



UNIVERSITY OF SOUTH ALABAMA

Department of Chemistry Presents Seminar Series Speaker

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Wanted Dead or Alive: Hunting for Life Below the Seafloor

The ocean covers over 70% of the Earth and the sediment and rocks beneath the seafloor is home to one of the larger and most diverse biomes on the planet. We still know very little about the microbes – bacteria, archaea, fungi, and viruses – that make their home in this environment. The marine subsurface biome has only recently been appreciated as a metabolically active ecosystem, profoundly affecting global elemental cycles. However, they may not all be alive and we need to sort out the living microorganisms from the dead and the ones that are dormant. Due to extreme difficulty in sampling this environment, relatively few locations have been studied in depth and over time. Therefore, the diversity, abundance, energy metabolisms, and active fraction of subsurface organisms have traditionally been poorly constrained. This research uses high throughput sequencing to comprehensively survey microbial communities in deeply buried marine environments in concert with global biogeochemical cycles. Unlike other environments, the deep subsurface provides a unique opportunity to study biogeography across four dimensions. These samples are not only isolated by linear space on a global scale, but they are also temporally isolated by, in some cases, tens of millions of years.

Friday, March 5, 2021, 12:20 pm

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