

## **Department of Physics and Astronomy Colloquium Series**

**Tuesday, September 26th, 2023, 2:30pm in PSE 317**

**Speaker:** Maya Fishbach

**Institution:** University of Toronto

**Title:** Astrophysical Lessons from LIGO-Virgo-KAGRA's Black Holes

**Abstract:**

The LIGO-Virgo-KAGRA Collaboration has observed over 70 gravitational-wave sources to date, including mergers between black holes, neutron stars, and mixed neutron star—black holes. Focusing on the black hole mergers, I will describe some recent lessons into how, when, and where black holes are made. These questions are connected to several astrophysical puzzles, including the deaths of massive stars, the growth of black holes across cosmic time, high-redshift star formation, and properties of globular clusters.

**Bio:** Maya Fishbach is an assistant professor in the Canadian Institute for Theoretical Astrophysics (CITA) at the University of Toronto. She studies collisions of black holes and neutron stars and their gravitational radiation. Through a combination of data analysis and theoretical modeling, her research strives to explain how, where and when black holes and neutron stars form and merge. She is interested in combining gravitational waves with other probes to learn about everything from stars to cosmology.