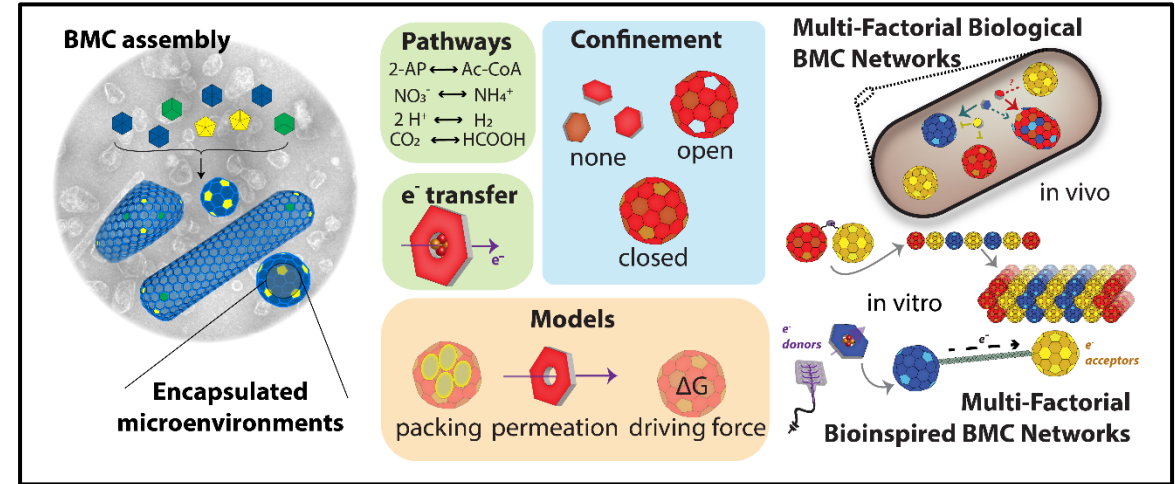


The Center for Catalysis in Biomimetic Confinement (CCBC)

Cheryl Kerfeld (Michigan State University); Class: 2022-2026

MISSION: To understand the means by which nature spatially organizes catalysis across scales using compartmentalization within selectively permeable protein-based membranes, and to use these principles to develop a modular platform for spatially organizing catalysis.



<http://ccbc-efc.org/>

RESEARCH PLAN

The CCBC team aims to acquire a fundamental understanding of how multi-step reaction pathways are confined within and optimized by selectively permeable protein-based shells of Bacterial Microcompartments (BMCs). We will apply this knowledge to establish BMC shell proteins as building blocks that can be used for confined, hierarchically-ordered biological and synthetic multi-step catalysis for reactions that can help address global challenges related to energy and the environment.