

Kiya L. Riverman
née K. Wilson
Curriculum Vitae – November 2018

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APPOINTMENTS

2017-present Postdoctoral Scholar, University of Oregon
2013-2017 NSF Graduate Research Fellowship
2011-2013 Research Assistant, Penn State University
2010 Geoscience Public Policy Intern, American Geological Institute

EDUCATION

Penn State University Geosciences Ph.D. 2017
Oregon State University Earth Systems Science *summa cum laude* h.B.S. 2011

TEACHING APPOINTMENTS

2018 Instructor, University of Oregon: Geology of the National Parks; Field Camp
2014-present Faculty, Juneau Icefield Research Program: Arctic Geophysics
2016-present Guest Faculty, University Center on Svalbard: Glaciology
2016 Instructor, PSU: Geology of the National Parks
2013 Teaching Assistant, PSU: Geology of Climate Change

PUBLICATIONS (citations since 2013: 176, h-index 6)

Peer-reviewed Journal Articles

- 2018 **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. Accepted, *Journal of Geophysical Research: Earth Surface*.
- Riverman, K.**, Alley, R., Anandakrishnan, S., Stevens N. Waterfalls inside of glaciers: knickpoint migration and bed erosion in crevasse-free regions of glaciers. Submitted, *Geology*.
- 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*.

Theses and other articles

- 2017 **Riverman, K.** Flow dynamics of the NE Greenland Ice Stream with hydrologic insights from englacial exploration of Larsbreen, Svalbard. Ph.D. Dissertation, Penn State University. Advisors: R. Alley, S. Anandakrishnan.
- 2011 **Wilson, K. L.** Using an array of NE Pacific margin sediment samples to link glacial-interglacial climate variability. Oregon State University Honors Bachelor of Science Thesis. Advisors: N. Piasias, R. Duncan
- 2010 **Wilson, K. L.** Unable to Break the Ice: US Arctic Policy and the Law of the Sea. *The Professional Geologist*.

Select Recent First-Author Conference Abstracts (=invited)**

- 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.
- 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.
- 2015 **Riverman, K.**, Anandakrishnan, S., Alley, R., Christianson, K., Peters, L., Muto, A. Firm corrections for geophysical studies: new methods, parameters, and prospective. West Antarctic Ice Sheet Workshop.
- 2015 **Riverman, K.**, Alley, R., Stevens, N., Slingerland, R. Englacial channel knickpoint formation and migration from direct observations and modeling. International Glaciological Society Symposium on the Hydrology of Ice Sheets.
- 2014 **Riverman, K.**, Alley, R., Stevens, N., Winter, P. En- and Sub-Glacial channels: patterns, migration, and bed erosion. Subglacial Hydrology Workshop, Lamont-Doherty Earth Observatory.

INVITED TALKS

- 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"

AWARDS AND HONORS

- 2016 Center for Remote Sensing of Ice Sheets: Student Mentorship Award
- 2013 PSU Graduate Colloquium: Best Talk, PhD pre-comps level
- 2010,11 OSU Undergraduate Student Excellence in Earth Science

GRANTS AND FELLOWSHIPS

- 2011-17 PSU Krynine Award
- 2013-16 NSF Graduate Research Fellowship
- 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

SERVICE

- 2018 Scheduling Committee, American Geophysical Union Fall Meeting
- 2014-18 Early Career Representative, American Geophysical Union Cryosphere Executive Committee
- 2014-18 Board Member, AGU EOS Website
- 2012-16 Web Developer, Penn State Ice and Climate Exploration
- 2013-15 PSU Departmental Colloquium Committee Chair

FIELD EXPERIENCE (94 wks since 2010)

*= Field Leader

- 2018 *(upcoming) Thwaites Glacier, Anatarctica, 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

REFERENCES

Richard Alley
 Evan Pugh Professor of Geosciences
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Sridhar Anandakrishnan
 Professor of Geosciences
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David Sutherland

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