

Session Program

23-25 Sept 2026



Optomechanical Sensing for Subatomic and Astroparticle Physics

***Quantum Measurement, Gravity & Dark
Matter***

Wednesday 23 September

10:45

Quantum Measurement, Gravity & Dark Matter: Morning

Session | **Location:** Donald Gordon Hotel and Conference Centre 421 Union St., Kingston, Ontario, Canada | **Convener:** Wouter Van De Pontseele

10:45–11:25

Quantum measurements of particles and of waves for probes of gravity: unconditional observation of quantum back-action on gravitational-wave detectors

Speaker

Vivishek Sudhir

11:25–12:05

Sensing gravitational waves and dark matter with superfluid helium: tunable acoustic Weber-bar resonators with cavity-electromechanical readout

Speaker

John Davis

12:05

13:00

Quantum Measurement, Gravity & Dark Matter: Afternoon

Session | **Location:** Donald Gordon Hotel and Conference Centre 421 Union St., Kingston, Ontario, Canada | **Convener:** Wouter Van De Pontseele

13:00–13:40

Search for scalar ultralight dark matter using cryogenic optical cavities: first demonstration with two cryogenic sapphire Fabry-Pérot cavities

Speaker

Tejas Deshpande

13:40–14:00

Looking for dark photons with two-photon atomic transitions: coherent parahydrogen ensembles and the CATCHY pathfinder

Speaker

Andrew Buchanan

14:00–14:20

Heavy Neutrino Experiment Using Levitated Tritiated Nanoparticles

Speaker

Samuele Sangiorgio

14:20–14:40

Trapping solid noble gases

Speaker

Lucas Darroch

14:40

Thursday 24 September

15:05

Quantum Measurement, Gravity & Dark Matter: Tethered Sensors & Particle Detection

Session | **Location:** Donald Gordon Hotel and Conference Centre 421 Union St., Kingston, Ontario, Canada | **Convener:** David Moore

15:05-15:45

The Invisible Drummer: membrane optomechanical accelerometer search for ultralight dark photon dark matter, and the transition to phase II

Speaker

Dalziel Wilson

15:45