

## **PhLAM RESEARCH SEMINAR SERIES**

**July 1st, 2024, 3:30 a.m.**

**CERLA Building**

# **Laboratory and Observational Spectroscopy to Search for the Chemical Origin of Life in the Universe** by

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More than 300 molecules have now been identified in star-forming and planet-forming regions. Many of these molecules are small organics that could lead to larger biomolecules under the right physical conditions. The question remains as to whether biological molecular complexity arises in these star-forming and planet-forming regions, or if the ingredients for life assemble on planetary surfaces after a solar system forms. My research focuses on laboratory spectroscopic studies and observational characterization of prebiotic molecules that could lead to biologically-relevant chemistry in space. In the lab, my group uses high-resolution gas-phase rotational spectroscopy to study small reactive species that are predicted to be key intermediates in the development of biochemistry in space. We couple this work with astronomical observations of star-forming regions to search for the new molecules that we characterize in the lab. In this talk I will give an overview of our recent laboratory and observational efforts, with a focus on recent spectroscopic innovations.