

UNIVERSITY OF HAWAII AT MĀNOA

School of Ocean and Earth Science and Technology

Department of Oceanography

October 14, 2008

Dr. Jennifer Science
Department of Biology
University of Science

Dr. Science,

I was thrilled when you contacted me to be part of your project to isolate and characterize the low-light adapted clades of *Prochlorococcus*. As you know, although the low-light clades are deeply diverse and a critical component of the euphotic zone microbial community, they have received much less attention than their high-light cousins, in part because so few have been isolated. This represents a critical gap in our understanding of *Prochlorococcus* and niche partitioning of marine microbes in general. Your approach to isolate new strains (in addition to using existing, uncharacterized strains) and to assess key physiological variables in the context of genetic variability is precisely what is needed to understand the ecology and evolution of these organisms. This project is highly complementary to our existing NSF- and DOE-funded projects, which have the broad goal of describing the genetic and physiological diversity of field populations of *Prochlorococcus* in specific regions of the Pacific Ocean.

We are excited to be part of your laboratory-based project and will assist you in the following ways: First, as part of our existing projects, we have isolated several *Prochlorococcus* strains, including some from novel low light clades. We are happy to provide these strains to you so that they may be physiologically characterized by your group. Second, recently we developed and have utilized a high-throughput photosynthesis assay that can quickly characterize the photophysiology of multiple strains of phytoplankton (Johnson and Sheldon, 2007). With travel and shipping support from your project, we will bring to you the necessary equipment for this assay and other fluorescence-based (photosystem II) equipment that we have developed (Johnson 2004) so that together our groups can fully characterize the photophysiology of the new isolates in parallel with your other physiology experiments. Finally, while at your university, I would be happy to give one or more lectures about our research to your group or department to promote cross-institution education. I currently teach both undergraduate and graduate classes to non-science and science background students so with your guidance I can tailor the material to best suit the audience at your university.

Thank you for including our team in this important study of *Prochlorococcus*. Beyond the specific areas I mentioned above, my laboratory's full resources stand ready to help you in this project. I greatly look forward to collaborating with your group in the near future.

Sincerely,