

# Are There Martians in Australia?

## How Acid Saline Lakes Can Serve as a Mars Analog



## Science and Mathematics Colloquium Series

### Presentation by Melanie Mormile

Professor of Biological Sciences  
Associate Provost for Faculty Affairs, Missouri University  
of Science and Technology

**Wednesday, Feb. 28, 2018**  
**3 – 4 p.m.**

**Student Union, Cooley Ballroom B**  
**ASU Polytechnic campus**

Humans have wondered about life on Mars since telescopes were first used to view the Martian surface. Now, with confirmation of the previous presence of water on Mars, this question can be seriously considered. Acidic saline lakes of Australia can serve as possible analogs, with their strikingly similar sedimentary minerals

Melanie Mormile will discuss research in which lake- and ground-water were collected from a number of south Western Australian saline lakes and used for either enrichment cultures or extraction of DNA for subsequent molecular analysis and sequencing. Diverse microbial populations were discovered in all lakes sampled, including the acidic saline ones. The microbial communities described from these extreme sites in Australia can provide insight into what life could possibly have been like while Mars possessed water on its surface.

Faculty and practitioners discuss their current research and field projects in the Science and Mathematics Colloquium Series, held throughout the academic year at ASU's Polytechnic campus. All seminars are free and open to the public.

Melanie Mormile is an environmental microbiologist whose area of expertise is the study of halophilic bacteria from saline environments that span very acidic (south Western Australian lakes) to alkaline (Soap Lake, Washington) conditions.

Mormile has mentored numerous undergraduate and master's-level students in her lab and enjoys watching them go on to "bigger and better things." She has also developed a reputation for providing thoughtful support and guidance for faculty at Missouri S&T.

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