

**Kiya L. Riverman**  
*formerly Kiya L. Wilson*  
Curriculum Vitae – September 2017

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## EDUCATION

<i>Oregon State University</i>	Earth Systems Science	<i>summa cum laude</i> h.B.S. 2011
<i>Penn State University</i>	Geosciences	PhD 2017

Dissertation: Flow Dynamics of the NE Greenland Ice Stream  
Advisors: Richard Alley, Sridhar Anandkrishnan

## APPOINTMENTS

2017-present	Postdoctoral Scholar, University of Oregon
2013-2017	National Science Foundation Graduate Research Fellowship
2011-2017	Research Assistant, Penn State University
2010	Geoscience Public Policy Intern, American Geological Institute
2009-2011	Research Assistant, Oregon State University
2008	NSF Research Experience for Undergraduates, Oregon State

## TEACHING APPOINTMENTS

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
2011, 17	Teaching Assistant, PSU: Geology of National Parks

## PUBLICATIONS (citations since 2012: 98, h-index 5)

### Peer-reviewed Journal Articles

- 2016 Muto, A., Peters, L., Gohl, K., Sasgen, I., Alley, R., Anandkrishnan, 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., Anandkrishnan, 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.
- 2014 Christianson, K., Alley, R., Anandkrishnan, 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.
- 2014 Valelonga, P., Christianson, K., Alley, R. B., Anandkrishnan, 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*.
- 2013 Stanton, T., Shaw, W., Truffer, M., Corr, H., Peters, L., **Riverman, K.**, Bindshadler, 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*.

#### Manuscripts in Preparation and Submitted

- 2017 **Riverman, K.**, Alley, R., Anandakrishnan, S., Christianson, K., Medley, B., Peters, L. Shear margin processes of the NE Greenland Ice Stream: enhanced firn densification, snow accumulation, and forcing of subglacial hydrologic potential. In Review, *Journal of Geophysical Research: Earth Surface*.
- 2017 **Riverman, K.**, Alley, R., Anandakrishnan, S., Stevens N. Englacial channel evolution and moulin formation in cold ice. In prep, *Geology*.
- 2017 Peters, L., Anandakrishnan, S., Stanton, T., Dutrieux, P., **Riverman, K.**, Truffer, M., Bindshadler, R., Holland, D., Corr, H., Jenkins, A. 2017. New bathymetric data beneath Pine Island Glacier Ice Shelf suggest a glacio-geological control on glacier retreat. Submitted, *Nature Geoscience*.

#### Other Articles

- 2011 **Wilson, Kiya L.** Using an array of NE Pacific margin sediment samples to link glacial-interglacial climate variability. Oregon State University Honors Bachelor of Science Thesis.
- 2010 **Wilson, Kiya L.** Unable to Break the Ice: US Arctic Policy and the Law of the Sea. *The Professional Geologist*.

#### Select First-Author Conference Abstracts (\*=poster \*\*=talk)

- 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. Firn 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. \*\*
- 2013 **Riverman, K.**, Anandakrishnan, S., Alley, R., Peters, L., Christianson, K., Muto, A. Firn thickness variations across the Northeast Greenland Ice Stream margins indicating nonlinear densification rates. Abstract C24B-06. AGU Fall Meeting. \*\*

- 2013 **Riverman, K.** Peters, L. Anandakrishnan, S. Pine Island Glacier ice shelf: bathymetry and ice thickness. International Workshop on Antarctic Ice Rises. \*
- 2013 **Riverman, K.**, Christianson, K., Anandakrishnan, S., Alley, R., Peters, L., Muto, A. Ice flow dynamics and stability in a new class of ice stream on NE Greenland. West Antarctic Ice Sheet Workshop. \*
- 2013 **Riverman, K.**, Christianson, K., Peters, L., Anandarishnan, S., Alley, R., Muto, A. North East Greenland Ice Stream basal conditions from reflection seismology and ice-penetrating radar. International Glaciological Society Symposium on Radioglaciology. \*\*
- 2013 **Riverman, K.**, Anandakrishnan, S., Burkett, P., Voigt, D., Peters, L. Innovations in Polar Seismic Data Acquisition. Polar Technology Conference, US Naval Academy. \*
- 2010 **Wilson, Kiya L.** Groundtruthing Ground-Penetrating Radar Measurements of a High-Arctic Glacier Using Glacial-Speleology. Abstract C21B-0532. AGU Fall Meeting. \*
- 2009 **Wilson, Kiya L.** Using an Array of NE Pacific Margin Sediment Samples to Link Land and Ocean Responses to Glacial-Interglacial Climate Variability. GSA Annual Meeting, Portland. \*\*
- 2008 **Wilson, Kiya L.** Using an Array of NE Pacific Margin Sediment Samples to Link Land and Ocean Responses to Glacial- Interglacial Climate Variability. Abstract H53C-1061. AGU Fall Meeting. \*

#### INVITED TALKS

- 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
- 2010 OSU Waldo-Cummings Outstanding Student Award

#### 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
- 2009 Research, Innovation, Scholarship, and Creativity Fund Grant
- 2008 Richard W. Chambers Research Grant

#### SERVICE

- 2014-17 Student Representative, American Geophysical Union Cryosphere Executive Committee
- 2014-17 Board Member, AGU EOS Website
- 2012-16 Web Developer, Penn State Ice and Climate Exploration
- 2013-15 PSU Departmental Colloquium Committee Chair
- 2013-15 Treasurer, Nittany Grotto, National Speleological Society

#### FIELD EXPERIENCE (86 wks since 2010)

\*= Field Leader

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

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Evan Pugh Professor of Geosciences  
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Professor of Geosciences  
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