

Benjamin A. Keisling

Postdoctoral Research Scientist

Curriculum Vitae

January 2020

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Research Interests

- ice-sheet stability, ice-sheet mass balance, climate and ice-sheet models, ice-ocean interactions, climatic thresholds, Pliocene-Pleistocene transition, mechanisms underlying Pleistocene glacial/interglacial diversity

Teaching Interests

- glaciology, glacial geology, paleoclimatology, physical oceanography, climatology, paleoceanography

Appointments

Palisades, NY	Postdoctoral Fellow	Lamont-Doherty Earth Observatory
	Jan. 2020 - present	

Education

Amherst, MA	Ph.D. Geosciences	University of Massachusetts Amherst
	Sept. 2015 - Oct. 2019, conferral date 02/01/2020	
Copenhagen, DK	Visiting Fellow, Centre of Ice and Climate	Niels Bohr Institute, University of Copenhagen
	Aug. 2016 - June 2017	
Amherst, MA	M.Sc. Geosciences	University of Massachusetts Amherst
	Sept. 2013 - May 2015	
Northfield, MN	B.A. Physics	Saint Olaf College
	Sept. 2009 - May 2013	

Fellowships, Grants and Awards

2020-2022	Lamont-Doherty Postdoctoral Fellowship
2018	IODP Post Expedition Award
2018	UMass Professional Development Grant
2018	NSF IGS Travel Scholarship
2018	UMass Campus Climate Improvement Grant
2017	PAGES Young Scientist Meeting Poster Prize
2016-2017	NSF GROW Fellowship
2015	Geological Society of America Graduate Student Research Grant
2014-2019	NSF Graduate Research Fellowship
2014-2016, 2018	UMass Geosciences Hartshorn Award
2012	Barry M. Goldwater Scholarship

Publications

Refereed journal papers

1. Christianson, K, BR Parizek, RB Alley, HJ Horgan, RW Jacobel, S Anandakrishnan, BA Keisling, BD Craig, and A Muto (2013). Ice Sheet Grounding Zone Stabilization Due to till Compaction. en. *Geophysical Research Letters* **40**(20), 5406-5411.
2. Christianson, K, LE Peters, RB Alley, S Anandakrishnan, RW Jacobel, KL Riverman, A Muto, and BA Keisling (2014). Dilatant till Facilitates Ice-Stream Flow in Northeast Greenland. en. *Earth and Planetary Science Letters* **401**, 57-69.
3. Keisling, BA, K Christianson, RB Alley, LE Peters, JE Christian, S Anandakrishnan, KL Riverman, A Muto, and RW Jacobel (2014). Basal Conditions and Ice Dynamics Inferred from Radar-Derived Internal Stratigraphy of the Northeast Greenland Ice Stream. en. *Annals of Glaciology* **55**(67), 127-137.
4. Vallenga, P et al. (2014). Initial Results from Geophysical Surveys and Shallow Coring of the Northeast Greenland Ice Stream (NEGIS). en. *The Cryosphere* **8**(4), 1275-1287.

5. Keisling, BA, IS Castañeda, and J Brigham-Grette (2017). Hydrological and Temperature Change in Arctic Siberia during the Intensification of Northern Hemisphere Glaciation. en. *Earth and Planetary Science Letters* **457**, 136–148.
6. Buizert, C, BA Keisling, JE Box, F He, AE Carlson, G Sinclair, and RM DeConto (2018). Greenland-Wide Seasonal Temperatures During the Last Deglaciation. en. *Geophysical Research Letters* **45**(4), 1905–1914.
7. McKay, RM, LD Santis, and DK Kulhanek (2018). International Ocean Discovery Program Expedition 374 Preliminary Report. en, 63.
8. Miller, DR, MH Habicht, BA Keisling, IS Castañeda, and RS Bradley (2018). A 900-Year New England Temperature Reconstruction from in Situ Seasonally Produced Branched Glycerol Dialkyl Glycerol Tetraethers (brGDGTs). en. *Climate of the Past* **14**(11), 1653–1667.
9. McKay, RM, LD Santis, DK Kulhanek, et al. (2019). Expedition 374 Summary. en. **374**, 41.
10. Keisling, BA, C Buizert, G Sinclair, AE Carlson, and RM DeConto (in prep.). Role of Seasonality in Timing of Deglaciation around Greenland.
11. Keisling, BA, MH Habicht, IS Castañeda, J Brigham-Grette, and RM DeConto (in prep.). Modelling Constraints on Stability of the Greenland Ice Sheet over the Last 800,000 Years.
12. Keisling, BA, LT Nielsen, CS Hvidberg, R Nuterman, and RM DeConto (in review). Plio-Pleistocene Megafloods as a Mechanism for Greenlandic Megacanyon Formation. *Geology*.

Invited Guest Lectures

Nov 2019	UTIG Seminar Austin, TX host: Sean Gulick
Oct 2019	USF CMS Seminar St. Petersburg, FL host: Imogen Browne and Amelia Shevenell
Feb 2019	Invited Seminar James Madison University host: Kristen St. John
Nov 2018	Marine Geology and Geophysics Lecture Lamont Doherty Earth Observatory host: Laura Stevens
Sep 2018	Geological Sciences Seminar Binghamton University host: Molly Patterson
Sep 2018	MagellanPlus Workshop Copenhagen host: Paul Knutz
Apr 2018	BISEPPS Seminar Harvard University host: Tamara Pico
Mar 2018	ARC Invited Seminar Antarctic Research Center, Victoria University of Wellington host: Robert McKay
Oct 2017	Climate & Environment Lecture Series Brown University host: Rachel Lupien
Oct 2017	Global Climate Change Course Smith College host: Ambarish Karmalkar
Sep 2017	International Quaternary Webinar University of Massachusetts – Amherst host: Raymond Bradley
Apr 2017	CIC Seminar University of Copenhagen host: Emilie Capron
Mar 2017	Invited Seminar University of Aarhus host: Nicolaj Larsen
Feb 2017	Invited Seminar Natural History Museum, Copenhagen, DK host: Kristian Kjeldsen

Teaching

2015	Instructor of Record, CNS 191, Adapting to a Dynamic Environment UMass Amherst
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Fieldwork

- 2018 **(8 weeks) Shipboard Sedimentologist, International Ocean Discovery Program (IODP) Expedition 374**
Ross Sea, West Antarctica
- 2017 **(3 weeks) Member of field team at EGRIP ice core drill site in NE Greenland**
EGRIP, Northeast Greenland
- 2014-2019 **Limnogeology research at Basin Pond**
Basin Pond, ME
- 2012 **Glaciology research at Engabreen Glacier, Arctic Norway**
Svartisen Subglacial Laboratory

Summer Schools / Courses

- 2019 **Advanced Climate Dynamics Course**
Yosemite, CA
- 2016 **Ice Core Analysis Techniques**
Copenhagen, DK
- 2016 **International Glaciology Summer School**
McCarthy, AK
- 2016 **Expert Witness Training Academy**
Minneapolis, MN
- 2014 **USSSP**
Urbino, IT

Pending Collaborative Grants/Proposals

- 2019 **Collaborator, Greendrift Project**
Submitted to NSF, PIs: Schaefer, Briner, DeConto, Anandakrishnan
- 2018 **Proponent**
IODP Proposal 814_Full_2 to drill Eirik Drift and Davis Strait in 2022
- 2018 **Proponent**
IODP Proposal 909_Full_2 to drill Melville Bugt and Baffin Bay in 2022
- not funded, 2018 **Lead PI: Tina Van de Flierdt**
Named Collaborator, RAFTS Proposal submitted to NERC (UK)
- funded, 2018 **Lead PI: Florence Colleoni**
Named Collaborator, ANTIPODES Proposal submitted to PNRA (IT)

Outreach and Service

2019-2021	Member, Diversity and Inclusion Advisory Committee	American Geophysical Union
2019	Conference Session Chair ➤ Education Session: The Next Generation of Geoscience Leaders	AGU Fall Meeting
2019	Conference Session Co-Convenor ➤ Union Session: Towards a Century of Diversity, Inclusion, and Equity in the Geosciences	AGU Fall Meeting
2019	Town Hall Organizer ➤ 100 Years of LGBTQ+ Geoscientists: Contributions, Barriers to Participation, and Ways Forward	AGU Fall Meeting
2019	Panelist ➤ Diversity and Inclusion in the Earth and Space Sciences: Leading Policies and Practices—A View from the AGU Diversity and Inclusion Advisory Committee	AGU Fall Meeting
2018	Conference Session Co-Convenor ➤ Education Session: Aiming for Truly Diverse Diversity to Strengthen the Geoscience Community (2 oral sessions) ➤ Paleoclimatology & Paleoceanography Session: Looking Back, You Know it's Hot: Climate Reconstructions from the Mesozoic and Cenozoic (2 oral sessions) ➤ Workshop Organizer, "Advancing Diversity and Inclusion to Strengthen the Geoscience Community"	AGU Fall Meeting
2018, 2019	Scouts BSA University ➤ Led scouts through multiple oceanography- and geology-focused activities to qualify for merit badges over two weekends.	UMass Amherst Geosciences
2018-2019	gAyGU Coordinator and Organizer	AGU Fall Meeting
2018-2019	Member, Bromery Committee	UMass Amherst Geosciences
2017-2019	Founding Coordinator, BRIDGE ➤ The BRIDGE Program is a graduate student-led initiative to highlight early career speakers from underrepresented backgrounds coming to campus as part of a departmental lecture series. As a founding coordinator, I conceived and organized the first year of BRIDGE. ➤ CNS Communications Story: https://www.cns.umass.edu/news-events/news/pushing-conversation-forward	UMass Amherst
2016-2017	Coordinator, Guest Lecture Series	UMass Amherst Geosciences
2015	Eureka! Volunteer ➤ Participated in a forensic geoscience activity for high-school girls from Holyoke, MA. ➤ Reference: Isla Castañeda, isla@geo.umass.edu	UMass Amherst
2015	STEM Starter Academy ➤ Introduced a group of 8 Holyoke Community College students to the Geosciences program at UMass through an interactive presentation and sediment description activity. ➤ Reference: Charlane Simmons, charlanas@cns.umass.edu	UMass Amherst
2014-2016	Workshop Leader ➤ Independently led two to three workshops per semester on the topic of "How to Choose a Major" for first-year students. ➤ Reference: Erin Battistoni, ebattistoni@cns.umass.edu	College of Natural Sciences, UMass Amherst
2014-2016	STEM Ambassadors Training Program Team Coach ➤ Directly mentored four first-year undergraduates from underrepresented groups during biweekly discussion meetings that focused on recent science results and societal implications of sea level rise. ➤ Reference: Meghan Gerson, mtgerson@cns.umass.edu	UMass Amherst
2013, 2014, 2015	Lake El'gygytyn Summer Teacher Training Program ➤ Assisted with a week-long intensive program for middle- and high-school teachers. Led field excursions and facilitated discussions with the goal of bringing cutting-edge geoscience research into public school classrooms with hands-on, discovery-based activities. ➤ Reference: Julie Brigham-Grette, juliebg@geo.umass.edu	UMass Amherst Geosciences

Presentations

Talks

Oct 2019	Animating Ice Sheets (public talk) Extreme Climate Workshops, Burlington, VT	Keisling BA
Aug 2019	Using Geochemical Data to Constrain the Climatic and Ice-Cover History of Greenland MH, Castañeda IS, Brigham-Grette J, DeConto RM Goldschmidt, Barcelona, SP	Keisling BA, Habicht
Mar 2019	Modelling the stability of the Greenland ice sheet National Organization of Gay and Lesbian Scientists and Technical Professionals, Los Angeles, CA	Keisling BA, DeConto RM
Dec 2018	Comparing Measured and Simulated Exposure Histories of Central Greenland during the Pleistocene using Northern Hemisphere Proxy Records AGU Fall Meeting, Washington DC	Keisling BA, Habicht MH, Castañeda IS, Brigham-Grette J, DeConto RM
Dec 2018	BRIDGE: a student-led effort to increase the diversity of speakers invited to campus Garcia Arredondo M, Keisling BA AGU Fall Meeting, Washington DC	Golden NG, Bryant RM,
Jun 2018	Assessing the Pleistocene stability and behavior of the Greenland Ice Sheet using proxy records from Lake El'gygytyn, Arctic Russia IGS Symposium, Buffalo, NY	Keisling BA, Habicht MH, Castañeda IS, Brigham-Grette J, DeConto RM
Dec 2017	Graduate student driven efforts to increase diversity of department lecture series AGU Fall Meeting, New Orleans, LA	Bryant R, & Keisling BA
Dec 2017	Disentangling the Roles of Atmospheric and Oceanic Forcing on the Last Deglaciation of the Greenland Ice Sheet AGU Fall Meeting, New Orleans, LA	Keisling BA, DeConto RM
Nov 2017	Climatic controls on the persistence and initiation of the Greenland ice sheet during the Pleistocene Keisling BA, Nielsen LT, Hvidberg CS, DeConto RM PALSEA2 Workshop, Cancún, Mexico	
Sep 2017	Climatic controls on the persistence and initiation of the Greenland ice sheet during the Pleistocene Keisling BA, Nielsen LT, Hvidberg CS, DeConto RM Greenland Stability Workshop, Buffalo, NY	
May 2017	Reconstructing Greenland ice sheet dynamics during the last deglaciation PAGES OSM, Zaragoza, Spain	Keisling BA, DeConto RM
May 2015	Examining the Past Dynamics of the Northeast Greenland Ice Stream (NEGIS) Through Radar Internal Stratigraphy New England Glaciology Meeting, WHOI	Keisling BA
Mar 2014	Reconstructing Late Pliocene Environmental Change at Lake El'gygytyn, Arctic Northeast Russia BA, Castañeda IS, Brigham-Grette J, de Wet GA, Habicht MH, Salacup J Northeast GSA, Lancaster, PA	Keisling
Mar 2013	Examining the Past Dynamics of the Northeast Greenland Ice Stream through Radar Stratigraphy BA, Christianson KA, Jacobel R, Anandkrishnan S, Peters L & Alley, RB Arctic Workshop, Amherst, MA	Keisling

Posters

- Oct 2019 **Using Geochemical Data to Constrain the Climatic and Ice-Cover History of Greenland** Keisling BA, Habicht MH, Castañeda IS, Brigham-Grette J, DeConto RM
Greenland's Oldest Ice and Sediment Workshop, Burlington, VT
- Mar 2019 **Modelling the stability of the Greenland ice sheet** Keisling BA, DeConto RM
National Organization of Gay and Lesbian Scientists and Technical Professionals, Los Angeles, CA
- May 2017 **Reconstructing Greenland ice sheet dynamics during the last deglaciation** Keisling BA, DeConto RM
PAGES YSM, Zaragoza, Spain
➤ YSM Poster Prize, 100EUR
- Mar 2017 **Modelling the Pleistocene Initiation and Persistence of the Greenland Ice Sheet** Keisling BA, Nielsen LT, Hvidberg CS, DeConto RM
ice2ice Annual Meeting, Myrkedalen, NO
- Jun 2016 **Reconstructing Greenland ice sheet dynamics during the last deglaciation** Keisling BA, DeConto RM
ISSM Workshop, La Jolla, CA
- Apr 2016 **Reconstructing Greenland ice sheet dynamics during the last deglaciation.** Keisling BA, DeConto RM
EGU, Vienna, AU
- Dec 2015 **Organic Geochemical Reconstructions from Lake El'gygytgyn, Northeast Arctic Siberia, Constrain Arctic Temperature and Hydrologic Change Across the Pliocene-Pleistocene Transition** Keisling BA, Castañeda IS, Brigham-Grette J
AGU Fall Meeting, San Francisco, CA
- Oct 2014 **Towards a Comprehensive Understanding of the Plio-Pleistocene Transition in the Arctic: Reconstructing Lake Surface Temperatures at Lake El'gygytgyn, Arctic Northeast Russia** Keisling BA, Castañeda IS, Brigham-Grette J, de Wet GA, Habicht MH, Salacup J
Graduate Climate Conference, Pack Forest, WA
- Jul 2014 **Towards a Comprehensive Understanding of the Plio-Pleistocene Transition in the Arctic: Reconstructing Lake Surface Temperatures at Lake El'gygytgyn, Arctic Northeast Russia** Keisling BA, Castañeda IS, Brigham-Grette J, de Wet GA, Habicht MH, Salacup J
Gordon Research Seminar and Conference on Organic Geochemistry, Holderness, NH
- Apr 2014 **Late Pliocene Lake Temperatures at Lake El'gygytgyn, Arctic Northeast Russia** Keisling BA, Castañeda IS, Brigham-Grette J, de Wet GA, Habicht MH, Salacup J
GDGT2014 Workshop, Texel, NL
- Dec 2013 **Basal conditions and ice dynamics inferred from radar-derived internal stratigraphy of the Northeast Greenland Ice Stream** Keisling BA, Christianson KA, Jacobel R, Anandakrishnan S, Peters L, Alley RB
AGU Fall Meeting, San Francisco, CA
- Jul 2012 **Variability in Basal Reflectivity Across the Grounding Zone of Whillans Ice Stream from Ice Penetrating Radar** Keisling BA, Christianson KA, Horgan H, Jacobel R, Anandakrishnan S, Peters L
SCAR Conference, Portland, OR