

Department of Physics and Astronomy Colloquium Series

Tuesday September 24th 2024, 2:30pm in PSE 317

Speaker: Scott Beattie

Institution: NRC

Title: Time is of the essence; Atomic clock development at the NRC

Abstract:

Time is pervasive in our lives. It allows us to synchronize events and navigate the world with increasing precision. Since the world moved to an atomic definition of the SI second over half a century ago, atomic clocks have progressed at an astounding rate, now capable of measuring the second with 16 digits of accuracy. Currently, the most accurate measurements of the second are made with caesium fountain clocks. I will discuss the design, performance, and recent uncertainty evaluation of the NRC-FCs2 fountain clock, which is used to steer Canada's official timescale. I will also discuss the other atomic clock technology under development at the NRC, as well as the potential form and impact of the impending redefinition of the SI second.