

CORE-CM SEMINAR
Michigan State University

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Electrocatalysts Through the Lens of Structure-Property Relationships

The elucidation of reaction mechanisms for solid-state electrocatalysts provides a foundation for the design of next-generation catalytic materials. This process, however, requires a detailed understanding of the structure and behavior of active reaction sites. The ubiquity of structural defects in heterogeneous materials is a major concern that limits confidence in any mechanistic proposal, but also provides significant opportunities to advance fundamental understanding of reaction interfaces and develop analytical techniques. Research in the Smith Group embraces structural defects; we study reaction mechanisms by strategically synthesizing contiguous series of defective materials and analyzing them through structure-property analyses. Data obtained from these analyses provide insights into the structure of defects and their effect on the stability, electrochemical behavior and electrocatalytic performance of heterogeneous electrocatalysts. This talk will explore how our research combines strategic fabrication, spectroscopy and electrochemistry to extract valuable structural and mechanistic insights.

Thursday, November 14, 2019
12:00 NOON
Room 1400 – Biomedical & Physical Sciences
Professor Rémi Beaulac - Host