

LeAnn Pritchard Whitney
Postdoctoral Researcher
Bigelow Laboratory for Ocean Sciences

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Education

- 2006-2012 **University of Rhode Island, Kingston, RI, Department of Cell and Molecular Biology, Ph.D.**
Dissertation: Using Molecular Techniques to Examine Iron Limitation in *Thalassiosiroid* Diatoms. Thesis advisor, Dr. Bethany Jenkins.
- 2001-2005 **University of Maine, Orono, ME, School of Marine Sciences, B.S. in Marine Biology, *summa cum laude*;** Undergraduate thesis advisor, Dr. David Townsend.
- 2004 **University of Hawaii, Hilo, HI, National Student Exchange Program**

Professional Experience

- 2013-present **Postdoctoral Researcher, Bigelow Laboratory for Ocean Sciences**
Advisor: Dr. Michael Lomas
- 2006-2012 **Graduate Research Assistant,** Department of Cell and Molecular Biology, University of Rhode Island
Advisor: Dr. Bethany Jenkins
- 2009-2011 **Graduate Teaching Assistant, Introductory Microbiology Laboratory,** Department of Cell and Molecular Biology, University of Rhode Island
- 2005-2006 **Research Technician,** University of Maine
Supervisors: Dr. David Townsend and Dr. Lee Karp-Boss
- 2005 **Undergraduate Thesis Research,** University of Maine
Advisor: Dr. David Townsend
- 2004 **Marine Education Intern,** Marine Environmental Research Institute, Blue Hill, ME

Awards and Honors

- 2013 **Community Sequencing Program Small-Scale Microbial Transcriptome Proposal,** Department of Energy Joint Genome Institute
- 2012 **Philip Carpenter Memorial Scholarship,** University of Rhode Island
- 2012 **Mitchell Scholar and Alumni Fellowship,** Senator George J. Mitchell Scholarship Research Institute
- 2010 **RI NSF EPSCoR Student Travel Award**
- 2009 **Alumni Career and Personal Support Fellowship,** Senator George J. Mitchell Scholarship Research Institute
- 2007 **RI NSF EPSCoR Graduate Student Fellowship**

2002-2005

**Captain Charles H. Wade Marine Science Scholarship
Recipient**

Publications

- Whitney, L.P.**, Rynearson, T.A., Dyhrman, S.T., Saito, M.A., Mercier, M.L., Bertrand, E.M., Alexander, H., Moran, D.M., McIlvin, M.R., Jenkins, B.D. (in prep for submission to *PLoS ONE*). Transcriptional and translational responses to iron limitation and general stress in the marine diatom *Thalassiosira pseudonana*.
- Whitney, L.P.**, Chappell, P.D., Jenkins, B.D. (submitted to *ISME*). Genetic indicators of iron limitation in oceanic diatoms from the northeast Pacific Ocean.
- Chappell, P.D., **Whitney, L.P.**, Haddock, T.L., Roy, E.G., Wells, M.L., and Jenkins, B.D. *Thalassiosira* spp. community composition shifts in response to chemical and physical forcing in the northeast Pacific Ocean. *Frontiers in Aquatic Microbiology* 4:273. doi: 10.3389/fmicb.2013.00273.
- Dyhrman, S.T., Jenkins, B.D., Rynearson, T.A., Saito, M.A., Mercier, M.L., Alexander, H., **Whitney, L.P.**, Dzewianowski, A., Bulygin, V.V., Bertrand, E.M., Benitez-Nelson, C., and Heithoff, A. 2012. The transcriptome and proteome of the diatom *Thalassiosira pseudonana* reveal a diverse phosphorus stress response. *PLoS ONE* 7(3): e33768. doi:10.1371/journal.pone.0033768.
- Whitney, L.P.**, Lins, J.J., Hughes, M.P., Wells, M.L., Chappell, P.D., and Jenkins, B.D. 2011. Characterization of putative iron responsive genes as species-specific indicators of iron stress in *Thalassiosiroid* diatoms. *Frontiers in Aquatic Microbiology* (vol 2).
- Wu, Z., Jenkins, B.D., Rynearson, T.A., Dyhrman, S.T., Saito, M.A., Mercier, M. & **Whitney, L.P.** 2010. Empirical Bayes Analysis of Sequencing-based Transcriptional Profiling. *BMC Bioinformatics* Nov 16;11(1):564 (0).

Professional Presentations and Abstracts

- Whitney, L.P.***, Lomas, M.W. Dissecting The Cellular Response Of The Picoeukaryote, *Micromonas*, To The Interactive Effects of Phosphorus Deficiency And Ocean Acidification (*invited speaker). ASLO Joint Aquatic Sciences Meeting, Portland, OR (2014).
- Whitney, L.P.**, Chappell, P.D., Jenkins, B.J. Using Molecular Tools To Assess The Response To Iron Availability In The Diatom *Thalassiosira oceanica* From the Northeast Pacific. ASLO Aquatic Sciences Meeting, New Orleans, LA (2013).
- Whitney, L.P.**, Mercier, M.L., Bertrand, E.M., Alexander, H., Dyhrman, S.T., Saito, M.A., Rynearson, T.A., Jenkins, B.D. Transcriptional And Translational Responses To Iron Stress In The Marine Diatom *Thalassiosira pseudonana*. Marine Microbes Gordon Conference, Lucca, Italy (2012).
- Whitney, L.P.**, Mercier, M.L., Dyhrman, S.T., Saito, M.A., Rynearson, T.A., Jenkins, B.D. Response To Iron Limitation In The Marine Diatom *Thalassiosira pseudonana* Revealed By Global Transcriptomic Analysis. ASLO Aquatic Sciences Meeting, San Juan, Puerto Rico (2011).
- Mercier, M.L., **Whitney, L.P.**, Jenkins, B.D., Dyhrman, S.T., Saito, M.A., Rynearson, T.A. Expression And Regulation Of A Putative Phosphate Transporter In

- Thalassiosira pseudonana* Under Phosphate Limitation. ASLO Aquatic Sciences Meeting, San Juan, Puerto Rico (2011).
- Dyhrman, S.T., Jenkins, B.D., Rynearson, T.A., Saito, M.A., Mercier, M.L., Heithoff, A., Alexander, H., **Whitney, L.P.**, Bulygin, V., Drzewianowski, A. Coordination In The Transcriptome And Proteome Of *Thalassiosira pseudonana* Reveals Novel Aspects Of The Diatom Phosphorus Stress Response. ASLO Aquatic Sciences Meeting, San Juan, Puerto Rico (2011).
- Chappell, P.D., Darer, A., **Whitney, L.P.**, Haddock, T.L., Lins, J.J., Jenkins B.D. Combining Fragment Analysis And qRT-PCR To Evaluate Iron Limitation Of *Thalassiosirids* In The Eastern Subarctic Pacific Ocean. Chemical Oceanography Gordon Conference (2011).
- Whitney L.P.**, Hughes, M.P., Lins, J.J., Wells, M.L., Jenkins, B.D. The Effect Of Iron Limitation On Diatom Chloroplast Gene Expression. ASLO Ocean Sciences Meeting, Portland, OR (2010).
- Mercier, M.L., Drzewianowski, A., **Pritchard, L.P.**, Bulygin, V., Jenkins, B.D., Dyrman, S.T., Saito, M.A., Rynearson, T.A. Global Transcriptomic And Proteomic Analyses Of The Marine Centric Diatom *Thalassiosira pseudonana* Under Phosphorus Limitation. ASLO Ocean Sciences Meeting, Portland, OR (2010).
- Whitney L.P.**, Hughes, M.P., Lins, J.J., Wells, M.L., Jenkins, B.D. The Effect Of Iron Deficiency On Ferredoxin And Flavodoxin Gene Expression In Marine Diatoms. Marine Microbes Gordon Research Conference, Tilton, NH (2010).
- Jenkins, B.D., Chappell, P.D., Mercier, M.L., Rynearson, T.A., **Pritchard, L.B.**, Lins, J.J., Dyhrman, S.T., Saito, M.A. Following The Complete Cellular Response To Iron Limitation In Diatoms. Marine Microbes Gordon Conference, Tilton, NH (2010).
- Jenkins, B.D., **Whitney L.P.**, Hughes, M.P., Lins, J.J., Wells, M.L. Iron Limitation Impacts On Diatom Nuclear And Chloroplast Gene Expression. Environmental Bioinorganic Chemistry Gordon Research Conference, Newport, RI (2010).
- Pritchard, L.B.**, Lins, J.J., Hughes, M.P., Wells, M.L., Jenkins, B.D. Coping With Iron-Limitation: A Comparison Of Strategies In Two Diatoms. ASLO Aquatic Sciences Meeting, Nice France (2009).
- Jenkins, B.D., **Pritchard, L.B.**, Lins, J.J., Comparison Of Nutrient Acquisition Strategies Across Diatom Species: Insights From Physiological And Gene Expression Studies. ASLO Aquatic Sciences Meeting, Nice France (2009).
- Pritchard, L. B.**, Wells, M. L., Hughes, M. P., Lins, J.J., Jenkins, B.D. Molecular Mechanisms Of Iron Acquisition By Diatoms. Phycological Society of America Meeting, Providence, RI (2007).
- Pritchard, L. B.**, Wells, M. L., Hughes, M. P., Jenkins, B.D. Molecular Underpinnings For The Acclimation Of Large And Small Diatoms In Iron Limiting Conditions. ASLO Aquatic Sciences Meeting, Santa Fe, NM (2007).
- Jenkins, B.D., **Pritchard, L.B.**, Parker, M.S., Rynearson, T.A., Armbrust, E.V. Diatom Life Histories, Ecology And Nutrient Metabolism Unveiled By Genomics. Botany and Plant Biology Joint Congress, Chicago, IL (2007).

Workshops

- 2011 **Strategies for Engaging in Broader Impact Programs**, Waquoit, MA
- 2011 **Genome Assembly Special Forces Workshop**, Brown University, RI
- 2010 **The Molecular Biology of Biogeochemistry, Ocean Carbon and Biogeochemistry Scoping Workshop**, Los Angeles, CA

Mentoring Experience

- 2014 Mentored BLOS REU student, Sarah Erskine
- 2013 Mentored BLOS REU student, Elizabeth Johnsey
- 2013 Mentored BLOS Keller BLOOM high school students
- 2010-2012 Mentored URI undergraduate, Samua Jean-Charles
- 2008-2009 Mentored URI undergraduates, Jolene Octavious and Olubukola Babalola
- 2008 Mentored URI rotation graduate student, Rosamaria DeCaro
- 2006 Mentored URI rotation graduate student, Alex Brown

Community Service and Outreach

- 2014 Speaker at Boothbay Regional High School Career Day
- 2013 Speaker at Boothbay Regional High School Career Day
- 2012 Phytoplankton of Larkin Pond workshop with the Girl Scouts of Rhode Island
- 2011 DNA Detectives workshop with the Girl Scouts of Rhode Island
- 2011 DNA@the Bay booth for GSO's (URI) 50th Anniversary
- 2008 Molecular techniques workshop for Somerville High School (MA) students

Field Experience

- 2013 Elemental composition of North Atlantic phytoplankton cruise, R/V Atlantic Explorer, Labrador Sea to Bermuda
- 2012 MolBioGeoChem Cruise, R/V Thompson, coastal to offshore transect northeast Pacific Ocean
- 2007 Diatoms and trace metal limitation, R/V Thompson, coastal British Columbia/Alaska, Ocean Station PAPA
- 2007 Phytoplankton biodiversity cruise, R/V Endeavor, Sargasso Sea
- 2005 Gulf of Maine phytoplankton community composition cruise, R/V Delaware II, Gulf of Maine