

Data Management Plan

The proposed research will yield the following datasets: 16S rRNA and *nifH* gene sequences, *nifH* gene abundance data, nitrogen fixation rates, NanoSIMS single-cell isotopic measurements, and pore water analyte concentrations. The 16S rRNA and *nifH* gene sequences will be deposited into The National Center for Biotechnology Information (NCBI) Genbank with all contextual information (sampling site, date collected, methods employed, and where the publication with additional data can be found). If the sequence was derived from a ^{15}N -SIP experiment and was determined to be enriched in ^{15}N , that will be noted in the submission. The rest of the datasets, including abundance data, nitrogen fixation rates, NanoSIMS single-cell isotopic measurements and pore water analyte concentrations will be fully published in manuscripts in tabular format, in supplemental online information if necessary.

The proposed research will also result in the collection of deep-sea sediment samples. This collection will include cores from 9 sites ranging from 500 to 4500 meters water depth. I will coordinate with Dr. Joe Stoner, PI of the Oregon State University Marine Geology Repository (OSU-MGR) to archive a set of sediment samples. The OSU-MGR curates and stores scientific samples long-term, and they are available to researchers by request. One core from each successful 8-core multicore deployment will be made available to the OSU-MGR.

Finally, as part of the Broader Impacts of the proposed work, we will create a short video documenting the science and life of ship-board work, and particularly demonstrating the effect of pressure on Styrofoam cups. We will make this video available to the public online through the Dekas Lab website, hosted by Stanford University.