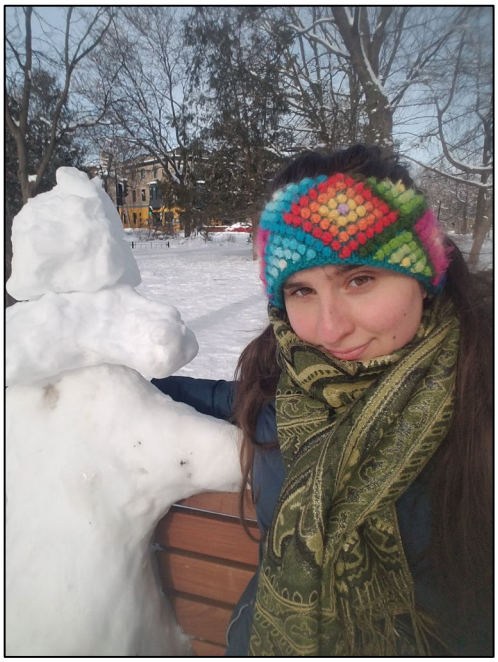
Physics & Astronomy Colloquium

Presents



Kristen Dage

FRQNT/MSI Postdoctoral Fellow
McGill University

Thursday, February 9, 2023
12:10 pm, Webster Room 11

Please meet our guest speaker and share in refreshments 11:45 a.m. -12:10 p.m. in the foyer on floor G above the lecture hall

"Ultraluminous X-ray Sources in Extragalactic Globular Clusters"

Currently, ultraluminous X-ray sources (ULXs) with globular cluster (GC) counterparts have been identified. This is exciting, as ULXs have been theorized as potential intermediate mass black holes. New black hole mergers detected by LIGO-Virgo may also be associated with GC's, underscoring the importance of ULXs as a potential linkage between GC electromagnetic and gravitational wave source populations. GC ULXs show a diverse behavior with regards to temporal variability, both on long (16 years) and short (~hours) timescales, in both the X-ray and optical wavelengths. They can switch on or off over the course of many years or remain at a constant luminosity. Some sources exhibit a long-term change in their luminosity with no discernible variability within the other observations, other sources show a stunning long-term variability while also demonstrating variability on the timescale of around four hours. I will undertake a comprehensive comparison of the temporal variability of the zoo of currently known GC ULXs, discuss the possible origins of some of the extreme variability observed, and how this informs on our knowledge of black hole populations in extragalactic globular clusters.

Host: Dr. Guy Worthey

ZOOM Information: Meeting ID: 965 8240 9398• Passcode: physastro