

JEFFREY I. ZINK INORGANIC CHEMISTRY SEMINAR SERIES



Prof. Akif Tezcan

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“Chemical and Computational Design of Metalloenzymes”

Abstract: Motivated by a desire to build new bioinorganic functions beyond what nature has invented, we have developed chemical design approaches in which folded proteins are used as synthons for building supramolecular complexes through metal-mediated self-assembly. The interfaces in the resulting protein superstructures are subsequently tailored with covalent, non-covalent or additional metal-coordination interactions for stabilization and incorporation of new functionalities. This strategy has not only enabled the construction of functional metalloproteins and protein-based materials with unusual properties but also led to the discovery of fundamental design principles that govern the metal-protein interplay. In parallel, we have leveraged advances in AI/ML-based computational methods to design de novo metalloproteins with new-to-nature structures and metal centers with atomic accuracy, which have allowed access to diverse catalytic functions. This presentation will focus on selected examples of such designed metalloproteins from our laboratory.

Meet the Speaker

11:45 a.m. | YH 3096

Tuesday, October 20th, 2026

4:00 p.m. | YH4222 - Collaboratory

Dongwon Yoo Seminar & Conference Hall

UCLA College | Physical Sciences
Chemistry & Biochemistry

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