



The University of Windsor & The Department of Physics

Celebrate

“Quantum November” & the International Year of Quantum Science and Technology

The Nobel Prize Legacy in Superconducting Qubits

Dr. Josh Mutus

Director of Quantum Materials

Rigetti Computing

Wednesday November 26th, 2025 Collaboratory – Leddy Library

Refreshments served at 3:30, Seminar @ 4:00 pm



Abstract

Quantum computing, a topic once relegated to academic research labs, is now the topic of international headlines as nations and companies race to build a functional quantum computer. This year the Nobel Prize in Physics was awarded to three scientists “for the discovery of macroscopic quantum mechanical tunnelling and energy quantisation in an electric circuit” for a series of experiments published 40 years ago. In 2012, I had the privilege of joining the research group of one of those three scientists, John Martinis. I will present how the Nobel prize work laid the foundation, and how the field of superconducting qubits went from obscure university research to a Big Tech curiosity, to the burgeoning field it is today. I’ll close with how far I think quantum computers are from widespread use, solving useful problems that simply can’t be done any other way.