

## Metagenomics

Metagenomics is the study of a mixture of genetic material from different organisms contained in an environmental sample. The Beagle will be equipped with equipment to capture ocean microbes onto filters for sequencing at partner genomics institutes (TBD).

Data will be uploaded and analysed using Global Community Cyberinfrastructure for Advanced Marine Microbial Research and Analysis ([CAMERA](#)), a user-driven site dedicated to providing the scientific community with metagenomics data and analysis tools.

Results will be made available to researchers, teachers and students alike to analyse using CAMERA cyberinfrastructure tools. We expect this project to deliver results similar to those recently published in [PLoS Biology](#) including dramatic new insights into the composition and structure of marine microbial communities and their genes.

Beagle metagenomic samples will be time-stamped for correlation with images taken from space by [NASA](#) astronauts in the International Space Station. These images will enable the visible characteristics of plankton blooms and other biotic phenomena as seen from space to be ground-truthed by real measurements on the ship.