

CNM WK#11: Hybrid Quantum Systems

Thursday May 13

10:00 – 10:20 Welcome and Introduction

10:20 – 11:05 Andrew Cleland (The University of Chicago)
Superconducting Qubits Entangled with Phonons

11:05 – 11:15 Q & A

11:15 – 12:00 Mark Saffman (University of Wisconsin-Madison)
Neutral Atom Architectures for Hybrid Quantum Processors

12:00 – 12:10 Q & A

12:10 – 1:00 Lunch Break

1:00 – 1:45 Aashish Clerk (The University of Chicago)
Reservoir-engineered Spin Squeezing in Hybrid Systems

1:45 – 1:55 Q & A

1:55 – 2:40 John Chiaverini (Massachusetts Institute of Technology Lincoln Laboratory)
Techniques and Technologies for Entanglement Generation in Trapped-ion Quantum Systems

2:40 – 2:50 Q & A

2:50 – 3:05 Break

3:05 – 3:50 Luqiao Liu (Massachusetts Institute of Technology)
Magnon-magnon and Magnon-photon Coupling for Hybrid Quantum Systems

3:50 – 4:00 Q & A

4:00 – 4:15 Panel Discussion

Friday May 14

10:00 – 10:10 Welcome and Introduction

10:10 – 10:55 Special Lecture by 2003 Nobel Laureate in Physics
Anthony Leggett (University of Illinois at Urbana-Champaign)
When Is It Better NOT to Know? The Pros and Cons of Ignorance in Physics Research

10:55 – 11:05 Q & A

11:05 – 11:50 Michael Manfra (Purdue University and Microsoft Quantum Purdue)
Direct Observation of Anyonic Braiding Statistics

11:50 – 12:00 Q & A

12:00 – 1:00 Lunch Break

1:00 – 1:45 Stephen Lyon (Princeton University)
Mobile Electron Spin Qubits on Helium

1:45 – 1:55 Q & A

1:55 – 2:40 David Schuster (The University of Chicago)
Hybrid Quantum Systems with Superconducting Circuits

2:40 – 2:50 Q & A

2:50 – 3:05 Break

3:05 – 3:50 Michael R. Wasielewski (Northwestern University)
Photogenerated Radical Pairs as Spin Qubits: Exploiting Quantum Entanglement of Electron Spins

3:50 – 4:00 Q & A

4:00 – 4:15 Panel Discussion

4:15 – 4:20 Closing Remarks