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# Characterization of microbial communities and carbon metabolisms within interstitial fluids of the Nankai Trough.

*A Data Management Plan created using DMPTool*

Creator: Stephanie Carr

Affiliation: Non Partner Institution

Template: U.S. Science Support Program (USSSP)

## Project abstract:

In April 2016, IODP Expedition returned to Site C0010 to collect the borehole instrument package known as the Genius Plug, which was installed in 2010 within the megasplay fault zone of Hole C0010A. The instrument package included a Flow-Through Osmo Colonization System (FLOCS), which was designed to draw up interstitial water, hypothesized to be mixed with deeper fluids traveling up and along the splay fault. The FLOCS held various minerals for in situ colonization, including barite, olivine, and sediment from Hole C0040. The Genius Plug instrument package represents the first deployment of FLOCS technology into a sediment setting (previously only used within crustal environments or at the seafloor). Therefore it was our hypothesis that the FLOCS technology would successfully draw up interstitial water from the sedimentary environment and that the fluids would successfully inoculate the substrates within the FLOCS. Thus, the biological objectives of this expedition were to retrieve the FLOCS and to utilize the colonization substrates to culture subsurface microbes. We also hypothesized that enrichment cultures inoculated with FLOCS substrates would be different from each other and those inoculated with cored sediment from nearby holes. Thus, once the substrates were retrieved they were immediately used inoculate seawater media on board the Chikyu.

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## Data Collection

What data will you collect or create?

Enrichment cultures will be sequenced using 16S rRNA primers and the resulting sequences will be analyzed to identify the enriched microorganisms.

How will the data be collected or created?

Sequencing will be outsourced by various clients to be decided.

## Documentation and Metadata

What documentation and metadata will accompany the data?

Geochemistry from the field site can be found within the IODP reports.

## Ethics and Legal Compliance

How will you manage any ethical issues?

This research does not involve humans or animals and should therefore not have any ethical issues.

How will you manage copyright and Intellectual Property Rights (IP/IPR) issues?

All data will be owned by Dr. Carr and shared with the funding agencies or made publically available after publication.

## Storage and Backup

How will the data be stored and backed up during the research?

All enrichment cultures and any isolates will be preserved as glycerol stocks in Dr. Carr's Environmental microbiology lab.

How will you manage access and security?

Stored glycerol stocks will be stored in a locked room. Raw sequencing data will be saved on Dr. Carr's password protected server.

## Selection and Preservation

Which data are of long-term value and should be retained, shared, and/or preserved?

Raw sequencing data will be made publically available on NCBI's short read archive after publication or within 5 years of development.

What is the long-term preservation plan for the dataset?

Raw sequencing data will be made publically available on NCBI's short read archive after publication or within 5 years of development.

## Data Sharing

How will you share the data?

Raw sequencing data will be made publically available on NCBI's short read archive after publication or within 5 years of development.

Are any restrictions on data sharing required?

Raw sequencing data will be made publically available on NCBI's short read archive after publication or within 5 years of development.

### **Responsibilities and Resources**

Who will be responsible for data management?

Dr. Stephanie Carr

What resources will you require to deliver your plan?

None