

**“THE RELATION OF NET COMMUNITY PRODUCTION TO  
PLANKTON DIVERSITY AT THE WESTERN ANTARCTIC PENINSULA”**

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**Monday, March 21, 2016**  
3:30 PM

***Conference Center, Innovation Research Park Building II***  
***4211 Monarch Way, Norfolk, VA 23508***

Abstract

Despite our current realization of the tremendous diversity in plankton communities, we have little understanding of how this biodiversity influences the biological pump other than broad paradigms such as diatoms contributing disproportionately to carbon export. In this talk, I will present results from a study we conducted at the Western Antarctic Peninsula where we combined high-resolution underway estimates of net community production with molecular characterization of the plankton community. Our results show that among a diverse plankton system, as few as two to three key eukaryotic species can explain a large majority of the spatial variability in net community production in this region. Interestingly, the most abundant diatom in the region is not a good predictor of net community production. Our results indicate that defining plankton communities at a higher taxonomic resolution rather than by functional groups can substantially improve estimates of carbon fluxes.

Biography

Nicolas Cassar received a B.S. from McGill University and a Ph.D. in Oceanography from the University of Hawaii. He was a postdoctoral researcher and research scholar at Princeton University. He is currently an Associate Professor at Duke University. Dr. Cassar's research is in biogeochemistry, with the objective of constraining the mechanisms governing carbon cycling. Current research interests include: 1) Ocean carbon cycling and productivity; 2) Carbon acquisition mechanisms in marine phytoplankton and implications for climate change and paleo-CO<sub>2</sub> reconstruction; and 3) Global carbon cycle and ocean-atmosphere fluxes.

*Reception before seminar at 3:00 PM*