

BENJAMIN H. HILLS

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)
Fundamentals of Engineering Exam passed 2014

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 (Astronomy); Lucas Holt (Geophysics); Jonathan Ortiz-Candelaria (Informatics); Raphael Sauvage (Chemistry); Joshua Driscoll (Atmospheric Sciences)

GRADUATE STUDENT MENTORSHIP

Hannah Verboncouver (Mines - radioglaciology); An Li (UW - planetary glaciology);
Emma Erwin (UMaine - glaciology/climate); Marguerite Shaya (UW - radar polarimetry)

SERVICE

2019 – present

Journal Peer Reviewer

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; Earth Surface Dynamics; The Cryosphere

2024 – present

AGU OSPA Coordinator for Cryosphere Section

2024 – present

AGU Landing Fellow

2024 - present

Quantarctica Theme Editor

2022 – present

Louis Stokes Alliance for Minority Participation | University of Washington

Autumn 2024

NSF proposal panel reviewer

Winter 2024

NASA proposal panel reviewer

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

GRANTS AND FELLOWSHIPS

submitted Jun '25 Collaborative Research: Quantifying glaciological process-scale variability with geophysical surveys in the vicinity of the Hercules Dome ice core site (collaborations with University of Washington and Stanford University). *NSF OPP Antarctic Sciences*. Lead PI.

submitted Nov '24 Ice content of Martian concentric crater fill (collaboration with the Planetary Science Institute). *NASA Mars Data Analysis Program*. Institutional PI.

submitted Oct '24 Refocusing on radiostratigraphy: Novel processing of radar sounding data for new insight into ice dynamics and ice-sheet history (collaborations with Newcastle University and Stanford University). *NASA Cryospheric Sciences Program*. Lead PI.

2023 – 2025 Postdoctoral Research Fellowship | NSF Office of Polar Programs | \$318,000

2010 – 2014 Montana University Scholarship | *undergraduate tuition for four years*

2012 Direct Exchange | University of Canterbury | *exchange student tuition*

HONORS AND CERTIFICATIONS

2023 Best Glaciology Talk | UW ESS

2020 Outstanding Student Presentation Award | AGU Fall Meeting

2017 Top Scholar Award | University of Washington | *RA funding for one quarter*

2014 Fundamentals of Engineering | *NCEES*

2014 Emergency Medical Technician | *National Registry for EMTs*

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*.

2025

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*. <https://doi.org/10.1029/2023JF007588>.

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., Martín, 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., Kulessa, B., Matsuoka, K., Nyqvist, C. J., Rahnemoonfar, M., Siegfried, M. R., Singh, S., Višnjević, V., Zamora, R., Zuhr, A. Antarctica's internal architecture: Towards a radiostratigraphically-informed age-depth model of the Antarctic ice sheets. *The Cryosphere*.

Pritchard, H. D., Fretwell, P. T., Fremand, A. C., Bodart, J. A., Kirkham, J. D., Aitken A., Bamber, J., Bell, R., Bianchi, C., Bingham, R. G., Blankenship, D. D., Casassa, G., Christianson, K., Conway, H., Corr, H. F. J., Cui, X., Damaske, D., Damm, V., Dorschel, B., Drews, R., Eagles, G., Eisen, O., Eisermann H., Ferraccioli, F., Field, E., Forsberg, R., Franke, S., Goel, V., Gogineni, S. P., Greenbaum, J., **Hills, B. H.**, Hindmarsh, R. C. A., Hoffman, A. O., Holschuh, N., Holt, J. W., Humbert, A., Jacobel, R. W., Jansen, D., Jenkins, A., Jokat, W., Jong, L., Jordan, T. A., King, E. C., Kohler, J., Krabill, W., Maton, J., Kusk-Gillespie, M., Langley, K., Lee, J., Leitchenkov, G., Leuschen, C., Luyendyk, B., MacGregor, J. A., MacKie, E., Moholdt, G., Matsuoka, K., Morlighem, M., Mouginot, J., Nitsche, F. O., Nost, O. A., Paden, J., Pattyn, F., Popov, S., Rignot, E., Rippin, D. M., Rivera, A., Roberts, J. L., Ross, N., Ruppel, A., Schroeder, D. M., Siegert, J. J., Smith, A. M., Steinhage, D., Studenger, M., Sun, B., Tabacco, I., Tinto, K. J., Urbini, S., Vaughan, D. G., Wilson, D. S., Young, D. A., Zirizzotti, A. Bedmap3

- updated ice bed, surface and thickness gridded datasets for Antarctica. *Nature Scientific Data*. <https://doi.org/10.1038/s41597-025-04672-y>.
- 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/cp-20-297-2024>
- 2023
Hills, B. H., Christianson K., Jacobel, R. W., Petersson, R. Radar attenuation demonstrates advective cooling at the Siple Coast ice streams. *Journal of Glaciology*. 69(275). 566-576. doi:10.1017/jog.2022.86
- 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., Meierbacholt, 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
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.**, Driscol, 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., Meierbachol 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. & Meierbachol 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)

- 2025 Hills, B. H., Siegfried, M. R., Young, D. A., Paden J. D., Singh, S., Blankenship D. D., Schroeder D. M. A birefringence correction for multi-frequency radar sounding. *International Geosciences and Remote Sensing Symposium*.
- Bradford, J. H., **Hills, B. H.**, Michaelides, R., Siegfried, M., Follingstad, V., Hughson, K. A GPR Survey of Arctic Pingos. *International Workshop on Advanced Ground Penetrating Radar*.
- *Kubas, A. R., **Hills, B. H.**, *Sintayehu, J., Hughson, K., Routt, A., Noh, K., Bradford, J. H., Siegfried, M. R., Sizemore, H. G., Follingstad, V., Swidinsky, A., Mullen, A., Lein, D., Quartini, E., Michaelides, R. J., Schmidt, B. E. From pingos to planets: Geophysical constraints on the interior structure of Ibyuk Pingo with applications to planetary hydrology. *Lunar and planetary sciences conference*.
- 2024 *Li, A. Y., **Hills, B. H.**, Rutledge, A. M., Bennet, K. A., Koeppel, 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 Breiðamerkurjökull, 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., Barchek, 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.**, Driscol J., Jacobel R. W., & Christianson K. ImpDAR: An open-source impulse radar processor, *Northwest Glaciologists Meeting*, October 2019, Corvallis, OR. (oral presentation)

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