

UCLA Department of Physics & Astronomy

# COLLOQUIUM

Thursday, March 21st, 2024 at 4 p.m.

**Yoo Seminar & Conference Hall**  
**(Young Hall 4222C)**

## The Inevitable Quantum Winter?

Eric Hudson  
UCLA



Governments around the world are jockeying to secure their place in the coming quantum industrial revolution. Large, multinational corporations are investing billions of dollars to develop quantum computers. One may wonder what role scientists can play now that the technology has moved from proof-of-principle to large scale integration. I'll argue that the role of fundamental science is now more important than ever if we are to prevent a quantum bust.

Towards this cause, I'll give an overview of our work at UCLA focusing on realizing ultra-high fidelity operations in trapped ion qubits, finding new, more scalable, qubits, and embedding error correction within a single quantum system. Finally, I'll also describe efforts at UCLA's Center for Quantum Science & Engineering at the new Quantum Innovation Hub to partner with SoCal industry to help drive the field forward.