Title: Development of Robust Spectral Derivative Algorithms for Phytoplankton Pigment Concentrations on Local to Global Scales

Team: Dave Siegel, Stéphane Maritorena, Dylan Catlett (now WHOI) & Sasha Kramer (UCSB)

Goal: Develop hyperspectral methods for quantifying marker phytoplankton pigments

Approach:
• Explore “spectral gap” between phytoplankton IOPs & other IOP signals
• Remove low-order info from hyperspectral Rrs in order to assess high-pass (hopefully phytoplankton) reflectance signals
• Account for covariability among pigments & their spectral signatures
• Focus on both local (PnB; Santa Barbara Channel, CA) & global scale models
• Test the validity of pigments for quantifying phytoplankton community composition

Deliverables:
• Highly-curated global & local hyperspectral data for PACE model development
• Robust & documented algorithms for phytoplankton marker pigments for PACE