



Western

Western University  
Department of Physics and Astronomy

## PHYSICS & ASTRONOMY COLLOQUIUM

**Date:** Thursday, 7 October 2021

**Time:** 1:30 p.m.

**via Zoom:** <https://westernuniversity.zoom.us/j/94435826934?pwd=Vnc0bGtiU3diclNYM1pmMnBQekVnUT09>

**Dr. Carlo Rovelli**

Centre de Physique Théorique  
Aix-Marseille Université

***“White holes”***

### ABSTRACT

Black holes, long suspected to be an unphysical solution of Einstein equations, have now become "normal" astronomical objects. But basic questions remain controversial: what happens to the matter that falls across the horizon? At their center? At the end of their Hawking evaporation? Where does the large information they store end up? These are quantum gravity questions. Loop quantum gravity gives a possible answer. I give a brief account of the state of this theory, and the answer it gives to these questions. The answer involves another solution of the classical Einstein equations considered unphysical in the past: white holes.

**Host:** Prof. F. Vidotto