

PHYSICS AND ASTRONOMY SEMINAR (In-Person & Online)

Dr. Andrew MacRae

University of Victoria

"Atom-Based Quantum Memories and Sources for Telecom Integration"

Abstract

I will provide an overview of the emerging concept of the quantum internet, exploring its foundational building blocks, its exciting potential, and the daunting challenges to making it work. I will then delve into three projects underway at the University of Victoria, each attempting to address some of these challenges: (1) Benchmarking and testing the field-deployability of a commercial quantum memory, (2) developing a wavelength conversion scheme from rubidium to telecom wavelengths for integration quantum memories with existing fiber-optic networks, and (3) designing a cavity-enhanced source of squeezed light to boost the efficiency of quantum communication protocols.

Tuesday, April 8th 2:00pm PDT ELL 228

Zoom link available through UVIC Event Calendar