

# Quantum Computing: Beginnings to Current Frontiers

*Symposium in honor of Paul Benioff's contribution to Quantum Computing*

26–27 May 2016, Argonne National Laboratory

## Thursday

**Location: PHY Auditorium (Bld. 203)**

08:30–09:30 **Coffee & Registration**

09:30–09:40 **Welcome:** Peter Littlewood

Chair: Rick Stevens

09:40–10:40 Boltzmann's brain and Wigner's friend

Charles Bennett (IBM)

Chair: John Schiffer

10:40–11:30 Glimpses of Practical Metrology, Abstract Tomography, and Imperfect Boson Sampling

Carlton Caves (The University of New Mexico)

11:30–11:45 **Symposium photo**

11:45–13:00 **Lunch**

Chair: Supratik Guha

13:00–13:50 Quantum Error Correction: Dream or Nightmare

Barbara Terhal (RWTH Aachen and Forschungszentrum Jülich)

13:50–14:40 Quantum error detection, high-fidelity controls, and experiencing other things quantum, from the web!

Jerry Chow (IBM)

14:40–15:10 **Coffee**

Chair: Michael Norman

15:10–16:00 Superconducting qubits for quantum information

Andrew Cleland (The University of Chicago)

16:00–17:00 QI primitives for quantum-limited measurement

David Wineland (National Institute of Standards and Technology)

17:15–18:15 **Reception** (sign up required)

*Location:* Lobby Bld. 241 (second floor)

19:00– **Symposium Dinner**

*Location:* La Dolce Vita, 107 Stephen St, Lemont (upstairs banquet room)

## Friday

**Location: PHY Auditorium (Bld. 203)**

Chair: Wai-Kwong Kwok

09:00–09:50 From Quantum Gates to Quantum Simulations with Individual Atoms

Christopher Monroe (Joint Quantum Institute and University of Maryland)

09:50–10:20 **Coffee**

Chair: Salman Habib

10:20–11:10 Software and Architectures for Large-Scale Quantum Computing

Fred Chong (The University of Chicago)

11:10–12:00 Bits quantum, bits futurus

Seth Lloyd (Massachusetts Institute of Technology)

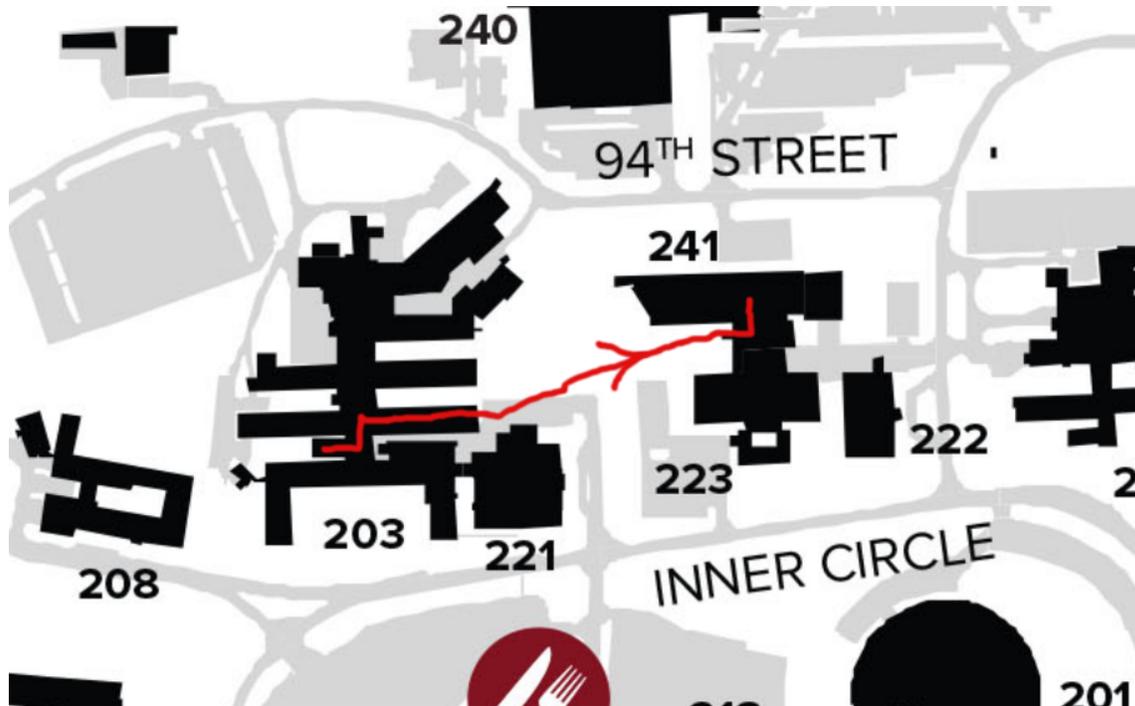
Chair: Harry Weerts

12:00–12:40 Quantum computing, the early days & Effect of scalar scaling field on physics, geometry

Paul Benioff (Argonne National Laboratory)

12:40– **Close**

# Directions to reception (must have signed up)



# Directions to symposium dinner

