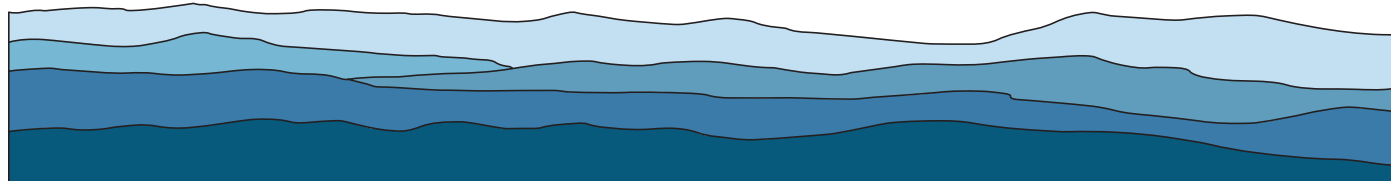


HIGHLANDS IN CHEMISTRY SEMINAR SERIES



JEFFREY REIMER

UNIVERSITY OF CALIFORNIA, BERKELEY

“NMR and the Grand Challenges of Metal-Organic Frameworks”

Metal-organic frameworks (MOFs) are a new class of inorganic framework materials that exhibit a wide variety of physical and chemical properties. MOFs are particularly interesting owing to the ability to systematically vary metal composition and framework ligands so as to create a universe of different materials *by design*. MOFs then become near-ideal platforms for understanding interfacial phenomena and catalysis since key variables, such as framework structure, chemistry and pore size, can all be tuned independently. Technological applications of MOFs have subsequently flourished in recent years. Several grand challenges remain, however, in understanding these compelling materials. Each of these grand challenges poses technical hurdles for analytical and structure-determination methods, yet nuclear magnetic resonance (NMR) spectroscopy has, in principle, the ability to address them all. In my lecture I will summarize previous and new research from my lab that uses NMR access points to address diffusion, reaction, defects, and structure within this fascinating class of materials.

FEBRUARY 7, 2020

2:30PM

HAHN HALL NORTH 140

FACULTY HOST:
LOU MADSEN