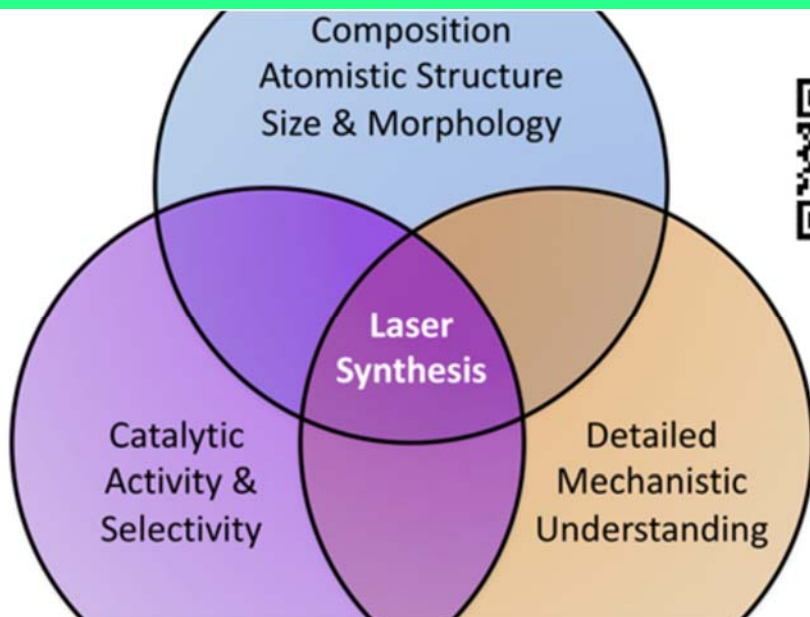


# CHEMISTRY COLLOQUIUM

Guest Speakers:  
**Professor Astrid M. Müller**  
University of Rochester  
Department of  
Chemical Engineering

Wednesday, September 11, 12:00pm  
Hutchison Hall Room 140  
Lander Auditorium  
University of Rochester  
Department of Chemistry



## Title: “Laser-Made Nanostructures for Understanding Clean Energy Electrocatalysis”

**Abstract:** Conversion of solar energy into storable fuels is urgently needed for global energy sustainability. Efficient, robust materials that are exclusively made of non-precious elements are imperative for tomorrow's energy economy. Pulsed-laser in liquids synthesis provided rationally designed, multi-metallic first-row transition metal oxide and hydroxide nano-structures. My approach enabled unprecedented atomistic-level structural and mechanistic insights into highly active and robust nickel–iron layered double hydroxide nanocatalysts for water oxidation in base; this understanding allowed rapid optimization. Moving forward, we will capitalize on the unique advantages of the laser process to synthesize CO<sub>2</sub> reduction nanocatalysts to make clean energy a reality.

**Host: Professor Kara Bren, email: [bren@chem.rochester.edu](mailto:bren@chem.rochester.edu)**