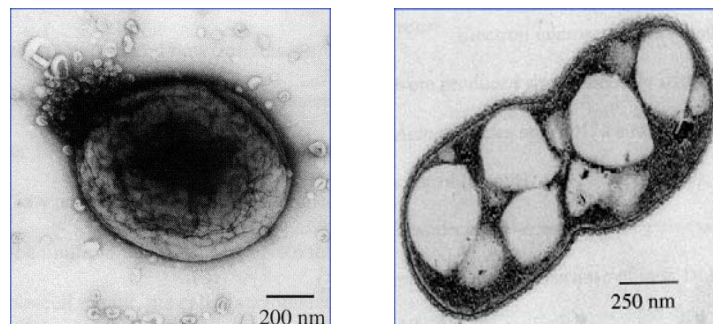


Center for Environmental Bioinorganic Chemistry
Francois M. Morel, Princeton University
CHE 0221978

The Center for Environmental Bioinorganic Chemistry sponsors undergraduate research fellowships for students from universities and junior colleges as part of its outreach program. This laboratory research, unavailable at community colleges, provides students the opportunity to investigate interrelated, molecular-level questions regarding the fate and function of trace metals in aquatic systems.

Acinetobacter



Images courtesy of Elise Sullivan
Ph.D. Thesis, Rutgers University

Jennifer Carter-Birnie, a student at Mercer County Community College in New Jersey, spent the summer in the laboratory of Professor Jay Groves, Department of Chemistry, researching how *Acinetobacter*, a key organism in natural remediation of oil spills, obtain the iron needed to assemble proteins required for hydrocarbon oxidation. The research team concluded that under conditions of low iron availability, *Acinetobacter* biosynthesize and excrete a small molecule called a siderophore, along with bioemulsifiers, that enable cells to absorb the hydrocarbons into vacuoles (see figure) and recruit the iron they must have to assemble their iron-containing hydroxylases and associated proteins.