

UCSD NANOENGINEERING/CHEMICAL ENGINEERING
Virtual **SEMINAR SERIES**

Wednesday, March 3, 2021

Seminar Presentation: 11:00am - 12:00pm

Zoom Seminar*"Solution-phase routes to inorganic solid-state materials"***Alina Schimpf, PhD***Assistant Professor**Department of Chemistry and Biochemistry**University of California, San Diego*

Abstract: This talk will cover research being conducted in the Schimpf Lab, which focuses on solution-phase syntheses of inorganic solid-state materials. The talk will contain two parts: colloidal semiconductor nanocrystals and cluster-based coordination assemblies. In the first part, I will discuss the use of colloidal synthesis to access metastable phases of transition metal dichalcogenide nanocrystals. Specifically, coordinating ligands can be used to modulate precursor reactivity, allowing the synthesis of metastable phases and unique heterostructures. In the second part of the talk, I will present the use of polyoxometalates as building-blocks for all-inorganic coordination networks. Assembly of these anionic clusters with transition-metal or lanthanide cations is used to synthesize new metal oxide frameworks with widely tunable compositions and architectures. Factors directing the framework assembly as well as the role of cluster and cation building-blocks in dictating framework properties will be discussed.

Biosketch: Alina Schimpf is an Assistant Professor in the Department of Chemistry and Biochemistry at University of California, San Diego. Professor Schimpf received her Ph.D. in Chemistry from the University of Washington and B.S in Chemistry and B.S. in Mathematics from Boise State University. Previously, Dr. Schimpf's research at the Massachusetts Institute of Technology involved the "Conductive Metal-Organic Frameworks".

The latest publications she has contributed to are:

Rachkov, A. G.; *Schimpf, A. M.** "Colloidal Synthesis of Tunable Copper Phosphide Nanocrystals" *Chem. Mater.* 2021, ASAP

Chen, L.; Turo, M. J.; Gembicky, M.; Reinicke, R. A.; *Schimpf, A. M.** "Cation-Controlled Assembly of Polyoxotungstate-Based Coordination Networks" *Angew. Chem. Int. Ed.* **2020**, 59, 16609–16615. *Angewandte Chemie Hot Paper*

Register to receive a zoom link the day of the seminar:

<https://docs.google.com/forms/d/1U38n3TyixLhCZGV84YpN6vhuR0FjVNca3gO5d9w7uQ>