

Hidden metabolism in the terrestrial deep subsurface

Wednesday, May 11, 2022 2:40 PM (20 minutes)

The Earth's subsurface is host to significant and diverse microbial populations. The nature of this biomass is poorly characterized, partially due to the inherent difficulty of sampling, in situ studies, and isolation of the in situ microbes. Recently, many studies have focused on harnessing the ability of microbes to interact extracellularly with redox-active substrates for energy/growth. This metabolism can be mimicked using poised electrodes in an electrochemical system providing a continuous supply of energy source or sink. In this talk, I will discuss various strategies recently employed to characterize and furthermore isolate the inherent microbial community residing in the terrestrial subsurface located at the Sanford Underground Research Facility (SURF).

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Session Classification: Biology - Parallel

Track Classification: Biology