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## MEDIA RELEASE

# 'Longstanding mysteries' of gravity at the centre of global scientists' gathering

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*Renowned scientists meet at SFU's Harbour Centre Jan. 25-28 to discuss new ways of testing Einstein's theory of gravity*

Cosmologists, astrophysicists, atomic, nuclear and particle physicists will meet at Simon Fraser University's Vancouver campus at Harbour Centre Jan. 25-28 to discuss Einstein's theory of gravity and new ways of testing it.

Similar to the first *Testing Gravity Conference* held in 2015, the event will facilitate an exchange of ideas between leading scientists from different backgrounds.

The conference also builds on the Laser Interferometer Gravitational-Wave Observatory's (LIGO) [breakthrough discovery](#) in February 2016 of "gravitational waves."

Conference chair and SFU physics professor Levon Pogosian says the discovery has "opened an exciting opportunity for testing Einstein's theory in great detail."

He adds: "It also gives new hope for gaining insights into some of the longstanding mysteries surrounding gravity, such as the unexplained nature of Dark Matter and Dark Energy."

Participants include professor Bruce Allen, director of the Albert Einstein Institute in Hannover and member of the LIGO collaboration; renowned cosmologist Misao Sasaki, director of Yukawa Institute in Kyoto; Oxford University professor Pedro Ferreira, author of *The Perfect Theory*; University of Washington professor Eric Adelberger, known as the "tabletop" gravity tests expert; and Princeton University professor Frans Pretorius, a pioneer in the field of black hole collisions.

SFU is hosting the conference with financial support from TRIUMF, Perimeter Institute for Theoretical Physics (PITP), Canadian Institute for Theoretical Astrophysics (CITA) and the Canadian Institute of Particle Physics (IPP) and volunteer assistance from UBC.

More details at: <https://www.sfu.ca/physics/cosmology/TestingGravity2017/>

**ADDITIONAL INFO**

- Gravity is the most basic of all forces, felt and sourced by everything and everyone in the universe.
- Pogosian says while we have a working theory of gravity, as laid out by Newton and Einstein, we don't understand everything. The gaps in our understanding appear when we apply gravity to extremely small distances, where laws of nature become quantum, or extremely large distances when we try to describe the universe.
- Advancing technologies across all areas of physics open new opportunities for testing gravity in new ways and, perhaps,

help in answering these questions. The main scientific goal of the conference is to find new ways of testing gravity that take full advantage of the new technologies.

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