The key role of astrochemistry in driving planet formation and habitability

Historically, our perspective on how planets form and obtain their compositions has been motivated by our Solar System. However, we are just one system, and missions like Kepler and TESS have revealed a variety of planetary types and architectures. How do we fit in? In the last five years, the Atacama Large Millimeter Array has revolutionized our understanding of planet formation by observing the process at high spatial resolution (reaching in some cases ~AU scales) matched with unprecedented sensitivity at radio wavelengths. Using a combination of astrochemical models and observations of radio and IR-emitting molecules, my group both 1) characterizes the physical conditions of the gas, especially the role of energetic processes, and 2) infers its underlying composition to understand what forming planets might inherit. We aim to characterize the larger picture of planet formation, both in driving mechanisms and compositional outcomes.

Monday, October 26th, 2020
https://tinyurl.com/MillersvilleSeminar @ 4 pm

Hosted by Dr. Kathryn Allen

Email Dr. Allen at Kathryn.allen@millersville.edu if you are interested in having lunch with the speaker.