**EDUCATION**

**2010-present Massachusetts Institute of Technology-Woods Hole Oceanographic Institution Joint Program in Biological Oceanography,** Cambridge/Woods Hole, MA

Ph.D. (expected 2015) Biological Oceanography

Advisor: Dr. Sonya Dyhrman

**2006-2010 Wellesley College**, Wellesley, MA

B.A. in Biological Sciences with Honors (minor in Mathematics) *cum laude*

Thesis Title: Phylogenetic analysis of the diversity of photosynthetic picoeukaryotic phytoplankton in the Monterey Bay using rDNA clone libraries

**SELCETED RESEARCH EXPERIENCE**

**2010-present Graduate Student** under the guidance of Dr. Sonya Dyhrman. Woods Hole Oceanographic Institution, Woods Hole, MA.

**2008-2010 Undergraduate Researcher** under the guidance of Dr. Alexandra Worden. Monterey Bay Aquarium Research Institute, Moss Landing, CA.

**SELECTED AWARDS & FELLOWSHIPS**

2011-present National Defense Science and Engineering Fellowship

2011 National Science Foundation Graduate Research Fellowship (*declined*)

2010-2011 MIT Presidential Fellowship

2010 Lucy Allen Branch Prize in Natural History

2010 Jane Harris Schneider Prize in Sculpture

**PUBLICATIONS**

**Alexander, H.**, Jenkins, B.D., Rynearson, T.A., Dyhrman, S.T. (Accepted, PNAS). Novel metatranscriptome analyses identify resource partitioning of phytoplankton niche space in the field.

Fischer, A. D., Moberg, E. A., **Alexander, H.**, Brownlee, E. F., Hunter-Cevera, K. R., Pitz, K. J., Rosengard, S. Z., Sosik, H. M. (2014). Sixty years of Sverdrup: A retrospective of progress in the study of phytoplankton blooms. *Oceanography*, 27(1), 222.

**Alexander, H.,** Jenkins, B.D., Rynearson, T.A., Saito, M.A., Mercier, M.L., Dyhrman, S.T. (2012). Identifying reference genes with stable expression from high throughput sequence data. *Frontiers in Aquatic Microbiology*. **3:** 385. doi: 10.3389/fmicb.2012.00385

Dyhrman, S.T., Jenkins, B.D., Rynearson, T.A., Saito, M.A., Mercier, M.L., **Alexander, H.**, Whitney, L.P., Drzewianowski, A., Bulygin, V.V., Bertrand, E.M., et al. (2012). The transcriptome and proteome of the diatom *Thalassiosira pseudonana* reveal a diverse phosphorus stress response. PLoS ONE *7, e33768*.

**SELECTED PRESENTATIONS**

**Alexander, H.,** S. T. Haley, M. Rouco-Molina, S. T. Dyhrman. Eukaryotic metatranscriptome profiling identifies the unique response of phytoplankton functional groups to deep water upwelling at Station ALOHA, ASLO, Granada, Spain. February 2015.

**Alexander, H.** Sixty Years of Sverdrup. Wellesley College, Wellesley, MA. September 2014.

**Alexander, H.,** B. D. Jenkins, T. A. Rynearson, S. T. Dyhrman. Eukaryotic metatranscriptomics reveals niche differentiation between two diatoms in Narragansett Bay, Marine Microbes Gordon Research Conference, Waltham, MA. June 2014.

**Alexander, H.,** S. T. Haley, M. Rouco-Molina, S. T. Dyhrman. Eukaryotic metatranscriptomics illuminates physiological response of phytoplankton to nutrient pulses at Station ALOHA, Ocean Carbon and Biogeochemistry Summer Workshop, Woods Hole, MA. July 2013.

**Alexander, H.,** B. D. Jenkins, T. A. Rynearson, M. A. Saito, M. L. Mercier, S. T. Dyhrman. Identifying reference genes with stable expression from high throughput sequence data, ASLO, New Orleans, LA. February 2013.

**Alexander, H.,** S. T. Dyhrman. Assessing patterns in expression from transcriptome data, Town Hall: Marine Microbial Transcriptome Project, ASLO, New Orleans, LA. February 2013.

**GRANTS AWARDED**

**2012-2015** *Access to the Sea*, Woods Hole Oceanographic Institution, (**Alexander** and Dyhrman, Co-Principal Investigators),“Molecular metabolic fingerprinting to identify drivers of phytoplankton bloom dynamics in the Southern Ocean.” **Total Award: $56,917**

**2012-2015** *Ocean Ventures Fund*, Woods Hole Oceanographic Institution, (**Alexander**, Principal Investigator), “Molecular metabolic fingerprinting to identify drivers of phytoplankton bloom dynamics in the Southern Ocean.” **Total Award: $11,000**

**RESEARCH CRUISES**

**Seasonal Trophic Roles of *Euphasia superba* (STRES; NBP14-10)**, R/V *Nathaniel B. Palmer*

30 November – 29 December 2014, West Antarctic Peninsula

Chief Scientist: Edward Durbin

**Deep Dissolved Organic Matter (DeepDOM; KN210-04)**, R/V *Knorr*

25 March – 9 May 2013, Montevideo, Uruguay to Bridgetown Barbados

Chief Scientist: Elizabeth Kujawinski

**Hawaii Ocean Experiment- Dynamics of Light and Nutrients (HOE-DYLAN 9)**, R/V *Kilo Moana*

21 August – 11 September 2012, Station ALOHA

Chief Scientist: Sam Wilson

**Hawaii Ocean Experiment- Dynamics of Light and Nutrients (HOE-DYLAN 7)**, R/V *Kilo Moana*

4 - 14 August 2012, Station ALOHA

Chief Scientist: Sonya Dyhrman

**SELECTED OUTREACH**

**2014 Submerge!** New York City Marine Science Festival. Designed and manned booth of hands-on activities focused on the carbon cycle for WHOI. Estimated more than 4000 people in attendance.

**2011-2014 Artistic Oceanographer Program**. Used a program that combines science and art to help communicate concepts

**2014 Women in Ocean Engineering.** Volunteered weekends to work with middle school age girls, introducing them to engineering concepts in a marine environment.

**2012 STEM for Girls at the New England Aquarium.** Mentored and volunteered for a program designed to encourage girls from underrepresented minorities to pursue math and science.