RENEWABLE REAGENTS AND DATA SHARING PLAN:

1. **What data will be generated by your research?**

   The project will produce environmental enrichment and pure microbial cultures and characterize their function under varying oxygen concentrations. These metrics include: growth measurements, inorganic nitrogen and oxygen concentrations, pH, and reporter fluorescence. Enrichment cultures from the field will include characterization by phenotypic and genotypic (e.g. PCR and sequencing) analyses. We will additionally generate code relating to metabolic and climate models. Laboratory-based curriculum materials will be produced regarding the application of genetic engineering to marine microbial ecology and biogeochemistry research.

2. **What is your plan for sharing the data?**

   Data derived from this project will be uploaded to public databases after production and quality checks to ensure that only useful, high quality raw and processed data are released. Sequence data will be submitted to NCBI GenBank and any field sampling metadata to BCO-DMO within 2 years of collection. In addition to data deposition in public databases, we will store and release coding through github, linked via the lab's MIT webpage. Curriculum materials will be freely distributed and available for download from the lab's webpage. All manuscripts generated from the research will include comprehensive tables of original data, directly in the paper when space allows or in supplementary materials. Observations and insights generated from the research will be shared via journal articles and scientific presentations at conferences.

   All data and code during the production stage will be stored in cloud-based continuously backed up folders (i.e. Dropbox) when file sizes permit. Microscopy images and videos will be stored locally and backed up daily on a local server.

3. **What renewable reagents will be generated by your research?**

   The research will generate environmental enrichments and possibly axenic cultures. It may also generate additional genetic mutants and fluorescent reporting strains of *Pseudomonas aeruginosa*.

4. **What is your plan for sharing the renewable reagents?**

   The cultures used in this research will be stored in the Babbin lab at –80°C with backups in Tanja Bosak's lab at MIT. These cultures will be available from the Babbin lab after publication upon request whenever appropriate. Due to the potential biohazards of some of the materials, proof of ability to manage these materials may be requested. Modified pure culture strains and environmental enrichment cultures generated by the Babbin lab as part of this research will be submitted to the ATCC microbial culture collections (atcc.org) or similar facility.