Observatory Science in the Deep Marine Subsurface: Exploring the Deep Biosphere and the Subseafloor Ocean

Observatory science is a critical component of research programs aimed at understanding the dynamics and conditions of the deep marine subsurface. Hydrogeological observatories, such as Circulation Obviation Retrofit Kits (CORKs) at IODP boreholes, track fluid flow in the subsurface and provide critical data for predictive modeling applications. Current and next generation long-term chemical and biological observatories are necessary to overcome drilling related effects to truly evaluate the deep marine biosphere and the geochemical evolution of oceanic crust. Linking subseafloor observatories to automated data retrieval systems will ultimately augment their utility, but new 'smart' in-situ analytical systems for geochemistry and microbiology are needed. We aim to bring together researchers across the fields of hydrogeology, geochemistry, geophysics, geomicrobiology, and marine engineering to present results from the current generation of subseafloor observatories, and to discuss technology developments that will enhance the capabilities of observatories in the future.

Confirmed invited speakers
Peter Girguis, Harvard University
Miriam Kastner, Scripps Institution of Oceanography
Liz Screaton, University of Florida

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