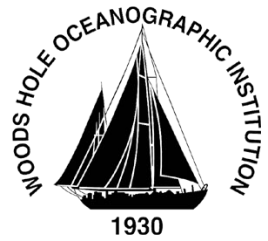

Woods Hole Oceanographic Institution
Biology Department Seminar



Monday, May 16, 2016
Redfield Auditorium – 12:00 Noon

**Is everything everywhere: Insights into
the role of intra-specific diversity in the
physiological ecology of phytoplankton**

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Phytoplankton communities are well tuned to respond to changing environments, and the environment can drive species changes in phytoplankton functional groups, shifts in a species' strain composition, or alterations in phenotype. Building off of previous work that demonstrated the importance of functional group traits in oligotrophic phytoplankton bloom dynamics, I present findings characterizing strain diversity and phenotypic plasticity in the biogeochemically significant coccolithophore *Emiliana huxleyi*. Using a metatranscriptomic approach, nitrogen was identified as a major driver of the ecology of *E. huxleyi* in this system. The data underscore the ecological importance of the "pan genome" of *E. huxleyi*, suggesting that genetic variability within the species complex combined with phenotypic plasticity are central to its success in a wide variety of marine environments. This study serves as an example of the breadth of information that can be garnered through the integration of molecular approaches with traditional biological oceanographic surveys.