

**Abstract:** Due to a delocalization of electron density, polyhedral boron clusters are often described as three-dimensional analogues of planar aromatic molecules such as benzene. Despite this electronic similarity, boron clusters can have drastically different chemical and physical properties compared to their carbon-based counterparts. In particular, our group studies the twelve vertex-containing boron cluster dodecaborate—[B_{12}H_{12}]^{2−}—as a synthetic building block whose chemical reactivity and electrochemical behavior can be rationally modified by substituting the B-H vertices on the periphery of the cluster with various reactive functional groups. I will discuss the synthesis, chemical properties, and structure/bonding considerations pertaining to these derivatized B_{12} clusters, as well as potential applications relevant to the fields of materials science and energy storage.

**INORGANIC CHEMISTRY STUDENT EXIT SEMINAR**

**Austin Ready**
Spokoyny Group

“Boron Clusters as Robust Building Blocks for the Expansion of Carbon-Based Chemistry”

**Wednesday, November 29th, 2023**
4:00 p.m. | YH4222 – Dongwon Collaboratory Yoo Seminar & Conference Hall