

# JEFFREY I. ZINK INORGANIC CHEMISTRY SEMINAR SERIES



## Professor Victor Mougel

Department of Chemistry and Applied Biosciences, ETH Zurich

### “Bio-inspired Strategies for Small Molecule Electroreduction Across Multiple Scales”

**Abstract:** Enzymatic systems have evolved complex strategies to maximize the efficiency and product selectivity in small molecule activation, including CO<sub>2</sub> reduction. Besides unique active sites containing, by definition, earth-abundant elements, enzymes further control catalytic activity through second sphere interactions and a fine control of electron transfer chains. In this talk, we will introduce a series of bio-inspired strategies for the design of electrocatalytic systems for small molecule activations across multiple scales, encompassing the development of both heterogeneous and molecular catalysts. We will highlight a series of earth-abundant metal-based molecular and heterogeneous catalysts inspired by the active sites of enzymatic systems. Particular emphasis will be given to the exploration of bio-inspired strategies for electron transfers and storage, using synthetic Fe<sub>4</sub>S<sub>4</sub> clusters.

**Meet the Speaker**  
11:15 a.m. | YH 4335

**Wednesday, January 31<sup>st</sup>, 2024**

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

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**4:00 p.m. | YH4222 - Collaboratory  
Yoo Seminar & Conference Hall**