

JEFFREY I. ZINK INORGANIC CHEMISTRY SEMINAR SERIES



Prof. Julia Stauber

Department of Chemistry, University of California, San Diego

“Supramolecular Synthetic Approaches to Inorganic Architectures for Biomolecular Recognition”

Abstract: The design of discrete metal-organic polyhedra provides a powerful method of translating molecular-level information into complex functional assemblies. By using a structure-guided synthetic approach, we exploit the inherent tunability of coordination chemistry to access inorganic polyhedral frameworks with well-defined size, geometry, and topology. These assemblies serve as programmable platforms for surface functionalization that enable the installation of peripheral carbohydrates in defined spatial arrangements for the multivalent presentation of these important biological recognition groups. This molecular-level control distinguishes such assemblies from conventional multivalent platforms and allows for systematic tuning of valency, carbohydrate density, and three-dimensional presentation. This talk will present Fe-based glycoassemblies that demonstrate strong recognition of protein targets, underscoring how principles of inorganic molecular design can be leveraged to probe important biological binding events. This work will highlight the synthetic strategies and tools used to build diverse assemblies by demonstrating how precise structural control governs function in applications spanning photochemical therapies to the recognition of medically significant protein targets.

Meet the Speaker
11:45 a.m. | YH 3096

Wednesday, April 15th, 2026
4:00 p.m. | YH4222 - Collaboratory
Dongwon Yoo Seminar & Conference Hall

UCLA College | Physical Sciences
Chemistry & Biochemistry

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