

Brendan Reilly

College of Earth, Ocean and Atmospheric Sciences
Oregon State University

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EDUCATION

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

Ph.D. Ocean, Earth, and Atmospheric Sciences: Geology & Geophysics (exp. 06/18)

Graduate Certificate in College and University Teaching (exp. 12/16)

Advisor: Joseph Stoner

Montclair State University, Department of Earth and Environmental Studies

M.S. Geoscience received May 2013, GPA 4.0

Thesis: Climate evolution of the Antarctic Peninsula over the last 1,000 years: An environmental magnetism analysis of two high resolution sediment cores

Advisor: Stefanie Brachfeld

Boston College, Carroll School of Management

B.S. Management (Marketing), Environmental Studies Minor received May 2008,
Magna Cum Laude, GPA 3.7

RELEVANT EXPERIENCE

2013-

Research Assistant, Oregon State University

Topic of Focus: Sediment Magnetism and Non-Destructive Analysis of Arctic, North American, and Indian Ocean Holocene – Quaternary Sediments

2014-2015

Teaching Assistant, Oregon State University

OC 331: Introduction to Oceanography (TA-Robert Wheatcroft & Fredrick Prah)

Guest lectures, lab facilitation, writing quizzes, grading, office hours, review sessions

OEAS 500: Cascadia Field Trip (TA-Robert Wheatcroft)

Logistics, advising new graduate students

OEAS 520: The Solid Earth (TA-Anthony Koppers & Robert Wheatcroft)

Lab facilitation, grading, office hours, review sessions

GEO460: Geological Oceanography (Intern-Joseph Stoner)

Guest lectures, syllabus development, assignment development, review sessions

2011-2013

Research Assistant, Montclair State University

Topic of focus: Environmental magnetic analysis and electron microscopy of Antarctic Holocene sediments

FIELDS OF SPECILIZATION

Sediment, Environmental, and Paleo- Magnetism

Computed Tomography, X-Ray Fluorescence, and Multi-Sensor Track Scanning of Sediment Cores

Quaternary Stratigraphy, Paleoclimatology, Paleoceanography, and Geochronology

PUBLICATIONS

Reilly, B., Natter, C., Brachfeld, S., (2016) Holocene glacial activity in Barilari Bay, west Antarctic Peninsula, tracked by magnetic mineral assemblages: Linking ice, ocean, and atmosphere, *Geochemistry, Geophysics, Geosystems*.

Winsor, K., Carlson, A., Welke, B., **Reilly, B.**, (2015) Early deglacial onset of southwestern Greenland ice-sheet retreat on the continental shelf, *Quaternary Science Reviews*, vol. 128, pp. 117-126.

CONFERENCE ABSTRACTS

(* oral presentation, + invited, ^ undergraduate first author)

- Reilly, B.**, Stoner, J., Mix, A., Jakobsson, M., Jennings, A., Walczak, M., Dyke, L., Albert, S., and the OD1507 Shipboard Scientific Party, (2016), Late Holocene glacial history of Petermann Fjord, Northwest Greenland: Non-destructive CT, XRF, and magnetic results from OD1507 sediment cores, American Geophysical Union Fall Meeting, December 12-16, 2016, San Francisco, CA, USA.
- ^Albert, S., **Reilly, B.**, Stoner, J., Jennings, A., Mix, A., Jakobsson, M., Dyke, L., Walczak, M., Cheseby, M., Wiest, J., and the OD1507 Shipboard Scientific Party, (2016), An XRF geochemical investigation of the deglaciation of Hall Basin, Nares Strait, American Geophysical Union Fall Meeting, December 12-16, 2016, San Francisco, CA, USA.
- ^Morris, J., Stoner, J., **Reilly, B.**, Hatfield, R., Konyndyk, D., Abbott, M., Finkenbinder, M., Hillman, A., (2016), Lake sediment particle size analysis for Holocene paleoenvironmental study of Steens Mountain, Eastern Oregon, American Geophysical Union Fall Meeting, December 12-16, 2016, San Francisco, CA, USA.
- Weber, M., Dekens, P., **Reilly, B.**, Lantsch, H., Selkin, P., Das, S., Williams, T., Martos, Y., Adhikari, R., Gyawali, B., Jia, G., Fox, L., Ge, J., Manoj, M., Savian, J., Meynadier, L., Spiess, V., France-Lanord, C., Klaus, A., (2016), The last glacial cycle documented on the Lower Bengal Fan – chronological and paleoclimate implications, American Geophysical Union Fall Meeting, December 12-16, 2016, San Francisco, CA, USA.
- Hatfield, R., Stoner, J., Reyes, A., Carlson, A., Beard, B., Winsor, K., **Reilly, B.**, Welke, B., Housen, B., Wheeler, B., (2016) Linking particle size specific measurements of terrestrial and marine sediments to understand the deglacial behavior of the southern Greenland Icesheet since MIS12, American Geophysical Union Fall Meeting, December 12-16, 2016, San Francisco, CA, USA.
- Meynadier, L., Savian, J., Selkin, P., **Reilly, B.**, Lantsch, H., Galy, A., France-Lanord, C., Spiess, V., Klaus, A., and the IODP Expedition 354 Scientific Party, (2016) Magnetic study of a recent levee in the Bengal Fan (8°N, IODP Site U1454), American Geophysical Union Fall Meeting, December 12-16, 2016, San Francisco, CA, USA.
- Glueder, A., Mix, A., Milne, G., Lecavalier, B., **Reilly, B.**, Clark, J., Holm, C., Padman, J., Ross, A., Southon, J., (2016) New constraints on relative sea-level change in Northern Greenland from marine bivalves; Implication for ice history and GIA models, American Geophysical Union Fall Meeting, December 12-16, 2016, San Francisco, CA, USA.
- Reilly, B.**, Stoner, J., Mix, A., Jakobsson, M., Jennings, A., Walczak, M., Dyke, L., Albert, S., and the OD1507 Shipboard Scientific Party, (2016), Holocene activity of Petermann Glacier: A marine sediment core perspective from Petermann Fjord, Northwest Greenland, PALSEA 2016 Meeting, September 19-21, 2016, Mount Hood, Oregon, USA.
- Weber, M., Dekens, P., **Reilly, B.**, Williams, T., Adhikari, S., Selkin, P., Lantsch, H., Meynadier, L., Savian, J., Das, S., Adhikari, R., Gyawali, B., Jia, G., Fox, L., Ge, J., Martos-Martin, Y., Manoj, M., Bahk, J., Yoshida, K., Ponton, C., Huyghe, P., Spiess, V., France-Lanord, C., and IODP Expedition 354 Scientists, (2016) Reconstructing the evolution of the Bengal Fan with the aid of physical and optical properties – IODP Expedition 354, Garman IODP Meeting, March, 2016.
- ****Reilly, B.**, Stoner, J., Wiest, J., Abbott, M., Francus, L., (2015) User friendly processing of sediment CT data: Software and application in high resolution non-destructive sediment core data sets (Invited), American Geophysical Union Fall Meeting, December 14-18, 2015, San Francisco, CA, USA.
- Reilly, B.**, Selkin, P., Meynadier, L., Savian, J., Weber, M., Spiess, V., Stoner, J., France-Lanord, C., Klaus, A., and the Expedition 354 Scientific Party, (2015) Paleomagnetic and environmental magnetic insights into the Middle to Late Pleistocene stratigraphy of the 8 degrees North Bengal Fan

- transect, IODP Expedition 354, American Geophysical Union Fall Meeting, December 14-18, 2015, San Francisco, CA, USA.
- Jennings, A., Bailey, E., Oliver, B., Andrews, J., Prins, M., Troelstra, S., Stoner, J., **Reilly, B.**, Davies-Walczak, M., Mix, A., (2015) Retreat of the coalescent Greenland and Innuitian Ice Sheets from Nares Strait, American Geophysical Union Fall Meeting, December 14-18, 2015, San Francisco, CA, USA.
- Sinclair, G., Carlson, A., **Reilly, B.**, (2015) Late-Holocene fluctuations of the Greenland Ice Sheet: Insights from a south Greenland threshold lake, American Geophysical Union Fall Meeting, December 14-18, 2015, San Francisco, CA, USA.
- Dekens, P., Weber, M., Lantzsch, H., Das, S., Williams, T., Adhikari, R., Gyawali, B., Jia, G., Fox, L., Ge, J., Manoj, M., Savian, J., **Reilly, B.**, Selkin, P., Meynadier, L., Klaus, A., Spiess, V., France-Lanord, C., and the Expedition 354 Scientific Party, (2015) Paleoceanographic history of the Lower Bengal Fan during the last glacial cycle, American Geophysical Union Fall Meeting, December 14-18, 2015, San Francisco, CA, USA.
- Stoner, J., Abbott, M., Zeigler, L., **Reilly, B.**, Finkenbinder, M., Hatfield, R., Konyndyk, D., Hillman, A., (2015) The Holocene history of the North American flux lobe: New constraints from Fish Lake, Harney County Oregon, American Geophysical Union Fall Meeting, December 14-18, 2015, San Francisco, CA, USA.
- Steen, D., Kaufman, D., Stoner, J., **Reilly, B.**, (2015) Paleointensity and environmental magnetism from Cascade Lake, Brooks Range, Arctic Alaska, American Geophysical Union Fall Meeting, December 14-18, 2015, San Francisco, CA, USA.
- Marchetti, D., Abbott, M., Bailey, C., Wenrich, E., Stoner, J., Larsen, D., Finkenbinder, M., Anderson, L., Brunelle, A., Carter, V., Power, M., Hatfield, R., **Reilly, B.**, Harris, M., Grimm, E., Donovan, J., (2015) Fish Lake, Utah – a promising long core site straddling the Great Basin to Colorado Plateau transition zone, American Geophysical Union Fall Meeting, December 14-18, 2015, San Francisco, CA, USA.
- Sinclair, G., Carlson, A., **Reilly, B.**, (2015) The Late Holocene behavior of the Southern Greenland Ice Sheet: Insights from threshold lake records, XIX INQUA Congress, July 2015, Nagoya, Japan.
- Stoner, J., **Reilly, B.**, Ziegler, L., Cook, T., Francus, P., Lapointe, F., Abbott, M., Balascio, N., Bradley, R., (2015) Holocene paleomagnetic secular variation: What relationships between mid and polar latitudes tell us about geomagnetic dynamics, Joint Assembly, May 3-7, 2015, Montreal, Canada.
- Reilly, B.**, Stoner, J., Hatfield, R., Ziegler, L., Abbott, M., Larsen, D., Hillman, A., (2014) A 33 kyr paleomagnetic secular variation record from Fish Lake, Utah, American Geophysical Union Fall Meeting, December 15-19, 2014, San Francisco, CA, USA.
- Stoner, J., Ziegler, L., **Reilly, B.**, Francus, P., Abbott, M., Cook, T., Bradley, R., (2014) Holocene paleomagnetic secular variation and paleointensity: Influence of high latitude flux lobes on the tangent cylinder, American Geophysical Union Fall Meeting, December 15-19, 2014, San Francisco, CA, USA.
- Ziegler, L., Stoner, J., Abbott, M., Finkenbinder, M., Hatfield, R., Konyndyk, D., **Reilly, B.**, Hillman, A., (2014) A Holocene paleomagnetic record from Fish Lake, Oregon, American Geophysical Union Fall Meeting, December 15-19, 2014, San Francisco, CA, USA.
- Winsor, K., Carlson, A., Welke, B., **Reilly, B.**, (2014) Southwestern Greenland ice-sheet retreat from the outer continental shelf by 18 ka, American Geophysical Union Fall Meeting, December 15-19, 2014, San Francisco, CA, USA.
- ***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.
- Reilly, B.**, Brachfeld S., Elking N., Yoo, K., Domack, E., Leventer, A., Lavoie, C., and Ishman, S., (2012) Magnetic and sedimentologic analysis of late Holocene sediment core, Barilari Bay, Antarctica, Montclair State University Sixth Annual Student Research Symposium, April 22, 2012, Montclair, NJ, USA.

FIELD EXPERIENCE

- Participant, **Petermann Gletscher, Greenland Cruise OD15-07 (Mix/Jakobsson)**
Nares Strait, July – September 2015
- Paleomagnetist, **IODP Expedition 354: Bengal Fan (France-Lanord/Spiess)**
Bay of Bengal, January – March, 2015
- Participant, **Southern Greenland lake coring and cosmogenic dating (Sinclair/Carlson)**
South Greenland, August – September 2014
- Participant, **Squaw Lake coring (Morey-Ross)**
Jackson County, Oregon, June 2014
- Multi-sensor core logger, **Beaufort Sea and Amundsen Gulf Cruise HLY13-02 (Keigwin/Driscoll)**
Beaufort Sea, August – September 2013
- Participant, **Fish Lake coring (Stoner/Abbott)**
Steens Mountain, Oregon, August 2013
- MGG team, **LARSEN Ice Shelf System Antarctica (LARISSA) Cruise NBP12-03 (Vernet/Huber)**
Eastern Antarctic Peninsula, March – April 2012

ACTIVITIES

- Coalition for Graduate Employee Stewart for the College of Earth, Ocean, and Atmospheric Sciences**
Stewart 2016/2017 Academic Year
- Committee to establish a National Repository for Geologic Samples Collected from Polar Regions**
Graduate Student Representative, 2016
- Quaternary Tea Seminar and Discussion Series**, Oregon State University
Participant 2013-
Organizer 2015/2016 Academic Year
- Paleomagnetic and Environmental Magnetic Reading Group**, Oregon State University
Participant 2013-
- Undergraduate Mentees**, Oregon State University
Chong Seok Choi, 2014-2015
Sam Albert, 2016-
Jordan Morris (REU), 2016
- MU Craft Center**, Oregon State University
Member 2014-
- Conference Session Chair**

“Reconstructing the Secular Variation of the Earth’s Magnetic Field: Recent Methodological Advances and New Paleomagnetic and Archaeomagnetic Data III Posters,” American Geophysical Union Fall Meeting, December 14-18, 2015, San Francisco, CA, USA.

Guest Lectures

GEO460: Geological Oceanography 2015-2016: *Deep Sea Fans*

OC331: Introduction to Oceanography 2014: *Plate Tectonics; Ocean Basins; Ocean Sediments; Paleoceanography; Paleoseismology*

University Seminars

“Assessing the Holocene (In)stability of Petermann Glacier,” **Geology and Geophysics Day**, Oregon State University, April 29, 2016.

“Tracking magnetic mineral assemblages on the West Antarctic Peninsula: Implications for Holocene ice-ocean interactions,” **Quaternary Tea**, Oregon State University, February 19, 2016.

“Sediment Magnetism and CT scans: A check-up for paleomagnetic well-being,” **CEOAS Student Seminar Series**, Oregon State University, November, 7, 2014.

“Field work in the Antarctic,” **Earth and Environmental Studies Club**, Montclair State University, April 17, 2013.

“Day plot and hysteresis ratio mixing: Application for paleo-climate interpretation of Antarctic marine sediment cores”, **Physics Club**, Montclair State University, December 5, 2012.

OUTREACH ACTIVITIES SINCE 2013

DaVinci Days, Corvallis Fair Grounds, OR

2016 – Earth history from Sediment Cores: Paleoceanography, Paleoseismology, Paleomagnetism, and Paleoglaciology

CEOAS at the Corvallis Farmers Market, Downtown Corvallis, OR

2016 – Marine Geology Extravaganza

2016 – Paleoclimates: Glacial Geology, Ice Cores, and Sediment Cores

Super Science Saturday Adult Presenter, Ridgewood Public School K-12 Science Fair, NJ

2016 – Geology tells the secrets of the Greenland Ice Sheet

2015 – Ocean Drilling and earth history: Live broadcast from the Indian Ocean

2013 – Sediment cores: Investigating the history of the Earth

Science Competitions Volunteer

2016 – National Ocean Sciences Salmon Bowl (Judge)

2015 – Oregon Regional MATE ROV Competition (Judge)

2013 – National Ocean Sciences Salmon Bowl (Volunteer)

Additional Outreach Presentations for Non-expert Audiences

“Himalayan Tectonics and Climate, International Ocean Discovery Program (IODP) Expedition 354: Earth History Archived in Marine Sediments,” **ARCS Portland Chapter: Advancing Science in America**, November 2, 2015, Portland, OR, USA.

“Ocean Drilling, Earth History, and Telling Time,” **Apprenticeships in Science and Engineering (ASE) Midsummer Conference**, July 14, 2015, Corvallis, OR, USA.

“Live broadcasts from the JOIDES Resolution,” **International High School and College Classrooms**, February – March, 2015.

“Careers in the sciences: Climate research in the Antarctic,” **Belleville High School**, June 7, 2013, Belleville, NJ, USA.

SELECT PROFESSIONAL EXPERIENCE

2008 – 2010 AmeriCorps National Civilian Community Corps (NCCC) Pacific Region Team Leader

Coalition to Restore Coastal Louisiana, *Houma, LA*
 NCCC Summer of Service, *Sacramento, CA*
 Keep the Hawaiian Islands Beautiful, *Maui, HI*
 Louisiana Recovery School District, *New Orleans, LA*
 Habitat for Humanity, *Thibodaux and Lafayette, LA*
 American Red Cross Disaster Relief, *American Samoa*
 Feather River Fire Management USFS, *Plumas National Forest, CA*
 Atwell Island Restoration Project BLM, *Alpaugh, CA*
 St. Bernard Project, *Chalmette, LA*

2007 **Copper River Watershed Project (CRWP) Alaska Conservation Foundation Intern**
Cordova, AK

AWARDS

- 2013-6** ARCS Foundation Scholar, Portland Chapter
- 2016** Geological Society of America Graduate Student Research Grant: *“Assessing the Holocene (In)stability of Petermann Glacier”*
- 2015** US Science Support Program Post-Expedition Award: *“Mid to Late Pleistocene Stratigraphy of the 8° North Bengal Fan Transect: Chronology and Characterization of Pleistocene Hemipelagic Layers and the Over/Underlying Turbidites”*
- 2013** Laurels Fellowship, Oregon State University
- 2013** Arctic Service Medal
- 2013** College of Science and Mathematics Award of Excellence, The Graduating Masters Research Award, Montclair State University
- 2013** The Outstanding M.S. Student in Geosciences Award, Montclair State University
- 2012** Antarctic Service Medal
- 2010** Presidential Call to Service Award

TRAININGS

- 2016** Course Design and Methods for College and University Teaching
- 2015** The Inclusive Classroom: Diversity, Power, and Discrimination
- 2015** Bearwise Polar Bear Safety, Arctic Field Training
- 2014** Theories of Teaching and Learning in Higher Education
- 2008** NCCC Leadership Training (Supervisory Skills, Service Learning, Diversity in Service, Conflict Management and Effective Communication)