

WOMEN IN ASTRONOMY AND PHYSICS LECTURE SERIES



WEBSITE & ZOOM LINK



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October 19, 2021

5:30 CT / 6:30 ET

<https://sites.google.com/umn.edu/wipaumn/waphls>

Corals skeletons are biologically precipitated minerals, “biominerals”, which have complex growth patterns that are sensitive to climatic and environmental changes. As a result, examination of the material structure of coral skeletons can provide a window into how climate change is impacting corals living in the oceans today, and examination of fossil coral skeletal structure can provide insight into the environmental conditions far back in Earth’s history. My research is aimed at understanding how corals build their skeletons, how coral skeletal structure depends on environmental conditions in seawater, and how environmental signatures are encoded within the crystal structure of corals. Recently, undergraduate researchers in my lab have been using two Scanning Electron Microscope (SEM)-based tools to explore the crystallographic structure of modern and fossil coral skeletons: SEM-Cathodoluminescence imaging and SEM-Electron Backscatter Diffractometry. In this talk, I will discuss the utility of Cathodoluminescence and Electron Backscatter Diffraction for studying crystal structure and composition. I will also present preliminary data from Cathodoluminescence work conducted by undergraduate researchers in my lab.

