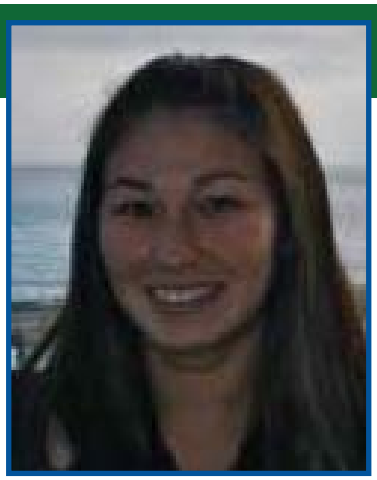

Raffaela Mikiko Abbriano

Graduate Institution: University of California - San Diego

Graduate Discipline: Marine Biology

Hometown: Kalaheo, HI

Relevant SC Research: Biological and Environmental Research

Research Interest:

My research interests revolve around diatoms, a highly diverse and productive class of eukaryotic phytoplankton responsible for approximately 20% of global photosynthesis. In addition to the crucial role these organisms play in the global carbon cycle and at the base of marine food webs, their capacity to rapidly accumulate fuel-relevant lipids makes them attractive models for biofuel production. With advances in sequencing technology and the increasing accessibility to "omics" approaches, we now have the capability to do a more comprehensive investigation into the metabolic potential of diatoms and the underlying molecular mechanisms by which they regulate intracellular carbon flux. My current work involves identifying the genetic basis for desirable phenotypes and enhancing diatom lipid productivity through metabolic engineering.

About Me:

As a graduate student in the lab of Dr. Mark Hildebrand at the Scripps Institution of Oceanography, I have a unique opportunity to combine my interests in marine microbiology, sustainability, and the environment. The direction of my graduate work was shaped in part by my undergraduate research experiences at the University of San Diego, which opened my eyes to the extensive influence of anthropogenic activity on the ocean and its biological communities. My interest in algal biofuels developed during my time at Kuehnle Agrosystems, a Honolulu-based biotechnology company, while working on a DARPA-funded project to develop a renewable replacement for JP-8 jet fuel. My graduate work at SIO continues along the same vein, using insights learned from marine diatoms to improve biofuel production strains. When I'm not in the lab, I enjoy hiking, surfing, gardening, traveling to new places, and spending time with friends and family.