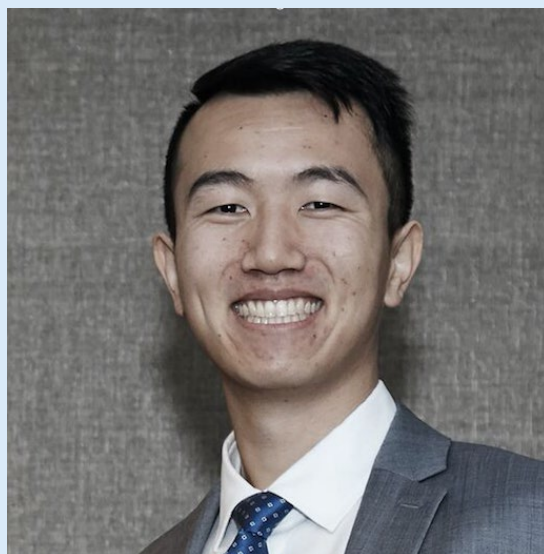


# INORGANIC CHEMISTRY SEMINAR



**Prof. Yuzhang Li**

Department of Chemical and Biomolecular Engineering, UCLA

**“Imagining, Building, and Understanding the  
Next Generation Battery”**

**Abstract:** Electrochemical energy conversion and storage is critical for vehicle electrification and storing clean energy from intermittent sources (i.e. wind, solar) on the grid. Towards these goals, my group pursues the broad spectrum of stages necessary for technological innovation: (1) developing new tools to discover fundamental understandings, (2) designing and synthesizing unique materials to address intrinsic failure modes, and (3) patenting the technology for real world applications. In this talk, I will first discuss a graphene cage design strategy to stabilize the silicon anode for high-energy Li-ion battery chemistries. Next, I will introduce the powerful cryogenic-electron microscopy technique that we have pioneered for atomic-resolution studies on sensitive and reactive battery materials. Using this technique, new discoveries at the nanoscale are correlated with macroscopic battery performance, further expanding our understanding of battery failure mechanisms and providing insight for future materials design.

**Wednesday, October 28<sup>th</sup>**

**Zoom**

**4:30 p.m. (PDT)**

UCLA College | Physical Sciences  
**Chemistry & Biochemistry**

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