

# BENJAMIN H. HILLS

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## EDUCATION

**Ph.D. Earth and Space Science** | University of Washington  
emphasis: Glaciology/Geophysics | primary advisor: Dr. Knut Christianson  
Thesis | *Exploring past and present ice-sheet dynamics with geophysically derived temperature and crystal orientation fabric*

**M.S. Geoscience** | University of Montana  
emphasis: Glaciology | primary advisor: Dr. Joel Harper  
Thesis | *In situ measurements and modeling used to constrain heat transfer in the western Greenland Ice Sheet*

**B.S. Earth Science** | Montana State University  
emphasis: Snow Mechanics (Highest Honors)

## RESEARCH APPOINTMENTS

- 2023 – present*      **NSF OPP Postdoctoral Fellow** | Geophysics | Colorado School of Mines  
mentors: Dr. Matthew Siegfried (Mines) and Dr. Fernando Pérez (Berkeley)  
Leading investigation of ice-sheet resistive stresses using ice-penetrating radar.  
Building software to integrate radar data with spaceborne remote sensing.
- 2017 – 2023*      **Grad. Research Asst.** | Earth and Space Sciences & Applied Physics Lab. | UW  
Numerous geophysics expeditions to Antarctica and glaciers in the Pacific NW.  
Developed software tools for processing and analyzing ice-penetrating radar data.  
Led and co-authored manuscripts on ice-sheet history and ice dynamics.
- 2017*      **Post-MS Research Asst.** | Fluid Dyn. & Solid Mech. | Los Alamos Nat. Lab.  
Contributed to development of the land-ice component (MALI) in a coupled global climate model (MPAS).  
Design and execution of model experiments for ice-sheet physics.
- 2015 – 2017*      **Grad. Research Asst.** | Geosciences Department | UofM  
Collaboration between Geosciences and Computer Science Departments.  
Designed and built electronics to measure ice-sheet temperature in Greenland.  
Developed numerical models for ice-sheet temperature.

## TEACHING APPOINTMENTS

- 2022 – present*      **Research Mentor** | Louis Stokes Alliance for Minority Participation | UW
- 2018 – 2022*      **Graduate Teaching Assistant** | Earth and Space Sciences Department | UW  
OGIVE Summer Undergraduate Research Coordinator  
ESS 431 – Principles of Glaciology (including field trip)  
ESS 102 – Introduction to Geology (including field trip)
- 2015 – 2016*      **Graduate Teaching Assistant** | Geosciences Department | UofM  
GEO 101 – Introduction to Physical Geology (including field trip)
- Summer 2013*      **Tutor** | Montana State University  
Personal tutoring for engineering courses

## UNDERGRADUATE STUDENT MENTORSHIP

Jerusalem Sintayehu (Phys./Astro.); Lucas Holt (Geophysics); Jonathan Ortiz-Candelaria (Informatics); Raphael Sauvage (Chemistry); Joshua Driscoll (Atmospheric Sciences)

## GRADUATE STUDENT MENTORSHIP

Hannah Verboncouer (radioglaciology); An Li (planetary glaciology);  
Emma Erwin (glaciology/climate); Marguerite Shaya (radar polarimetry)

## SERVICE

2019 – present	Journal Peer Reviewer <i>Nature Communications; Journal of Geophysical Research – Earth Surface; Journal of Geophysical Research – Planets; Geophysical Research Letters; Journal of Glaciology; Annals of Glaciology; Acta Astronautica; IEEE Transactions on Geoscience and Remote Sensing; The Cryosphere; Earth Surface Dynamics</i>
2024 – present	AGU Landing Fellow
2022 – present	Louis Stokes Alliance for Minority Participation   University of Washington
Winter 2024	NASA proposal panel reviewer
Winter 2024	Quantarctica Theme Editor
Autumn 2023	NSF proposal panel reviewer
Summer 2023	NASA proposal panel reviewer
2019 – 2023	Classroom Visits   Spencer Technology Academy   Chicago Public Schools
2018 – 2020	Rockin' Out   University of Washington
2015 – 2017	Interdisciplinary Collaboration Network   University of Montana
2014 – 2015	Volunteer Ski Patrol   Big Sky Ski Resort   Big Sky, MT

## PROFESSIONAL AFFILIATIONS

2016 – present	American Geophysical Union
2017 – present	International Glaciological Society

## HONORS AND CERTIFICATIONS

2023 – 2025	Postdoctoral Research Fellowship   NSF Office of Polar Programs   \$318,000
2024	LSAMP Scientist Program Faculty Recognition Award
2023	Best Glaciology Talk   UW ESS
2020	Outstanding Student Presentation Award   AGU Fall Meeting
2017	Top Scholar Award   University of Washington   <i>RA funding for one quarter</i>
2014	Fundamentals of Engineering   NCEES
2014	Emergency Medical Technician   <i>National Registry for EMTs</i>
2010 – 2014	Montana University Scholarship   <i>undergraduate tuition for four years</i>
2012	Direct Exchange   University of Canterbury   <i>exchange student tuition</i>
2010	Distinguished Scholar   Helena Education Foundation

## SHORT COURSE AND WORKSHOP EXPERIENCE

2023	InSAR Processing and Analysis   1-Week   Earthscope
2023	Python for Data Sci. and ML Bootcamp   25 Video Hours Online Course   Udemy
2022	ICECReW Workshop   2-Week   US Ice Drilling Program
2020	ICESat-2 Hackweek   2-Week   eScience Institute, UW
2017	How to Use Git and Github   3-Week Online Course   Udacity
2015	Intro to Python Programming   5-Week Online Course   Udacity

## FIELD EXPERIENCE

2024	PSTAR Geophysics   2 Weeks   Pingo National Landmark, NWT Canada
2022 – 2023	Glacier Geophysics Lead   8 Weeks   Hercules Dome, Antarctica
2022	Glacier Geophysics Lead   1 Week   Mt. Waddington, British Columbia
2019 – 2020	Glacier Geophysics   10 Weeks   S. Pole and Herc. Dome, Antarctica
2018 – 2019	Glacier Geophysics   10 Weeks   S. Pole and Herc. Dome, Antarctica
2018 – 2019	Ground-based Radar Interferometry   3x 1-3-Day Trips   Mt. Baker, WA
2019	Drone Remote Sensing; Structure from Motion   1-Day Trip   Mt. Baker, WA
2019	Glacier Mass Balance   1 Week   South Cascade Glacier, North Cascades, WA
2018	Cryo-Microbiology   2x 1-Day Trips   Mt. Baker, WA
2016	Hot-Water Drilling   2 Weeks   Isunnguata Sermia, Greenland
2015	Hot-Water Drilling   5 Weeks   Isunnguata Sermia, Greenland

## PEER-REVIEWED ARTICLES

### *in Review*

**Hills, B. H.**, Young, T. J., Lilien, D. A., Babcock, E., Bienert, N., Blankenship, D., Bradford, J., Brighi, G., Brisbourne, A., Christianson, K., Dall, J., Drews, R., Eisen, O., Ershadi, M. R., Gerber, T. A., Holschuh, N., Jansen, D., Jordan, T. M., Karlsson, N. B., Matsuoka, K., Li, J., Martin, C., May, D., Oraschewski, F. M., Paden, J., Rathmann, N. M., Ross, N., Schroeder, D. M., Siegert, M., Siegfried, M. R., Smith, E., Zeising, O.. Radar Polarimetry in Glaciology: Theory, Measurement Techniques, and Scientific Applications for Investigating the Anisotropy of Ice Masses. *Reviews of Geophysics*.

Bingham, R. G., Bodart, J. A., Cavitte, M. G. P., Chung, A., Sanderson, R. J., Sutter, J. C. R., Eisen, O., Karlsson, N. B., MacGregor, J. A., Ross, N., Young, D. A., Ashmore, D. W., Born, A., Chu, W., Drews, R., Franke, S., Goel, V., Goodge, J. W., Henry, A. C. J., Hermant, A., **Hills, B. H.**, Holschuh, N., Koutnik, M. R., Vieli, G. J.-M. L., MacKie, E. J., Mantelli, E., Martin, C., Ng, F. S. L., Oraschewski, F. M., Napoleoni, F., Parrenin, F., Popov, S. V., Rieckh, T., Schlegel, R., Schroeder, D. M., Siegert, M. J. Teisberg, T. O., Winter, K., Cui, X., Tang, X., Yan, S., Davis, H., Dow, C. F., Fudge, T. J., Jordan, T. A., Kulesa, B., Matsuoka, K., Nyqvist, C. J., Rahnmooonfar, M., Siegfried, M. R., Singh, S., Višnjević, V., Zamora, R., Zühr, A. Antarctica's internal architecture: Towards a radiostratigraphically-informed age-depth model of the Antarctic ice sheets. *The Cryosphere*.

**Hills, B. H.**, Holschuh, N. D., Hoffman, A., Fudge, T. J., Horlings, A., Erwin, E., Steig, E. J., Christianson, K. Radar-derived crystal orientation fabric suggests divide stability at Hercules Dome during the last deglaciation. *Journal of Geophysical Research – Earth Surface*.

### 2024

**Hills, B. H.**, Siegfried, M. S., Schroeder D. M. Entrained water in basal ice suppresses bed-echo power at active subglacial lakes. *Geophysical Research Letters*. <https://doi.org/10.1029/2024GL109248>

Fudge, T. J., Suavage, R., Vu, L., **Hills, B. H.**, Severi, M., Waddington, E. D., Effective diffusivity of sulfuric acid in Antarctic ice cores. *Climate of the Past*. <https://doi.org/10.5194/egusphere-2022-1219>

### 2023

Hoffman, A. O., Holschuh, N., Mueller, M., Paden, J., Muto, A., Ariho, G., Brigham, C., Christian, J., Davidge, L., Heitmann, E., **Hills B. H.**, Horlings, A. N., Morey, S., O'Connor, G. K., Fudge, T. J., Steig, E. J., Christianson, K.. Scars of tectonism promote ice-sheet nucleation from Hercules Dome into West Antarctica. *Nature Geoscience*. <https://doi.org/10.1038/s41561-023-01265-5>

Løkkegaard, A., Mankoff, K. D., Zdanowicz, C., Clow, G. D., Lüthi, M. P., Doyle, S. H., Thomsen, H. H., Fisher, D., Harper, J., Aschwanden, A., Vinther, B. M., Dahl-Jensen, D., Zekollari, H., Meierbachtol, T., McDowell, I., Humphrey, N., Solgaard, A., Karlsson, N. B., Khan, S. A., **Hills, B. H.**, Law, R., Hubbard, B., Christoffersen, P., Jacquemart, M., Seguinot, J., Fausto, R. S., Colgan, W. T. Greenland and Canadian Arctic ice temperature profiles. *The Cryosphere*. 17(9). <https://doi.org/10.5194/tc-17-3829-2023>

Frémand, A. C., Fretwell, P., Bodart, J. A., Pritchard, H. D., Aitken, A., Bamber, J. L., Bell, R., Bianchi, C., Bingham, R. G., Blankenship, D. D., Casassa, G., Catania, G., Christianson, K., Conway, H., Corr, H. F. J., Cui, X., Damaske, D., Damm, V., Drews, R., Eagles, G., Eisen, O., Eisermann, H., Ferraccioli, F., Field, E., Forsberg, R., Franke S., Fujita, S., Gim, Y., Goel, V., Gogineni, S. P., Greenbaum, J., **Hills, B. H.**, Hindmarsh, R. C. A., Hoffman, A. O., Holmlund, P., Holschuh, N., Holt, J. W., Horlings A. N., Humbert, A., Jacobel, R. W., Jansen, D., Jenkins, A., Jokat, W., Jordan, T., King, E., Kohler, J., Krabill, W., Gillespie, M. K., Langley, K., Lee, J., Leitchenkov, G., Leuschen, C., Luyendyk, B., MacGregor, J.,

- MacKie, E., Matsuoka, K., Morlighem, M., Mouginot, J., Nitsche, F. O., Nogi, Y., Nost, O. A., Paden, J., Pattyn, F., Popov, S. V., Rignot, E., Rippin, D. M., Rivera, A., Roberts, J., Ross, N., Ruppel, A., Schroeder, D. M., Siegert, M. J., Smith, A. M., Steinhage, D., Studinger, M., Sun, B., Tabacco, I., Tinto, K., Urbini, S., Vaughan, D., Welch, B. C., Wilson, D. S., Young, D. A., and Zirizzotti, A.. Antarctic Bedmap data: FAIR sharing of 60 years of ice bed, surface and thickness data. *Earth System Science Data*. 15, 2695-2710.  
<https://doi.org/10.5194/essd-15-2695-2023>
- 2022 **Hills, B. H.**, Christianson K., Jacobel, R. W., Petersson, R. Radar attenuation demonstrates advective cooling at the Siple Coast ice streams. *Journal of Glaciology*. 1-11. doi:10.1017/jog.2022.86
- Fudge, T. J., **Hills, B. H.**, Horlings, A. N., Holschuh, N., O'Connor, G. K., Christian, J., Davidge, L., Hoffman, A. O., Christianson, K., Steig, E. J. A site for deep ice coring at West Hercules Dome: results from ground-based geophysics and modeling. *Journal of Glaciology*, 1-13. doi:10.1017/jog.2022.80
- Hills, B. H.**, Christianson K., Hoffman A., Fudge, T. J., Holschuh N, Kahle, E. C., Conway, H., Christian, J., Horlings, A., O'Connor, G., Steig, E. J. Geophysics and Thermodynamics at South Pole Lake indicate stability and a regionally thawed bed. *Geophysical Research Letters*, 49. doi:10.1029/2021GL096218
- 2021 **Hills, B. H.**, Winebrenner, D. P., Elam, W. T., & Kintner, P. M. S. Avoiding slush formation for hot-point drilling of glacier boreholes. *Annals of Glaciology*, 62(84). 166-170. doi:10.1017/aog.2020.70
- 2020 Lilien, D. A., **Hills, B. H.**, Driscoll, J., Jacobel, R. W., & Christianson, K., ImpDAR: An open-source impulse radar processor. *Annals of Glaciology*, 61(81), 114-123. doi:10.1017/aog.2020.44
- Hills, B. H.**, Christianson K., & Holschuh N. A framework for attenuation method selection evaluated with ice-penetrating radar data at South Pole Lake. *Annals of Glaciology*, 61(81), 176-187. doi:10.1017/aog.2020.32
- 2018 **Hills, B. H.**, Harper J. T., Meierbachtol T. W., Johnson J. V., Humphrey N. F., & Wright P. J. Processes influencing heat transfer in the near-surface ice of Greenland's ablation zone. *The Cryosphere*, 12, 3215-3227. doi:10.5194/tc-12-3215-2018.
- 2017 **Hills, B. H.**, Harper J. T., Humphrey N. F. & Meierbachtol T. W. Measured horizontal temperature gradients constrain heat transfer mechanisms in Greenland ice. *Geophysical Research Letters*, 44, 9778-9785. doi:10.1002/2017GL074917

## EXTENDED ABSTRACTS AND CONFERENCE PROCEEDINGS (\*STUDENT COAUTHOR)

- 2024 \*Li, A. Y., Hills, B. H., Rutledge, A. M., Bennet, K. A., Koepfel, A., Edwards, C. S., Lally, A., Edgar, L. A., Koutnik, M. R., Henderson, M., Jones, N., Rampe, E. B., Eifert, H. A. Ground-Penetrating Radar Investigations of Terrestrial Analogs for Mars: Eskers at Breidamerkurjökull, Iceland. *Mars Polar Science*.
- 2022 Walcott, C., Erwin, E., **Hills, B. H.** Ice flow and ice-bed interactions: How they shape our understanding of ice cores. *Past Global Changes*, 30(2). 114-115. doi:10.22498/pages.30.2.114

## CONFERENCE ABSTRACTS (\*STUDENT COAUTHOR)

2024

**Hills, B. H.**, Siegfried, M. R., Verboncoeur, H., Mantelli, E., Holschuh, N., Castelletti, D., Paden, J., Schoeder, D. Refocusing on radio stratigraphy: Large-scale re-processing of radio-echo sounding data to illuminate englacial layers. *American Geophysical Union Fall Meeting*, December 2024, District of Columbia, USA

\*Sintayehu, J., **Hills, B. H.**, Siegfried, M. R., Bradford, J., Kubas, A., Lein, D. J., Mullen, A., Noh, K., Routt, A., Sizemore, A., Hughson, K. H. G., Schmidt, B. Three-Dimensional Subsurface Structure of Canada's Largest Pingo, Ibyuk. *American Geophysical Union Fall Meeting*, December 2024, District of Columbia, USA

\*Verboncoeur, H., **Hills, B. H.**, Siegfried, M. R., Holschuh, N., Tarzona, A., Tran, K., Schroeder, D. M., Chu, W. Internal and basal processes driving multi-decadal stress-balance changes in the Crary Ice Rise region, West Antarctica. *American Geophysical Union Fall Meeting*, December 2024, District of Columbia, USA

\*Skelton, E., Campbell, S., Orachewski, F., Hawkins, J., Martin, C., **Hills, B. H.**, Bellamy, K., Kindstedt, I., Kreutz, K., Winski, D. Disentangling the ice flow deformation history and cause of the radio echo free zone to better understand the Holocene ice core climate record from Begguya, Denali National Park, Alaska. *American Geophysical Union Fall Meeting*, December 2024, District of Columbia, USA

\*Routt, A., Hughson, K. H. G., **Hills, B. H.**, Bradford, J., Siegfried, M. R., Sintayehu, J., Kubas, A., Lein, D., Mullen, A., Schmidt, B., Sizemore, H., Swidinsky, A., Noh, K. Salty Pingos: Pingo Subsurface Structures Revealed by Ground Penetrating Radar and Electrical Methods. *American Geophysical Union Fall Meeting*, December 2024, District of Columbia, USA

\*Sintayehu, J., **Hills, B. H.**, Siegfried, M. R., Bradford, J., Kubas, A., Lein, D. J., Mullen, A., Noh, K., Routt, A., Sizemore, A., Hughson, K. H. G., Schmidt, B. Three-Dimensional Subsurface Structure of Canada's Largest Pingo, Ibyuk. *National Society of Black Physicists*, November 2024, Houston, TX, USA

**Hills, B. H.**, Siegfried, M. S., Schroeder D. M. Entrained water in basal ice suppresses bed-echo power at active subglacial lakes. *Scientific Committee on Antarctic Research*, August 2024, Pucon, Chile (oral presentation)

2023

**Hills, B. H.** Holschuh, N., Hoffman, A. O., Fudge, T. J., Horlings, A. N., Erwin, E., Steig, E. J., Christianson, K. Radar-Derived Crystal Orientation Fabric Suggests Divide Stability at Hercules Dome During the Last Ice-Sheet Deglaciation. *American Geophysical Union Fall Meeting*, December 2023, San Francisco, CA. (poster)

\*Li, A., **Hills, B. H.**, Hepburn, A., Koutnik, M., Hubbard, B. P., Williams, J. P., Soare, R. J., Garvin, J. B., Gallagher, C. J. Radar investigations of coastal ice exposures in the Canadian Arctic as analogs to ice-exposing scarps in the mid-latitudes of Mars. *American Geophysical Union Fall Meeting*, December 2023, San Francisco, CA. (poster)

\*Shaya, M., Horlings, A. N., **Hills, B. H.**, Manos, J. M., Conway, H., Fegyveresi, J. M., Koutnik, M., Fudge, T. J. Interpreting Ice Flow at the Allan Hills,

Antarctica Using Polarimetric Radar Measurements of Ice Fabric. *American Geophysical Union Fall Meeting*, December 2023, San Francisco, CA. (eLightning presentation)

**Hills, B. H.**, Mantelli, E., Holschuh, N., Schroeder, D., Perez, F., Siegfried, M. Disentangling Basal from Internal Friction with Radiostratigraphy. *Northwest Glaciologists Meeting*, October 2023, Seattle, WA. (oral presentation)

**Hills, B. H.** Holschuh, N., Hoffman, A. O., Fudge, T. J., Horlings, A. N., Erwin, E., Steig, E. J., Christianson, K. Radar-derived crystal orientation fabric suggests divide stability at Hercules Dome during the last ice-sheet deglaciation. *WAIS Workshop*, October 2023, Cloquet, MN. (oral presentation)

Reusch, D., Steig, E., Fudge, T. J., **Hills, B. H.**, Horlings, A. N., Holschuh, N., Christian, J. E., Davidge, L., Hoffman, A. O., O'Connor, G., Christianson, K., Kirkpatrick, L., Erwin, E.. Characterizing precipitation and accumulation variability at Hercules dome, Antarctica. *General Assembly of the International Union of Geodesy and Geophysics*, July 2023, Berlin, Germany. (oral presentation).

**Hills, B. H.**, Fudge, T. J., Holschuh, N., Erwin, E., Kirkpatrick, L., Steig, E. J., Christianson, K. Radar-inferred crystal fabric at Hercules Dome supports divide stability since the last glacial maximum. *U.S. Open Ice Core Meeting*, May 2023, Seattle, WA. (oral presentation)

Horlings, A. N., Davidge, L., Erwin, E., **Hills, B. H.**, Hoffman, A., Holschuh, N., Reusch, D., Kirkpatrick, L., Fudge, T. J., Steig, E. J., Christianson, K. Snow accumulation at Hercules Dome, Antarctica during the last 420 years. *U.S. Open Ice Core Meeting*, May 2023, Seattle, WA. (oral presentation)

2022 **Hills, B. H.**, Christianson K., Jacobel, R. W., Petersson, R. Radar attenuation demonstrates advective cooling at the Siple Coast ice streams. *WAIS Workshop*, September 2022, Estes Park, CO. (poster)

2021 \*Sauvage, R., Fudge, T. J., **Hills, B. H.**, Linh Vu. Effective Diffusivity of Sulfate Ions in the EPICA Dome C Ice Core for the Last Five Interglacials. *American Geophysical Union Fall Meeting*, December 2021, New Orleans, LA. (poster)

Fudge, T. J., Holschuh, N., **Hills, B. H.**, O'Connor, G. K., Lomeli, J., Steig, E. J. Combining evidence of frozen and thawed beds to constrain geothermal flux: initial results from Hercules Dome, Antarctica. *American Geophysical Union Fall Meeting*, December 2021, New Orleans, LA. (poster)

**Hills, B. H.**, Young, T. J., Horlings, A. N., Holschuh, N., Christianson, K. Radar polarimetry at Hercules Dome reveals ice fabric as it changes along the triple divide. *WAIS Workshop*, September 2021, Algonkian Regional Park, VA (oral presentation)

**Hills, B. H.**, Young, T. J., Horlings, A. N., Holschuh, N., Christianson, K. Polarimetry experiments at Hercules Dome. *Hercules Dome Workshop*, May 2021, Hosted Remotely. (oral presentation)

2020 **Hills, B. H.**, Christianson, K., Hoffman, A. O., Fudge, T. J., Kahle, E. C. Interior ice-sheet dynamics are constrained through the Holocene transition using the thermodynamics of South Pole Lake. *American Geophysical Union Fall Meeting*, December 2020, Hosted Remotely. (poster)

Steig, E. J., Duetsch, M., Blossey, P. N., Pauling, A., Bitz, C. M., Aydin, M., Fudge, T. J., Roop, H., Souney, J. M., Twickler, M., Christianson, K., Christian, J. E. M., Davidge, L., O'Connor, G. K., **Hills, B. H.**, Hoffman, A. O., Holschuh, N., Horlings, A. N. Hercules Dome ice core project: Prospects for obtaining Eemian records that constrain the size of the West Antarctic ice sheet through time. *American Geophysical Union Fall Meeting*, December 2020, Hosted Remotely. (invited talk)

Fudge, T. J., Hoffman, A. O., Horlings, A. N., **Hills, B. H.**, Steig, E. J., O'Connor, G. K., Christian, J. E. M., Christiansen, K. A., Davidge, L., Holschuh, N. Inferring Holocene variations in ice-flow patterns and accumulation gradients at Hercules Dome from radar measurements of internal layering and englacial velocity profiles, and 2D ice-flow modeling. *American Geophysical Union Fall Meeting*, December 2020, Hosted Remotely. (poster)

Breyer, C., Barcheck, G., Gomez-Fell, R., Hillebrand, T., **Hills, B. H.**, Kaluzienksi, L., Martin, J., Polashenski, D., Shapero, D.. Ice sheet surface velocity determination from ICESat2 repeat tracks. *American Geophysical Union Fall Meeting*, December 2020, Hosted Remotely. (poster)

**Hills, B. H.**, Christianson, K., Hoffman, A. O., Fudge, T. J., Kahle, E. C.. Interior ice-sheet dynamics are constrained through the Holocene transition using the thermodynamics of South Pole Lake. *WAIS Workshop*, September 2020, Hosted Remotely. (oral presentation)

2019

Steig, E. J., Christianson, K. A., Holschuh, N. D., **Hills, B. H.**, Fudge, T. J., Hoffman, A. O., Horlings, A. N., O'Connor, G. K., Christian, J. E. M. Finding the optimal site for a deep ice core at Hercules Dome, Antarctica. *American Geophysical Union Fall Meeting*, December 2019, San Francisco, CA. (poster)

Winebrenner, D. P., **Hills, B. H.**, Elam, W. T. Reaching Depths of Kilometers in Cold Ice with Small Melt Probes, by Managing Melt-Hole Refreezing. *American Geophysical Union Fall Meeting*, December 2019, San Francisco, CA. (oral presentation)

**Hills B. H.**, Winebrenner, D. P., Elam, W. T., & Kintner, P. An 'extended' Stefan problem with applications for slush formation in glacier boreholes. *West Antarctic Ice Sheet Workshop*, October 2019, Julian, CA. (poster)

Lilien D. A., **Hills B. H.**, Driscoll J., Jacobel R. W., & Christianson K. ImpDAR: An open-source impulse radar processor, *Northwest Glaciologists Meeting*, October 2019, Corvallis, OR. (oral presentation)

**Hills B. H.**, Christianson K., Holschuh N., Fudge T. J., & Steig E. Freezing or melting?: New insights into the thermodynamic and glaciological setting of the South Pole subglacial lake from recent ice-penetrating radar surveys. *International Glaciological Society Radioglaciology Symposium*, July 2019, Palo Alto, CA. (oral presentation)

**Hills B. H.**, Christianson K., & Holschuh N. A comparison of multiple radio-wave attenuation methods applied to high-frequency common-offset radar surveys of the Northeast Greenland Ice Stream. *International Glaciological Society Radioglaciology Symposium*, July 2019, Palo Alto, CA. (poster)

Horlings A. N., **Hills B. H.**, Christian J., Whorton E., & Christianson K. Mapping the time-evolving firn structure on South Cascade Glacier, Washington state using monopulse ice-penetrating radar. *International Glaciological Society*

*Radioglaciology Symposium*, July 2019, Palo Alto, CA. (poster)

\*Driscoll J., Lilien D. A., **Hills B. H.**, Christianson K., & Jacobel R. W. ImpDAR: An Open-Source Impulse Radar Processor in Python. *International Glaciological Society Radioglaciology Symposium*, July 2019, Palo Alto, CA. (poster)

Christian J., Whorton E., Christianson K., & **Hills B. H.** Using snow radar to characterize the accumulation area of South Cascade Glacier. *International Glaciological Society Radioglaciology Symposium*, July 2019, Palo Alto, CA. (poster)

**Hills B. H.**, Christianson K., Holschuh N., & Anandakrishnan S. Using radio wave attenuation to constrain ice temperature in regions of fast flow. *European Geophysical Union General Assembly*, April 2019, Vienna, Austria. (PICO presentation)

2018

**Hills B. H.**, Christianson K., Holschuh N., & Anandakrishnan, S. Using radio wave attenuation to constrain ice temperature in regions of fast flow. *American Geophysical Union Fall Meeting*, December 2018, Washington DC. (poster)

Hoffman M. J., & **Hills B. H.** Impact of evolving subglacial hydrology on marine ice sheet dynamics. *American Geophysical Union Fall Meeting*, December 2018, Washington DC. (oral presentation)

**Hills B. H.**, Christianson K., Holschuh N., & Anandakrishnan S. Electromagnetic wave attenuation in ice: Using airborne and ground-based radio-echo sounding data to measure ice-sheet temperature. *Graduate Climate Conference*, November 2018, Pack Forest, WA. (poster)

**Hills B. H.**, Christianson K., Holschuh N., & Anandakrishnan S. Using radio wave attenuation to constrain ice temperature in regions of fast flow. *West Antarctic Ice Sheet Workshop*, September 2018, Stony Point, NY. (poster)

**Hills B. H.**, Hoffman M. J., & Christianson K. Feedbacks between subglacial drainage and evolution in a coupled ice sheet model: effect on marine ice sheet stability. *Marine Ice Sheet Modeling Intercomparison Project III*, May 2018, Abu Dhabi, UAE. (poster)

2017

**Hills B. H.**, & Hoffman M. J. Feedbacks between subglacial drainage and evolution in a coupled ice sheet model: effect on marine ice sheet stability. *Northwest Glaciologists Meeting*, October 2017, Vancouver, BC. (poster)

**Hills B. H.**, & Hoffman M. J. Feedbacks between subglacial drainage and evolution in a coupled ice sheet model: effect on marine ice sheet stability. *West Antarctic Ice Sheet Workshop*, October 2017, Coupeville, WA. (poster)

**Hills B. H.**, & Hoffman M. J. Feedbacks between subglacial drainage and evolution in a coupled ice sheet model: effect on marine ice sheet stability. *International Glaciological Society*, August 2017, Boulder, CO. (poster)

2016

**Hills B. H.**, Harper J. T., Humphrey N. F., Meierbachtol T. W., & Johnson J. V. Modeling heat transfer to explain observed temperature anomalies in near-surface ice, Greenland Ice Sheet ablation area, *American Geophysical Union Fall Meeting*, December 2016, San Francisco, CA. (oral presentation)

**Hills B. H.**, Harper J. T., Humphrey N. F., Meierbachtol T. W., & Johnson J. V. Heat transfer at the surface boundary, Greenland Ice Sheet ablation area,



*Northwest Glaciologists Meeting*, October 2016, Seattle, WA. (oral presentation)

2015      **Hills B. H.**, & Harper J. T. Near-surface heat flow in the Greenland Ice Sheet ablation area, *Northwest Glaciologists Meeting*, October 2015, Portland, OR. (oral presentation)

2014      **Hills B. H.** Snowpack Densification: an investigation of density change through snow melt and metamorphosis, *Montana State University Undergraduate Research Symposium*, May 2014, Bozeman, MT. (poster)