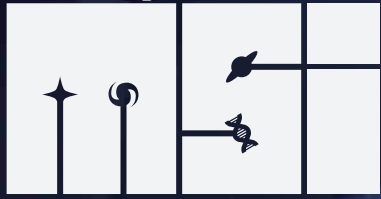


Institut Spatial de McGill



McGill Space Institute

# Seminar Series

## Nia Imara

Harvard-Smithsonian Center for Astrophysics

## A Story of Stellar Nurseries

All stars are observed to form in molecular clouds (MCs). Since these “stellar nurseries” set the stage for star formation in the Milky Way and other galaxies, astronomers would like to understand how they form and evolve. In this presentation, I will discuss different ways of investigating the environments and evolution of MCs. Millimeter observations, for example, show that local and extragalactic MCs have systematic velocity gradients, possibly indicating the large scale of rotation of clouds.

In my study of MCs in the Milky Way and M33, I demonstrate that any viable theory of cloud formation must agree with a number of interesting trends pertaining to cloud kinematics. For instance, I find that many clouds may be counter-rotating with respect to overall galactic rotation, which has important consequences for theory and galactic simulations. I will also discuss how investigating both the dense gas and diffuse gas associated with MCs—via far-infrared and 21-cm observations—provides unique insight into how these environments evolve and eventually form stars.

14 March 3:30 pm

Bell Room (103), Rutherford Building  
*Refreshments following the seminar in the Physics lounge*

For more information: [msi.mcgill.ca/Seminars.htm](http://msi.mcgill.ca/Seminars.htm)