



ACS Local Section
Indiana-Kentucky Border

Dr. James R. Bour

Wayne State University

Development and Application of a High-throughput MOF Catalysis Platform

Tuesday, March 17 at 6:30 PM

University of Southern Indiana
Science Center, Room SC2243

Dr. Bour is unable to travel to Evansville,
and will be joining us via ZOOM.

Pizza will be served at 6:30. If you would like
to join us for pizza please RSVP by 5 PM,
March 16 to Jacob Lutter: jlutter@usi.edu

Abstract: Owing to their tunable internal structures and high porosity, metal-organic frameworks are attractive platforms for catalytic transformations historically limited by poor selectivity. However, scalable syntheses of highly engineered MOFs remain difficult and high-throughput assays of small quantities are complicated by their poor solution processibility. Collectively, these challenges make the identification of MOF catalysts difficult and their advantages poorly explored. This presentation describes the development of sub-milligram-scale reactor dosing strategies, and the application of assays enabled by these approaches to select organic transformations. Challenges unique to MOF catalysis will be discussed, and the use of these platforms to identify an air and moisture stable MOF-based C-H amination catalyst will be highlighted.