

**Kiya L. Riverman**  
Curriculum Vitae – March 2020

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## EDUCATION

Ph.D Penn State University, Geosciences, 2017  
B.S. Oregon State University, Earth Systems Sciences, 2011

## RESEARCH APPOINTMENTS

2017-20 Postdoctoral Fellowship, University of Oregon  
2013-17 NSF Graduate Research Fellow, Penn State

## PUBLICATIONS (citations: 250, h-index 6)

- 2019 **Riverman, K.**, Alley, R., Anandakrishnan, S., Muto, A., Christianson, K., Dow, C. Shear margin moraines under an actively flowing ice stream. *Annals of Glaciology*.
- 2019 **Riverman, K.**, Alley, R., Anandakrishnan, S., Christianson, K., Holschuh, N., Medley, B., Peters, L. Enhanced firn densification stabilizes NE Greenland ice stream shear-margin positions. *Journal of Geophysical Research: Earth Surface*.
- 2016 Muto, A., Peters, L., Gohl, K., Sasgen, I., Alley, R., Anandakrishnan, S., **Riverman, K.** Improved subglacial bathymetry and sediment distribution beneath Pine Island Glacier ice shelf modeled using aerogravity and in situ geophysical data. *Earth and Planetary Science Letters*, 433, 63-75
- 2014 Keisling, B. A., Christianson, K., Peters, L. E., Alley, R. B., Christian, J. E. M., Anandakrishnan, S., **Riverman, K. L.**, Muto, A., Jacobel, R. W. Basal conditions and ice dynamics inferred from radar-derived internal stratigraphy of the Northeast Greenland Ice Stream. *Annals of Glaciology*. V 55, n 67.
- Valelonga, P., Christianson, K., Alley, R. B., Anandakrishnan, S., Christian, J. E. M., Dahl-Jensen, D., Gkinis, V., Holme, C., Jacobel, R., Karlsson, N., Keisling, B. A., Kipfstuhl, S., Kjaer, H. A., Kristensen, M. E., Muto, A., Peters, L., Popp, T., **Riverman, K.**, Svensson, A. M., Tibuleac, C., Vinther, B. M., Weng, Y., Winstrup, M. Initial results from geophysical surveys and shallow coring of the Northeast Greenland Ice Stream (NEGIS). *The Cryosphere*, V 8.
- Christianson, K., Alley, R., Anandakrishnan, S., Peters, L., Jacobel, R., **Riverman, K.**, Muto, A. 2014. Dilatant till facilitates ice-stream flow in northeast Greenland. *Earth and Planetary Science Letters*, V 401.
- 2013 Stanton, T., Shaw, W., Truffer, M., Corr, H., Peters, L., **Riverman, K.**, Bindschadler, R., Holland, D., Anandakrishnan, S. Channelized ice melting in the ocean boundary layer beneath Pine Island Glacier, Antarctica. *Science*. V 341, 6151.

- 2012 Walker, R. T., Parizek, B. R., Alley, R. A., Anandakrishnan, S., **Riverman, K. L.**, Christianson, K. Ice-shelf tidal flexure and subglacial pressure variations. *Earth and Planetary Science Letters*, V 391.

### **In Prep**

**Riverman, K.**, Sutherland, D., Obermeyer, R., Gonzalez, B., Moffat, C. Oceanic and atmospheric control on glacier change along the west Antarctic Peninsula. *Nature Geoscience*.

**Riverman, K.**, Alley, R., Anandakrishnan, S., Stevens N. Waterfalls inside of glaciers: knickpoint migration and bed erosion in crevasse-free regions of glaciers. *Hydrology and Earth Systems Science*.

### **TEACHING APPOINTMENTS**

- 2014-19 Faculty, Juneau Icefield Research Program: Geophysics  
2018-19 Instructor, University of Oregon: Geology of the National Parks  
2018 Instructor, University of Oregon: Geoscience Field Camp  
2016-17 Guest Faculty, University Center on Svalbard: Glacial Hydrology and Modeling  
2016 Instructor, Penn State: Geology of the National Parks

### **INVITED TALKS**

- 2019 International Union of Geodesy and Geophysics, “Complex geometry of the Thwaites glacier grounding zone”  
2019 International Thwaites Glacier Collaboration Early Career Meeting, Keynote “Subglacial geology of Thwaites glacier”  
2018 Scripps Institute of Oceanography, “Glacier response to oceanic and atmospheric forcing along the west Antarctic Peninsula”  
2018 UC Santa Cruz, “Why is there an ice stream in the middle of Greenland?: Surface and subglacial controls on ice flow in the NE Greenland Ice Stream”  
2017 University of Oregon, “Glacier response to ocean forcing: case studies from NE Greenland and the Antarctic Peninsula”  
2016 Juniata College, “Slip-sliding into the ocean: stability of the Greenland ice sheet”  
2016 Norwegian Polar Institute, “Stability of the North East Greenland Ice Stream from geophysical techniques and remote sensing”  
2015 AGU Fall Meeting, “Flow dynamics of the NE Greenland Ice Stream”  
2014 Oregon State University, “Stress-dependent firn densification rates on NE Greenland Ice Stream and Taku Glacier, Alaska”

### **SELECT FIRST-AUTHOR CONFERENCE ABSTRACTS (2016-19)**

- 2019 Riverman, K., Anandakrishnan, S., Alley, R., Parizek, B., Christianson, K., Holschuh, N., Dow, C., Peters, L. Wet subglacial landforms of the NE Greenland Ice Stream shear margins and interior. International Glaciological Society Meeting on Subglacial Erosion.
- 2018 Riverman, K., Sutherland, D., Obermeyer, R., Gonzalez, B., Moffat, C., Dinniman, M., Klinck, J., Grounding zone depth modulates oceanic control on glacier terminus retreat along the west Antarctic Peninsula. AGU Fall Meeting.

- 2018 Riverman, K., Sutherland, D., Obermeyer, R., Gonzalez, B., Moffat, C., Meyer, C., Environmental controls on glacier tongue stability in the west Antarctic Peninsula. West Antarctic Ice Sheet Workshop.
- 2018 Riverman, K., Sutherland, D., Obermeyer, R., Dinniman, M., Klinck, J., Gonzalez, B., Moffat, C., Surface melt and ocean temperature control on Antarctic tidewater glaciers: implications for sea-level rise contributions from the west Antarctic Peninsula. Antarctic Surface Hydrology Workshop.
- 2017 Riverman, K., Sutherland, D., Obermeyer, R., Klinck, J., Dinniman, M., Moffat, C., Gonzalez, B., Carroll, D. Dipping their toes in the water: ocean controls on glacier terminus and ice shelf dynamics along the West Antarctic Peninsula. AGU Ocean Sciences Meeting.
- 2017 Riverman, K., Alley, R., Anandakrishnan, S., Christianson, K., Holschuh, N., Muto, A., Peters, L., Parizek, B. Wet landforms in ice stream shear margins. West Antarctic Ice Sheet Workshop.
- 2016 Riverman, K., Alley, R., Anandakrishnan, S., Christianson, K., Holschuh, N., Medley, B., Peters, L. Hydrologically controlled margins of the NE Greenland Ice Stream. AGU Fall Meeting.
- 2016 Riverman, K., Alley, R., Anandakrishnan, S., Christianson, K., Medley, B., Peters, L. Stability of the NE Greenland Ice Stream from Geophysical Techniques and Remote Sensing. Program for Arctic Regional Assessment Workshop.

#### **FELLOWSHIPS, GRANTS, AND AWARDS**

- 2013-17 NSF Graduate Research Fellowship
- 2016 Center for Remote Sensing of Ice Sheets: Student Mentorship Award
- 2016 Hess Corporation Exploration & Production Technology Scholarship
- 2015 PSU Scholten-Williams-Wright Fellowship
- 2014 PSU Hiroshi and Koya Ohmoto Graduate Fellowship in Geosciences
- 2014 PSU Richard R. Parizek Graduate Fellowship
- 2013 Department of Defense National Defense Science and Engineering Graduate Fellowship
- 2013 National Defense Science and Engineering Graduate Fellowship
- 2013 PSU Graduate Colloquium: Best Talk, PhD pre-comps level

#### **SERVICE**

- 2018-20 Scheduling Committee, American Geophysical Union Fall Meeting
- 2016-20 Academic Council, Juneau Icefield Research Program
- 2018-19 AGU Fall Meeting session convener
- 2014-18 Early Career Representative, American Geophysical Union Cryosphere Executive Committee
- 2014-17 Board Member, AGU EOS Publication
- 2013-15 PSU Departmental Colloquium Committee Chair

Reviewer for the Journal of Glaciology, Hydrology and Earth Systems Sciences, Journal of Geophysical Research and various NSF Panels

#### **FIELD EXPERIENCE** \*= Field leader

- 2020 \*Thwaites Glacier, Antarctica, 10wks, active seismics, tiltmeters, gps, hot water drilling

2019 Mendenhall Glacier, Alaska, 1wk, ice penetrating radar  
2018 \*Thwaites Glacier, Antarctica, 6wks, active seismics  
2018 \*Lemon Creek Glacier, Alaska, 2wks, surface hydrology, GPS  
2017 \*Llewellyn Glacier, Alaska, 2wks, surface hydrology- temperature, stream geometry, GPS  
2017 \*Svalbard, 3wks, glacio-speleology cave mapping, ice penetrating radar, GPS  
2016 \*Taku Glacier, Alaska, 2wks, gravimetry, GPS  
2016 \*Svalbard, 3wks, glacio-speleology cave mapping, ice penetrating radar  
2015 \*Taku Glacier, Alaska, 8wks, active seismics, mass-balance, GPS  
2015 \*WAIS Divide Antarctica, 4 wks, active seismics, passive seismics, ice penetrating radar, GPS  
2014 \*SE Alaska, 7wks, active seismics, ice coring, mass-balance  
2014 \*Svalbard, 7wks, glacio-speleology cave mapping, ice penetrating radar  
2013 Pine Island Glacier, Antarctica, 3mo, ice penetrating radar, active seismics, GPS  
2012 Central Greenland, 6wks, ice penetrating radar, active seismics, passive seismics, GPS  
2010 Svalbard, 6mo, glacio-speleology cave mapping, ice penetrating radar, GPS