Department of Earth Sciences and the Watershed Education Training Institute

present

Eric Roden

Albert and Alice Weeks Professor
Department of Geoscience
University of Wisconsin-Madison

Where: Roddy 149
When: 12:00 – 1:00 pm

FRIDAY: 25 October 2019

Abstract:

Paleo-Astrobiology: Microbially-catalyzed iron redox cycling in layered sedimentary environments as analogs to life on ancient Earth and Mars

Iron (Fe) oxidation-reduction (redox) based microbial metabolisms likely supported life on early Earth and may also support or have supported life on other Fe-rich planets such as Mars. Modern terrestrial systems where active microbial Fe redox cycling is taking place can provide insight into how life could have functioned in such environments. This talk will synthesize recent studies in layered sedimentary environments which support Fe redox based microbial communities. Such environments include groundwater seeps, a neutral pH hot spring in Yellowstone National Park, and a subsurface bedrock weathering interface in Puerto Rico. These studies illustrate how geochemical, microbiological, and genomic information can be combined to gain insight into the function of modern microbial ecosystems analogous to those present on early Earth or on other rocky planets within or beyond our own solar system.

Questions? Please contact Ms. Marty Devlin; 717-871-4359, Martha.Devlin@millersville.edu