

UConn

UNIVERSITY OF CONNECTICUT

Department of Marine Sciences
Presents a Seminar By

Chris Bowler

Institut de Biologie de l'Ecole Normale Supérieure (IBENS)

Genomics-Enabled Exploration of the Secrets of Marine Diatoms

Diatoms are thought to be the most successful group of eukaryotic photosynthetic organisms in the ocean. Whole genome sequences and transcriptomes have revealed a wealth of fundamental information about the evolutionary origins, metabolic adaptations and regulatory processes that may have led to their ecological success. Through reverse genetics we explore both the physiological functions of diatom gene products and the evolutionary mechanisms that have led to diatom success in contemporary oceans. Specific research topics that we are currently addressing are: 1. How has diatom evolution enabled interactions between chloroplasts and mitochondria that have provided diatoms with physiological and metabolic innovations, and 2. What are the relative contributions of DNA sequence variation, allele-specific expression and epigenetic processes in diatom adaptive dynamics? Additionally, the abundance, diversity, and distribution of diatoms in the global ocean is being explored using data from the *Tara Oceans* expedition, a 4 year global sampling of marine planktonic ecosystems that has collected more than 40,000 biological samples from all major oceanic basins, together with extensive environmental data. These different research areas are illuminating the biological processes of diatoms that go beyond those found in the canonical model organisms.

Host: Senjie Lin

Time & Date: 11:00 am, Friday, February 24, 2017

Place: Marine Sciences Building, Seminar Room 103

Please see this [page](#) for cancelations and additional seminar information, email marinesciencesseminars@uconn.edu, or call 860-405-9152 or 860-405-9151