset allocation by exploring vast solution spaces more efficiently. Quantum Monte Carlo methods enhance the accuracy and speed of simulations used in pricing derivatives and assessing risk. Additionally, quantum machine learning can improve predictive models.

A conference and a special issue of the Journal of Economic Dynamics and Control are organized to promote cross-disciplinary exchanges on implementing quantum computational methods to problems of interest to economics and finance. The topics include, but are not limited to, solving DSGE models, pricing of financial risk, quantum ambiguity and econometric model specification, quantum money, and cryptography, among others.

The conference will be held on April 11, 2025, at the Penn Initiative for the Study of Markets at the University of Pennsylvania and is co-sponsored by the Rethinc.Labs at UNC Chapel Hill. Subsequent to the conference, a special issue will be put together with papers on the topic, not necessarily limited to those presented at the conference while participants may choose to submit their paper elsewhere. Papers submitted to the special issue will be subject to the standard peer review process.

Authors interested in presenting their work at the conference and potentially interested in having their paper included in the special issue should submit their paper before December 27, 2024 to **RethincLabs@kenan-flagler.unc.edu**.