

The microbial world extends kilometers into the subsurface, and this fact is becoming more important as we deposit and extract increasing material to and from this environment. This habitat increases in temperature with depth, and thermophiles are common inhabitants of hydrothermal vents, oil reservoirs, and deep sediments. In an effort to learn how much thermophile biomass there is in the subsurface and what controls their metabolism, this talk will explore the rates and limits on thermophilic methanogenesis in the marine subsurface, syntrophy as an alternative hydrogen source, and competition for resources in deep, hot environments.