

# Interfaces for Energy and the Atmosphere

## Seminar

Monday  
April 14, 2025

3:00 – 4:00 p.m.

Beaupre Center,  
Room 105



Energy consumption and climate change are intimately related to one another and at the heart of these two issues lay interfaces formed between different phases of matter. In the atmosphere, there is a focus on the gas-liquid interface while in energy it is the liquid-solid interface that dominates new technologies to convert low value reactants to high value-added products. In this talk, I will discuss how changes to the Fe(II) inner solvation sphere can impact the relative concentrations of small ions near the gas-liquid interface using near ambient pressure X-ray photoelectron spectroscopy. Following this, I will discuss how the surface structure and chemistry of Cu single crystals provided us with a unique insight into how these catalysts work while electrocatalytically converting carbon dioxide. Finally, I will show some new data collected by our group at UNLV relating to the impact of reagent solvation on nucleation of Ag nanoparticles.

**Prof. Jared Bruce**  
Department of Chemistry  
University of Nevada, Las Vegas