BRENDAN REILLY
Oregon State University, College of Earth, Ocean, and Atmospheric Sciences

Degrees:
B.S. Management, Boston College
M.S. Geosciences, Montclair State University

Advisor:
Joseph Stoner, Ph.D.

Scholar Award Donor:
Mark H. and Leslie M. Workman

About the Scholar:
Brendan uses ocean and lake sediments to study Earth history and is particularly interested in paleo-environments, glacial systems, and the Earth's magnetic field. He has collected and worked with sediments from near the Antarctic Peninsula, the Canadian Arctic Ocean, and North American lakes. This work includes characterizing glacial advance/retreat and correlation of regional climate signals/events. In early 2015, Brendan will participate in the recovery of a suite of 0.3-1.5 km drill cores from the Indian Ocean to investigate climate-tectonic connections related to Himalayan uplift and the evolution of the monsoon. Brendan will use past changes in the Earth's magnetic field to develop a chronology for these sediments.

Benefits to Society:
Earth's climate system is dynamic from timescales of millions of years to what we can observe in our lifetimes. Atmospheric and oceanographic changes within this system have huge impacts on environments, ecology, natural resources, and people. Accordingly, these changes must be understood within the context of natural variability and anthropogenic induced forcing. Brendan focuses on using sediments to provide this context, for example to better understand the catastrophic 2002 break-up of the Larsen-B ice shelf on the Eastern Antarctic Peninsula through sedimentary records relating past glacial dynamics to atmospheric and oceanographic forcing.

Awards and Honors:
College of Science and Mathematics Award of Excellence, The Graduating Masters Research Award, Montclair State University
The Outstanding M.S. Student in Geosciences Award, Montclair State University
Antarctic and Arctic Service Medals
Presidential Call to Service Award

Publications and Posters:
Reilly, B., Natter, C., Brachfeld, S., (2013) Magnetic Signatures of sea ice, ice shelf, and grounding-line facies in Antarctic fjords: Examples from Barilari Bay, Western Antarctic Peninsula, American Geophysical Union Fall Meeting, December 9-13, 2013, San Francisco, CA, USA.

Brachfeld, S., Leventer, A., Wellner, J., McCormick, M., Domack, E., Ishman, S., Vernet, M., Darley, R., **Reilly, B.**, Vadman, K., Staszyc, A., Kyrmanidou, A., Shimizu, M., Cape, M., Lavoie, C., (2013) The "Perseverance Drift," a unique paleoenvironmental archive in the northwest Weddell Sea, Antarctic Drilling Workshop, November 7-8, 2013, Houston, TX, USA.

Reilly, B., Elking, N., Yoo, K., Brachfeld, S., Domack, E., Leventer, A., Lavoie, C., and Ishman, S., (2012) Magnetic and sedimentologic analysis of late Holocene sediment core, Barilari Bay, Antarctica, XXXII Scientific Committee on Antarctic Research (SCAR) Open Science Conference, July 13-25, 2012, Portland, OR, USA.