



Canadian Association
of Physicists

Association canadienne
des physiciens et physiciennes

Contribution ID: 4464

Type: **Invited Speaker / Conférencier(ère) invité(e)**

The Dynamics of Black Hole Horizons

Friday 31 May 2024 09:00 (30 minutes)

Black holes are perhaps the most enigmatic objects in nature. They are the end point of dying stars, form the central core of most galaxies, and can collide to produce ripples in space and time that we know as gravitational radiation. A key property of a black hole is its horizon —the boundary that separates the black hole from the rest of the universe. Understanding the physics of horizons has far reaching consequences, ranging from theoretical (e.g. the laws of black hole thermodynamics in quantum gravity) to experimental (e.g. the production of gravitational radiation in black hole collisions).

In this talk, I will review recent and ongoing work concerning dynamical features of black hole horizons, particularly in the case of mergers. I will discuss how two black holes become one and the physics that mediates this process. I will discuss aspects of both the apparent horizon and event horizon, in the latter case highlighting recent developments of possible relevance to black hole entropy.

Keyword-1

Black Holes

Keyword-2

General Relativity

Keyword-3

Classical and Quantum Gravity

Author: HENNIGAR, Robie (ICCUB, Universitat de Barcelona)

Presenter: HENNIGAR, Robie (ICCUB, Universitat de Barcelona)

Session Classification: (DTP) F1-1 Black Holes II | Trous noirs II (DPT)

Track Classification: Technical Sessions / Sessions techniques: Theoretical Physics / Physique théorique (DTP-DPT)