CHICAGO QUANTUM EXCHANGE

CQE Workshop on Scalable Quantum Control

Time & Date: 9:00 am – 6:00 pm, August 15, 2022

Location: Discovery Partners Institute, 200 South Wacker Dr., 4th Floor, Chicago, IL 60606

Agenda:	*Session I, Moderator: A. Barış Özgüler, Fermilab*
9:00 – 9:55 AM	*Registration & refreshments*
9:55 – 10:00 AM	A. Barış Özgüler, Fermilab **Opening Remarks**
10:00 – 10:30 AM	Hannes Bernien, University of Chicago **A dual-element atom array processor**
10:30 – 11:00 AM	Michael Biercuk, Q-CTRL **Realizing autonomy in the quantum computing stack via quantum control**
11:00 – 11:30 AM	Fred Chong, University of Chicago **The Role of Quantum Control in Full Stack Optimization**
11:30 AM – 12:00 PM	Ed Barnes, Virginia Tech **Finding time-optimal controls for dynamically corrected gates and simulation algorithms**
12:00 – 12:10 PM	*Short break*
12:10 – 12:40 PM	Panel I (Barnes, Bernien, Biercuk, Chong) Moderator: Jens Koch, Northwestern
12:40 – 2:00 PM	*Lunch*

	Session II, Moderator: Jonathan Baker, UChicago
2:00 – 2:30 PM	Farah Fahim, Fermilab **A Cryogenic arbitrary waveform generator for a compact Ion Trap based Quantum System**
2:30 – 3:00 PM	John Martinis, University of California Santa Barbara **Scaling constraints for a quantum computer**
3:00 – 3:30 PM	Michael Goerz, U.S. Army Research Lab **Scalable Quantum Control with Semi-Automatic Differentiation**
3:30 – 4:00 PM	*Break*
4:00 – 4:30 PM	Zlatko Minev, IBM **Quantum Hardware Design: Energy, Circuits, and Metal**
4:30 – 5:00 PM	Mark Saffman, University of Wisconsin–Madison **Scaling up atomic qubit arrays: opportunities and bottlenecks**
5:00 – 5:10 PM	*Short break*
5:10 – 5:40 PM	Panel II (Fahim, Goerz, Martinis, Minev, Saffman) Moderator: Matt Otten, HRL

Notes: All times are in Central Time (CT). Presentation times include a 25-min talk, plus 5-min for Q&A.

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