

**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 **Qiuyue Liang**

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

12:10-12:20 **Jiro Soda**

*A peak in primordial GW spectrum induced by magnetic fields*

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 **Kiana Salehi**

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

15:10-15:20 **Alejandro Cardenas-Avendano**

*Testing general relativity using black hole photon rings*

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 **Niayesh Afshordi**

*Precision quantum cosmology*

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

*Graviton non-gaussianity in  $\alpha$ -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*

16:20-16:50 **Justin Khoury**

*Our universe at criticality: folding funnels and percolation*

16:50-17:00 **Levon Pogosian**

*Conference Summary*