



Exploring the oceanic crust deep biosphere through subsurface borehole observatories

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During Integrated Ocean Drilling Program Expeditions 327 and 336, several new subsurface borehole observatories were installed in oceanic crust, with a primary motivation to access the deep biosphere in these poorly understood environments. These new observatories have enabled unprecedented opportunities to collect high-quality samples for microbiological analysis, including metagenomic and single cell genomic investigations of the unique microbial communities living "on the rocks." This presentation will provide an overview of recent discoveries, focusing on the observatories on the Juan de Fuca Ridge flank and highlighting adaptations to life in the subsurface gleaned from genomic approaches. The presentation will also highlight opportunities for continued observatory-based research within the International Ocean Discovery Program.