Oceanography Seminar

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"Metabolic Balance in the Upper Oligotrophic Ocean from in Situ O2/Ar Measurements"

The net community production (NCP) of organic matter in the photic zone of the large subtropical oligotrophic gyres is an important term in the oceanic carbon cycle, but its quantification is challenging due to the low biological rates that characterize these vast regions of the oceans. Previous estimates of NCP inferred from *in vitro* and *in situ* measurements have provided different conclusions regarding whether these large areas of the ocean are net heterotrophic or net autotrophic. In this seminar, I will present measurements of NCP at the Hawaii Ocean Time-series (HOT) Station ALOHA, in the North Pacific Subtropical Gyre, determined using the O_2/Ar method. Also, I will demonstrate that diel changes in O_2/Ar saturation ratios can be used to calculate gross primary production and microbial respiration in the mixed layer from *in situ* measurements.

Thursday April 23, 2015 3:00 p.m. MSB 100