

Wed Jan 18 - The School
08:00 *Registration Desk Opens*

09:00-10:10 **Pedro Ferreira**
Introduction to General Relativity and ways of testing it

10:30-11:40 **Lam Hui**
Alternative gravity theories and their phenomenology
11:45-12:35 **Jeremy Sakstein**
Astrophysical tests of General Relativity

Lunch Break
12:40-13:50 *(various locations)*

13:50-15:00 **Emanuele Berti**
Gravitational waves and their sources
15:05-16:00 **Alessandra Silvestri**
Cosmological tests of gravity

16:30-17:30 **Clifford Will**
Renaissance of General Relativity

Registration Open Until 19:00

Thu Jan 19 - Workshop Day 1
08:00 *Registration Desk Opens*

08:55 **Workshop Starts**
Welcome from organizers and SFU Dean of Science, Angela Brooks-Wilson
09:00-09:30 **Pedro Ferreira**
From cosmology to ringdown
09:30-10:00 **Jess McIver**
Testing GR with LIGO-Virgo and future GW detectors
10:00-10:25 **Michael Ross**
Laboratory tests of gravity by the Eöt-Wash Group

11:00-11:30 **Ruth Gregory**
Testing higher derivative gravity through tunnelling
11:30-12:00 **Emanuele Berti**
Black hole spectroscopy: a status report
12:00-12:30 **Cliff Burgess**
Two symmetries and a mechanism: UV motivations for light axiodilatons

Lunch Break
12:30-14:00 *(various locations)*

14:00-14:30 **Gopolang Mohlabeng**
Searching for dark matter from the laboratory to the cosmos
14:30-14:45 **Valerio De Luca**
A primordial black hole story
14:45-15:00 **Tessa Baker**
Testing cosmological gravity with gravitational waves
15:00-15:30 **Hartmut Abele:**
Gravity resonance spectroscopy, and a search for Lorentz violation, beyond-Riemann and entropic gravity

16:00-16:30 **Claudia de Rham**
Causality in the sky
16:30-17:00 **Mark Kasevich**
Testing gravity and quantum mechanics with atom interferometry
17:00-17:10 **Chukman So**
HAICU - developing an antihydrogen fountain interferometer
17:10-18:00 **RAPID TALKS**
Session #1

Poster Session and Reception 18:00-20:00 *(snacks & cash bar)*

Fri Jan 20 - Workshop Day 2
08:30 *Registration Desk Opens*

09:00-09:30 **Will Percival**

Super-sample covariance and patch-to-patch variations in the universe

09:30-10:00 **Marco Raveri**

Cosmological tensions and reconstruction of gravity

10:00-10:10 **Bartolomeo Fiorini**

Studying large-scale structure probes of modified gravity with COLA

10:10-10:30 **Joseph Howlett**

Joseph Howlett: Nuclear matter sensing of new forces at submicron scale

11:00-11:30 **Mark Trodden**

Coupled early dark energy

11:30-12:00 **Armen Sedrakian**

Multi messenger astrophysics constrains on dense matter in compact stars

12:00-12:10 **Alex Batrakov**

Testing scalar-tensor gravity with radio pulsars

12:10-12:20 **Qiuyue Liang**

Detecting the stochastic gravitational wave background from massive gravity with pulsar timing arrays

12:20-12:30 **Hajime Sotani**

Universal relation in supernova gravitational waves

Lunch Break
12:30-14:00 *(various locations)*

14:00-14:30 **Lia Medeiros**

*New test of the black hole metric with EHT images of Sgr A**

14:30-15:00 **Frans Pretorius**

On the dynamical stability of AdS black bubbles

15:00-15:10 **Jiro Soda**

A peak in primordial GW spectrum induced by magnetic fields

15:10-15:20 **Kiana Salehi**

Shadow Implications: What does measuring the photon ring imply for gravity

15:20-15:30 **Adam Solomon**

Symmetries of black hole perturbation theory

16:00-16:25 **Silke Weinfurter**

Primary thermalisation mechanism of early universe observed from Faraday-wave scattering on liquid-liquid interfaces

16:25-16:35 **Sam Patrick**

Superradiance around quantum vortices

16:35-16:45 **Benjamin Elder**

Screened modified gravity and muonium

16:45-16:55 **Leah Jenks**

Aspects of rotating black holes in dynamical Chern-Simons

16:55-17:20 **Tanmay Vachaspati**

Unexciting backgrounds

17:20-17:35 **Bill Unruh**

LIGO shows macroscopic objects are quantum

Conference Dinner
19:00 *(Al Porto on Waterfront)*

Sat Jan 21 - Workshop Day 3
09:00 *Registration Desk Opens*

09:30-10:00 **Jeremy Sakstein**

Black hole archaeology

10:00-10:30 **Hayley Macpherson**

Fully nonlinear ray-tracing in cosmological simulations with numerical relativity

11:00-11:30 **Misao Sasaki**

Primordial black holes from nonperturbative non-Gaussian tails

11:30-12:30 **RAPID TALKS**

Session #2

Lunch Break
12:30-14:00 *(various locations)*

14:00-14:30 **Niaresh Afshordi**

Precision quantum cosmology

14:30-14:40 **Sugumi Kanno**

Graviton non-gaussianity in α -vacuum

14:40-15:10 **Lam Hui**

Recent developments in black hole perturbation theory

15:10-15:25 **Ramin Daghighi**

Spacetime metrics and ringdown waveforms for galactic black holes surrounded by a dark matter spike

15:25-15:35 **Sam Wong**

The weak gravity conjecture and black hole tidal Love numbers

16:00-16:10 **Alice Garoffolo**

Testing gravity on cosmological scales with gravitational waves

16:10-16:20 **Meng-Xiang Lin**

Gravitational wave propagation beyond General Relativity and its degeneracies with lensing

16:20-16:30 **Alejandro Cardenas-Avendano**

Testing general relativity using black hole photon rings

16:30-17:00 **Justin Khoury**

Our universe at criticality: folding funnels and percolation

17:00-17:10 **Levon Pogossian**

Conference Summary