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ACADEMIC APPOINTMENTS	Associate Professor Assistant Professor Department of Geophysics Hydrologic Science and Engineering, Affiliated Faculty Payne Institute for Public Policy, Faculty Fellow Colorado School of Mines	April 2024 to present January 2019 to April 2024
	Thompson Postdoctoral Fellow Department of Geophysics School of Earth, Energy, and Environmental Sciences Stanford University Mentor: Dr. Dustin M. Schroeder	May 2017 to December 2018
	Postdoctoral Scholar Institute of Geophysics and Planetary Physics Scripps Institution of Oceanography University of California, San Diego Supervisor: Dr. Helen A. Fricker	October 2015 to April 2017
EDUCATION	PhD in Earth Sciences Institute of Geophysics and Planetary Physics Scripps Institution of Oceanography, La Jolla, CA Dissertation: <i>Investigating Antarctic ice sheet subglacial processes beneath the Whillans Ice Plain, West Antarctica, using satellite altimetry and GPS</i> Adviser: Dr. Helen A. Fricker	October 2015
	Master of Science in Earth Sciences Dartmouth College, Hanover, NH Thesis: <i>On the use of high-precision GPS surveys for validation of ICESat altimetry measurements and investigation of seasonal ice-surface fluctuations</i> Adviser: Dr. Robert L. Hawley	July 2010
	Bachelor of Arts in Earth Sciences Dartmouth College, Hanover, NH <i>Magna cum Laude, Phi Beta Kappa</i> Senior Thesis for High Honors: <i>Hydrothermal Waters of Ischia, Italy: A revisitation of groundwater mixing and the ramifications for environmental arsenic contamination</i> Adviser: Dr. Benjamin Bostick	June 2008
MANUSCRIPTS IN REVIEW	<p>* indicates student or postdoctoral advisee † indicates co-first authors</p> <p>[76] *Hills[†], B. H., T. J. Young[†], D. A. Lilien[†], E. Babcock, N. Bienert, D. Blankenship, J. Bradford, G. Brighi, A. Brisbourne, J. Dall, R. Drews, O. Eisen, M. R. Ershadi, T. A. Gerber, N. Holschuh, D. Jansen, T. M. Jordan, N. B. Karlsson, J. Li, C. Martín, K. Matsuoka, D. May, F. M. Oraschewski, J. Paden, N. M. Rathmann, N. Ross, D. M. Schroeder, M. Siegert, M. R. Siegfried, E. Smith and O. Zeising, in review. Radar Polarimetry in Glaciology: Theory, Measurement Techniques, and Scientific Applications for Investigating the Anisotropy of Ice Masses, <i>Reviews of Geophysics</i>.</p>	

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- REFEREED JOURNAL PUBLICATIONS [69] *Hills, B. H., M. R. Siegfried and D. M. Schroeder, 2024. Entrained Water in Basal Ice Suppresses Radar Bed-Echo Power at Active Subglacial Lakes, *Geophysical Research Letters*, **51**(13), doi:10.1029/2024gl109248.
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- 2023 [65] *Savidge, E., T. Snow*, M. R. Siegfried, Y. Zheng, A. B. Villas Bôas, G. A. Bortolotto, L. Boehme and K. E. Alley, 2023. Wintertime Polynya Structure and Variability From Thermal Remote Sensing and Seal-Borne Observations at Pine Island Glacier, West Antarctica, *IEEE Transactions on Geoscience and Remote Sensing*, **61**, 1–13, doi:10.

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- 2014 [11] Siegfried, M. R., H. A. Fricker, M. Roberts, T. A. Scambos and S. Tulaczyk, 2014. A decade of West Antarctic subglacial lake interactions from combined ICESat and CryoSat-2 altimetry, *Geophysical Research Letters*, **41**(3), 891–898, doi:10.1002/2013GL058616.
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- TECHNICAL REPORTS Smith, B., D. Hancock, K. Harbeck, L. Roberts, T. Neumann, K. Brunt, H. A. Fricker, A. Gardner, M. R. Siegfried, S. Adusumilli, B. Csathó, N. Holschuh, J. Nilsson and F. Paolo, 2021. Algorithm Theoretical Basis Document (ATBD) for Land Ice Along-Track Height Product (ATL06), Release 004, *NASA Goddard Space Flight Center Technical Reference*.
- OTHER PUBLICATIONS Siegfried, M. R., and C. D. Gustafson, 2022. Scientists in Antarctica discover a vast, salty groundwater system under the ice sheet – with implications for sea level rise. *The Conversation*, <https://theconversation.com/scientists-in-antarctica-discover-a-vast-salty-groundwater-system-under-the-ice-sheet-with-implications-for-sea-level-rise-182506>. Padman, L., and M. R. Siegfried, 2018. Ocean Tides Affect Ice Loss from Large Polar Ice Sheets, *EOS: Earth & Space Science News*, **99**, doi:10.1029/2018EO092835. Fricker, H. A., F. Paolo, M. R. Siegfried, and S. Adusumilli, 2018. Short-term changes in Antarctica’s ice shelves are key to predicting their long-term fate, *The Conversation*, <https://theconversation.com/short-term-changes-in-antarcticas-ice-shelves-are-key-to-predicting-their-long-term-fate-95207>.
- DATA SETS Siegfried, M. R., R. A. Venturelli, M. O. Patterson, W. Arnuk, T. D. Campbell, C. D. Gustafson, A. B. Michaud, B. K. Galton-Fenzi, M. B. Hausner, S. N. Holzschuh, B. Huber, K. D. Mankoff, D. M. Schroeder, P. T. Summers, S. Tyler, S. P. Carter, H. A. Fricker, D. M. Harwood, A. Leventer, B. E. Rosenheim, M. L. Skidmore, J. C. Priscu and T. S. S. Team, 2023. Data for Siegfried*, Venturelli*, et al., 2023, *Geology*, Zenodo, doi:10.5281/ZENODO.7597019. Smith, B. E., H. A. Fricker, A. Gardner, M. R. Siegfried, S. Adusumilli, B. M. Csathó, N. Holschuh, J. Nilsson, F. S. Paolo and the ICESat-2 Science Team, 2021. ATLAS/ICESat-2 L3A Land Ice Height, Version 4, NASA National Snow and Ice Data Center Distributed Active Archive Center, Boulder, Colorado USA, doi:10.5067/ATLAS/ATL06.004.
- PUBLISHED SOFTWARE Siegfried, M. R., W. Arnuk, R. A. Venturelli and M. O. Patterson, 2023. SiegVent2023-Geology code repository (Version 1.1), Zenodo, doi:10.5281/ZENODO.7605994. Siegfried, M. R., 2021. mrsiegfried/Siegfried2021-GRL: Initial release with acceptance (Version 1.0), Zenodo, doi:10.5281/ZENODO.4914107. Arendt, A., B. Smith, D. Shean, A. Steiker, Alek Petty, F. Perez, S. Henderson, F. Paolo, J. Nilsson, M. Becker, Susheel Adusumilli, D. Shapero, B. Wallin, J. Meyer, A. Schweiger, S. Dickinson, N. Holschuh, M. R. Siegfried and T. Neumann, 2019. ICESAT-2HackWeek/ICESat2_hackweek_tutorials (Version 0.1), Zenodo, doi:10.5281/ZENODO.3360994.
- EXPANDED ABSTRACTS * indicates student or postdoctoral advisee
- [12] *Abrahams, E., T. Snow*, F. Perez and M. R. Siegfried, 2024. A Scalable Data Augmentation Strategy Enhancing Tile-Position Invariance in Small Object Segmentation for Earth Observation, *International Conference on Learning Representations: Machine Learning & Remote Sensing (ICLR: ML4RS 2024)*.
- [11] *Byrne, D., J. Klemm*, M. R. Siegfried, D. Castelletti, R. Michaelides* and D. M.

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- [10] Medley, B., S. Bhushan, T. Black, T. Dixon, D. Felikson, A. Gardner, R. Michaelides, P. Milillo, J. Millstein*, A. Petty, D. Shean, M. R. Siegfried, B. Smith, T. Sutterley and T. Teisberg, 2024. Cryospheric Science Activities Supporting Development of NASA's Surface Topography and Vegetation Observing System, *IGARSS 2024: 2024 IEEE International Geoscience and Remote Sensing Symposium*.
- [9] Michaelides, R. J., M. R. Siegfried, S. Batzli, J. A. Villegas Bravo, D. Losos and W. C. Straka III, 2024. Robust Wildfire Time Series Imaging with Spaceborne Interferometric Synthetic Aperture Radars, *IGARSS 2024: 2024 IEEE International Geoscience and Remote Sensing Symposium*.
- [8] *Sauthoff, W., M. R. Siegfried and B. E. Smith, 2024. Evolving Outlines of Antarctic Active Subglacial Lakes using an Image Processing Algorithm on Gridded Altimetry Data, *IGARSS 2024: 2024 IEEE International Geoscience and Remote Sensing Symposium*.
- 2023 [7] Bradford, J. H., M. R. Siegfried, V. Follingstad*, K. Hughson, A. Routt, B. Schmidt, A. Kubas, E. Quartini, A. Mullen and A. Swidinsky, 2023. Mapping the internal structure Arctic pingos using ground-penetrating radar: Results from the Pingo Canadian Landmark, *Seventh International Conference on Engineering Geophysics*.
- [6] Bryant, M., E. Anderson, A. Borsa, C. Masteller, R. Michaelides*, M. R. Siegfried and A. Young, 2023. Integrating ICESat-2 elevation observation and satellite optical imagery to measure coastal topography and retreat rates on the Alaskan Beaufort Sea coast, *IGARSS 2023: 2023 IEEE International Geoscience and Remote Sensing Symposium*.
- [5] Michaelides, R. and M. R. Siegfried, 2023. Studying permafrost-wildfire interactions in the age of NISAR, *IGARSS 2023: 2023 IEEE International Geoscience and Remote Sensing Symposium*.
- 2021 [4] Siegfried, M. R., D. M. Schroeder, W. Sauthoff* and B. E. Smith, 2021. Investigating a large subglacial lake drainage in East Antarctica with ice-penetrating radar, *SEG Annual Meeting* (invited contribution).
- [3] *Klemm, J. and M. R. Siegfried, 2021. Open Source Visualization for Radar Altimetry Waveforms, *IEEE International Symposium on Antenna Technology and Applied Electromagnetics*.
- [2] Summers, P. T., D. M. Schroeder and M. R. Siegfried, 2021. Constraining ice sheet basal sliding and horizontal velocity profiles using a stationary phase sensitive radar sounder, *IGARSS 2021: 2021 IEEE International Geoscience and Remote Sensing Symposium*.
- 2020 [1] Bienert, N., D. M. Schroeder, S. T. Peters and M. R. Siegfried, 2020. Processing-based synchronization approach for bistatic glacial tomography, *IGARSS 2020: 2020 IEEE International Geoscience and Remote Sensing Symposium*.
Winner of the IEEE GRSS Symposium Prize Paper Award
- MENTORING **Postdoctoral Scholars**
Shane Grigsby, 2019–2021
(now: Research & Development Scientist, National Geospatial Intelligence Agency)
Roger Michaelides, 2020–2022
(now: Asst. Professor, Washington University in St. Louis)
Tasha Snow, 2021–2024
(now: Asst. Researcher, NASA Goddard/U. Maryland)
Benjamin Hills, 2023–present
Joanna Millstein, 2023–present
- Graduate Students**

Jared Klemm (PhD), Geophysics, 2020–2021
(*post Mines: Software Engineer II, Atmospheric and Environmental Research*)
Kayla Hubbard (MS-NT), Hydrologic Science & Engineering, 2020–2021
(*post Mines: Science Assistant, Arctic Sciences Section, National Science Foundation*)
Elena Savidge (PhD), Geophysics, 2020–2024
Wilson Sauthoff (PhD), Hydrologic Science & Engineering, 2020–present
Hannah Verboncoeur (PhD), Geophysics, 2021–present
Bailey Mullett (MS-NT), Hydrologic Science & Engineering, 2022–2024
Gabriel Thomas (MS), Hydrologic Science & Engineering, 2022–2024
co-advised with Kamini Singha
Rachel Willis (PhD), Geophysics, 2023–present
Zachary Katz (PhD), Geophysics, 2023–present
Samara Omar (PhD), Geophysics, 2024–present
co-advised with Jeff Shragge
Rohaiz Haris, Geophysics, 2024–present
Marianna Marquardt, Geophysics, 2024–present

Undergraduate Research

Matt Oleszko, Geophysics, 2019–2021
(*post-Mines step: Radar Processing Engineer, The Aerospace Corporation*)
Anna Valentine, Geophysics, 2020–2021
(*post-Mines step: PhD student at Dartmouth College*)
Becca Prentice, Geophysics, 2020–2022
(*post-Mines step: PhD student at Stanford University*)
Stephanie Holzschuh, Applied Math and Statistics, 2020–2021
(*post-Mines step: Data Engineer at Chevron*)
Michael Field, Geophysics, 2021–2022
(*post-Mines step: PhD student at University of Florida*)
Cash Koning, Geophysics, 2020–2023
(*post-Mines step: Polar Engineer, Earthscope Consortium*)
Venezia Follingstad, Geophysics, 2021–2023
(*post-Mines step: PhD student at University of Oregon*)
Ashleigh Miller, Geophysics, 2022–2023
(*post-Mines step: PhD student at Georgia Tech*)
Mia Jungman, Geophysics, 2023–2024
Duncan Byrne, Geophysics, 2023–present
Anastasia Horne, Applied Math & Statistics, 2023–present
Jack Logan, Geophysics, 2024–present
Lucas Holt, Geophysics, 2024–present

Senior Design

Hannah Haugen, 2021 (*post-Mines: M.S. student at U. Arizona*)
Bailey Mullett, 2022 (*post-Mines: M.S. student at Colorado School of Mines*)
Venezia Follingstad, 2022 (*post-Mines: PhD student at U. Oregon*)
Cash Koning, 2022 (*post-Mines: Polar Engineer, Earthscope Consortium*)
Dawn Lipfert, 2024

Visiting Students

Emma Pearce (PhD), University of Leeds, 2019
Joanna Millstein (PhD), MIT, 2021–2023
Ellie Abrahams (PhD), University of California Berkeley, 2022
Eojin Lee (UG), Columbia University, 2022–2023
Sawyer Kaarto (UG), Red Rocks Community College, 2022

Dissertation Committee Membership

Jason Drebber (2024–present) Mines, Department of Geology & Geological Engineering
Kate Hulse (2024–present) Mines, Department of Civil & Environmental Engineering

Ellie Longar (2024–present) Mines, Department of Geology & Geological Engineering
 Ellie Miller (2024–present) Mines, Department of Geology & Geological Engineering
 Isabelle Peter (2024–present) Mines, Department of Civil & Environmental Engineering
 Nicholas Dorogy (2023–present) Mines, Department of Geophysics
 Ari Koshkin (2023–present) Mines, Hydrologic Science & Engineering
 Ahmad Tourei (2023–present) Mines, Hydrologic Science & Engineering
 Melody Zhang (2021–present) Mines, Department of Geology & Geological Engineering
 Devon Dunmire (2020–2022) U. Colorado Boulder, Atmospheric & Ocean Sciences
 Chloe Gustafson (2020) Columbia U., Lamont-Doherty Earth Observatory

Masters Thesis Committee Membership

Rishi Banerjee (2023–2024) U. Manitoba, Earth Observation Science

TEACHING EXPERIENCE

Colorado School of Mines, Golden, CO

Instructor of Record

GPGN573: Polar Cryosphere in the Earth System	Fall 2024
GPGN486: Geophysics Field Camp	Summer 2024
GPGN470/570: Applications of Remote Sensing	Spring 2024
CSCI303: Data Science	Spring 2024
GPGN486: Geophysics Field Camp	Summer 2023
GPGN470/570: Applications of Remote Sensing	Spring 2023
GPGN598b: Polar Cryosphere in the Earth System	Fall 2022
GPGN486: Geophysics Field Camp	Summer 2022
GPGN470/570: Applications of Remote Sensing	Spring 2022
GPGN599: Ice Dynamics at Whillans Ice Stream	Spring 2022
GPGN470/570: Applications of Remote Sensing	Spring 2021
GPGN101: Geophysics & Society	Spring 2021
GPGN599: Antarctic groundwater modeling	Spring 2021
GPGN470/570: Applications of Remote Sensing	Spring 2020
GPGN101: Geophysics & Society	Spring 2020
GPGN498A/C: Geophysical Remote Sensing	Spring 2019

Co-Instructor

<i>GEGN584: Field Methods in Hydrology</i>	<i>Fall 2023</i>
GEGN584: Field Methods in Hydrology	Fall 2022
GPGN498: Electrical & Electromagnetic Methods & Applications	Spring 2022
GPGN486: Geophysics Field Camp	Summer 2021
GPGN486: Geophysics Field Camp	Summer 2019
Cryospheric Science with ICESat-2 Hackweek 2019, U. Washington	July 2019

Scripps Institution of Oceanography, La Jolla, CA

Co-Instructor

SIO115: Ice and the Climate System	Winter 2017
GMT Workshop for geodynamics REU students	June 2016

Teaching Assistant

Remote Sensing	Spring 2013
Instructors: Dr. David Sandwell, Dr. Helen Fricker	

Dartmouth College, Hanover, NH

Teaching Assistant

Dartmouth College Field Program	Fall 2009
<i>Glaciology, Quaternary Geology, Structure and Geologic Mapping</i>	
Instructors: Dr. Bob Hawley, Dr. Erich Osterberg, Dr. Meredith Kelly	

	Ecological Agriculture	Summer 2009
	Instructors: Dr. Jill Mikucki, Dr. Sarah Smith	
	Glaciology	Spring 2009
	Instructor: Dr. Robert Hawley	
	Polar Geobiology	Fall 2009
	Instructor: Dr. Jill Mikucki	
	Introduction to Computer Science	Spring 2006
	Instructor: Dr. Thomas Cormen	
	<i>Laboratory Teaching Assistant</i>	
	Mineralogy	Summer 2007
	Instructor: Dr. Ed Meyer	
	<i>Grader</i>	
	Differential Equations	Winter 2008
INVITED TALKS	Big Data, meet Long Data: Examining decadal-scale variability of ice-ocean-freshwater processes in Antarctica	
	<i>Mines Research Council Seminar</i>	13 Mar. 2024
	Big Data, meet Long Data: Examining decadal-scale variability of ice-ocean-freshwater processes in Antarctica	
	<i>Caltech Division of Geological and Planetary Sciences Seminar</i>	4 Mar. 2024
	Centering community at scientific meetings: 30 years of the West Antarctic Ice Sheet Workshop	
	<i>AGU Fall Meeting 2023</i>	11 Dec. 2023
	Cryosphere@Mines	
	<i>Finnish Ambassador Visit to Colorado School of Mines</i>	13 Jun. 2023
	Subglacial Secrets: What drilling holes through the Antarctic ice sheet can teach us about the past, present, and future of ice	
	<i>Osher Lifelong Learning Institute, University of Denver</i>	4 May 2023
	Source to sink: Tracing freshwater beneath the Antarctic ice sheet	
	<i>Colorado School of Mines Department of Geophysics Heiland Lecture</i>	7 Mar. 2023
	Technology at the coast: Probing for ice-water-ocean-Earth processes	
	<i>National Academies's Future Directions for Southern Ocean and Antarctic Nearshore and Coastal Research Community Workshop</i>	9 Feb. 2023
	Glaciology at Mines	
	<i>Colorado School of Mines Student Society of Geophysicists</i>	16 Sep. 2022
	Glaciology at Mines	
	<i>Tulane University Research Experiences for Undergraduates</i>	15 Jul. 2022
	Twelve years of exploring subglacial Antarctica	
	<i>Dartmouth College Journeys</i>	18 Jun. 2022
	Process2Paleo: Connecting modern observations to the geologic record to explore the life and death of a subglacial lake	
	<i>Scripps Polar Hour</i>	28 Oct. 2021
	Slippery when wet: Exploring the hydrosphere beneath the Antarctic ice sheet	
	<i>Colorado State Antarctic Lecture Series</i>	19 Oct. 2021
	Glaciology data volumes and data rates in Antarctica	
	<i>2021 Antarctic Subsea Cable Workshop</i>	28 Jun. 2021
	What lies beneath: Exploring the hydrosphere beneath the Antarctic ice sheet	
	<i>Delaware County Institute of Science</i>	8 Feb. 2021
	(Seminar on SALSA subglacial lake results)	
	<i>British Antarctic Survey</i>	Jun. 2020
	[seminar canceled due to COVID19]	
	(Seminar on ICESat-2 results)	

Newcastle University	Jun. 2020
[fellowship delayed to COVID19; seminar canceled]	
(Seminar declined due to COVID)	
Stanford Geophysics Seminar	4 Jun. 2020
Antarctica at Depth: New observations of subglacial water beneath ice streams	
CU Boulder INSTAAR Noon Seminar	16 Mar. 2020
[canceled due to COVID19]	
U.S. work in the Ross Sea Sector	
International Ross Sea Region Collaboration Workshop, Korea	21 Jul. 2019
Antarctica at Depth: Drilling for Subglacial Access	
U.S. Ice Drilling Program's School of Ice	24 June 2019
SALSA – A Field Debrief	
Stanford University Cryospheric Scientists	12 Feb. 2019
Slippery When Wet: Dynamic subglacial hydrology and the Antarctic ice sheet	
Department of Geosciences Research Seminar, Boise State University	26 Apr. 2018
Building a “Long Data” perspective to examine decadal-scale variability in Antarctica	
Geophysics Seminar, Colorado School of Mines	4 Apr. 2018
Deep, Dark, and Wet: Dynamic subglacial hydrology in Antarctica	
Earth & Planetary Science Seminar, Washington University in St. Louis	1 Feb. 2018
Piecing together a “Long Data” perspective to examine Antarctic ice-sheet variability	
Earth and Climate Seminar, University of Maine	25 Oct. 2017
Piecing together a “Long Data” perspective in Antarctica to understand ice-sheet variability	
SIO Research Seminar, Scripps Institution of Oceanography	31 Aug. 2017
Subglacial hydrology, basal processes, and velocity transients in Antarctica	
Ice Sheet System Model Workshop	23 Jun. 2016
Antarctic subglacial hydrology: A review	
IDPO Subglacial Access Working Group Workshop	21 May 2016
Episodic hydrology, episodic ice streams: Unraveling the impact of active subglacial lakes in Antarctica	
Earth Section Seminar, University of California, Santa Cruz	10 May 2016
Unraveling the impact of dynamic subglacial lake drainage in Antarctic	
Geophysics Seminar, Scripps Institution of Oceanography	22 Apr. 2016
Planes, penguins, and cookies: Scientific outreach from Antarctica	
GPS and the Cryosphere, 2016 UNAVCO Science Workshop	29 Mar. 2016
Dynamic subglacial hydrology in Antarctica: timescales, evolution, and impacts	
Geophysics Seminar, Stanford University	1 Mar. 2016
Extending the episodic hydrology record across Antarctica	
West Antarctic Ice Sheet Workshop	19 Sep. 2015
Peering under the ice to the Antarctic Slip ‘n’ Slide	
UCSD Extension: Environmental Leadership & Sustainability	06 Jul. 2015
Investigating coupled subglacial hydrologic and ice dynamic evolution using ground- and satellite-based observations	
Center for Climate Sciences Research Seminar, NASA-JPL	19 Jun. 2015
Using CryoSat-2 to retrieve dynamic surface changes (& observations of stick-slip motion)	
IGPP Geodesy Seminar, Scripps Institution of Oceanography	22 Apr. 2015
A decade of progress observing and modeling Antarctic subglacial water systems	
Subglacial Antarctic lake exploration: first results and future plans, The Royal Society	
[H. Fricker invited; M.R.S. presented]	30 Mar. 2015
Understanding the Antarctic Slip ‘n’ Slide	
Scripps Donor Brunch, Scripps Institution of Oceanography	1 Mar. 2015
Highlights and reflections on The Workshop and beyond	
CMBC Brown Bag, Scripps Institution of Oceanography	3 Jun. 2014
Instability of the Amundsen Sea Embayment	

<i>Climate Journal Club, Scripps Institution of Oceanography</i>	22 May 2014
WISSARD: Progress, Pictures, and Prospects	
<i>Scripps Polar Seminar, Scripps Institution of Oceanography</i>	4 Jun. 2013
GLAS accuracy and elevation change at Summit, Greenland	
<i>Geolunch Brown Bag Series, Dartmouth College</i>	11 May 2010

PROFESSIONAL SERVICE **Committee Service**

- NASA SWOT Mission, Science Team, Member, 2024–present
- NASA Surface Topography and Vegetation Mission Incubation, Science Team, 2023–present
- Ice Drilling Program Science Advisory Board, Member, 2023–present
- NASA ICESat-2 Mission, Science Team, Member, 2021–present
- IRIS/UNAVCO, Polar Science Technology, Co-Chair, 2021–present
- IRIS/UNAVCO, Polar Science Technology Committee, Member, 2018–2020
- NASA IceBridge Mission, Science Team, Member, 2017–2020
- American Meteorological Society Committee on Polar Meteorology and Oceanography, Member, Jan. 2017–2020
- OpenAltimetry User Working Group, Member, Jun. 2017–present
- NASA ICESat-2 Science Definition Team, Participant, 2011–2020

Editorial Service

- Scientific Editor, *Journal of Glaciology*, 2019–present
- Section Editor for Cryosphere, *Encyclopedia of Ocean Sciences*, 3rd Ed.

Referee Service

- Journals: *Nature*, *Nature Geoscience*, *Nature Communications*, *Geophysical Research Letters*, *Journal of Glaciology*, *Annals of Glaciology*, *The Cryosphere*, *IEEE Transactions on Geoscience and Remote Sensing*, *IEEE Geoscience and Remote Sensing Letters*, *Remote Sensing of Environment*, *International Journal of Remote Sensing*, *Journal of Applied Remote Sensing*
- Proposals: *NASA Earth Science* (panel member, *ad hoc*), *NASA Earth Science Data Systems* (panel member), *NASA Planetary Science* (panel member), *NASA Science Mission Directorate* (panel member), *NSF Antarctic Sciences* (*ad hoc*), *Royal Society of New Zealand* (*ad hoc*), *UK Natural Environment Research Council* (*ad hoc*), *Netherlands Space Office* (*ad hoc*)

Conference Service

- Organizing Committee: *West Antarctic Ice Sheet Workshop*, 2019–present.
- Local Organizing Committee: *International Symposium on Five Decades of Radioglaciology* (International Glaciological Society, Stanford, CA, 24–28 Jun. 2019); *International Symposium on Interactions of Ice Sheet and Glaciers with the Ocean* (IGS/FRISP, La Jolla, CA, 10–15 Jul. 2016); *Ice Sheet System Model Workshop* (JPL/ NASA, La Jolla, CA, May 2016), *Scripps Student Symposium* (SIO, La Jolla, CA, 24 Sep. 2015); *ICESat-2 Science Definition Team Meeting* (NASA, La Jolla, CA, 24–25 Feb. 2015); *Sea Level Change Team PI Meeting* (NASA, La Jolla, CA, 14–16 Oct. 2014), *West Antarctic Ice Sheet Workshop* (NSF/NASA, Julian, CA, 24–27 Sep. 2014); *International Symposium on Interactions of Ice Sheet and Glaciers with the Ocean* (IGS/FRISP, La Jolla, CA 5–10 Jun. 2011)
- Session Chair: *Archives and Observations From Sub-Ice Environments* (AGU Fall Meeting 2021, 2022, 2023); *Sub-Ice-Sheet and Sub-Ice-Shelf Environments: Bridging the Gap Between Modern Observations and Geologic Records* (AGU Fall Meeting 2019, 2020); *Cryosphere/Sea-Level* (2018 UNAVCO Science Workshop); *Advances in understanding processes at the beds of glaciers and ice sheets* (AGU Fall Meeting 2015, 2016, 2017); *IgniteIGS—Early career perspectives on the future of ice-ocean research* (IGS La Jolla 2016); *Greenland Run-off* (IGS La Jolla 2016)
- Judging: *Flash Freeze Cryosphere Innovation Award for Students* (AGU Fall Meeting

2017); *Outstanding Student Presentation Award* (AGU Fall Meeting 2017)

White Papers

- *CryoCloud: Accelerating Discovery for NASA Cryosphere Communities with Open-Cloud Infrastructure*, submitted to NASA NNH23ZDA005L: Request for Information: Scientific Data and Computing Architecture to Support Open Science, 2023. [available [here](#)]
- *2021 Antarctic Subsea Cable Workshop Report: High-Speed Connectivity Needs to Advance US Antarctic Science*, submitted to National Science Foundation Office of Polar Programs, 2021.
- *Dive, Dive, Dive: Accessing the Subsurface of Ocean Worlds*, submitted to the NASA Planetary Science Decadal Survey, 2020.
- *Early Career Community Vision For Future Magnetotelluric Facility*, submitted to the National Science Foundation in preparation for a competition for a future unified geophysical facility, 2020.
- *An Early Career Investigator Community Vision for the Future NSF Geophysical Facility: Instrumentation Services Needs*, submitted to the National Science Foundation in preparation for a competition for a future unified geophysical facility, 2020.
- *Assessment of East Antarctic Ice Sheet sensitivity to warming and its potential for contributions to sea level rise*, submitted to U.S. Ice Drilling Program Subglacial Access Working Group, 2019.
- *Access Drilling Priorities in the Ross Ice Shelf Region*, submitted to U.S. Ice Drilling Program Subglacial Access Working Group, 2019.
- *How much, how fast? A decadal science plan quantifying the rate of change of the West Antarctic Ice Sheet now and in the future*, submitted to NSF Office of Polar Programs, 2016.

UNIVERSITY SERVICE

Colorado School of Mines

Mines Geophysics Undergraduate Advisory Committee, 2022–present
 Mines Geophysics Field Camp Director, 2021–present
 Mines Geophysics ReImagine Committee, 2021–present
 Mines Geophysics Safety Committee, 2021–present
 Geophysics GP100@100 Fundraising , 2021–present
 Geophysics Diversity, Inclusion, & Access Committee, committee chair, 2019–present
 Mines Diversity Council, 2019–present
 Mines Field Session Compensation Task Force, 2022
 Geophysics Graduate Advisory Committee, member, 2019–2022
 Faculty Search Committee: Computational Science & Data Analytics Cluster, 2020–21
 Applied Data Science & Machine Learning, subcommittee chair
 Computation Hydrology, subcommittee member
 #idigmines, department representative, 2019–2020
 Faculty Search Committee: Geophysical Data Science, 2019–2020

Stanford University

Postdoctoral Scholar Committee for School of Earth Strategic Plan, member, 2017

Scripps Institution of Oceanography

Leadership Committee for Peer Mentor Program, founding student member, 2014–2016
 Scripps Polar Seminar, lead organizer, 2013–2016
 Scripps Earth Section Seminar, co-organizer 2012–2013

Dartmouth College

Faculty Search Committee: Geomorphology, student representative, 2008
 Faculty Search Committee: Remote Sensing student representative, 2007

SIGNIFICANT FIELD EXPERIENCE	Pingo Canadian Landmark, Surface Geophysics <i>Mines Lead</i>	2023
	Alaskan North Slope, Surface Geophysics <i>Mines Lead</i>	2021
	Whillans Ice Plain, West Antarctica, Surface Geophysics <i>Expedition Lead, Field Medic</i>	2019–2020
	Greenland, Airborne Geophysics (Operation IceBridge) <i>Mission Science Team member visit</i>	2019
	Whillans Ice Plain, West Antarctica, Surface Geophysics <i>Expedition Lead, Field Medic</i>	2018–2019
	Whillans Ice Plain, West Antarctica, Surface Geophysics <i>Expedition Lead, Field Medic</i>	2017–2018
	Whillans Ice Plain, West Antarctica, Surface Geophysics <i>Expedition Lead, Field Medic</i>	2016–2017
	Ross Ice Shelf, Antarctica, Airborne Geophysics <i>Flight Scientist, Data Engineer</i>	2015
	Whillans Ice Plain, West Antarctica, Surface Geophysics <i>Expedition Lead, Field Medic</i>	2014–2015
	Whillans Ice Plain, West Antarctica, Surface Geophysics <i>GPS Team Leader, Field Medic</i>	2013–2014
	Whillans Ice Plain, West Antarctica, Surface Geophysics <i>Surface Geophysics Team Leader, Field Medic</i>	2012–2013
	Whillans Ice Plain, West Antarctica, Surface Geophysics	2011–2012
	Northern New Mexico, Southern Colorado, Geology and Geomorphology <i>Field Trip Organizer and Leader</i>	2010
	Cherryfield, Maine, Fluvial Geomorphology & Riparian Habitat Surveying	2009
	Banff National Park, Alberta, Canada, Glaciology	2008
	Montana, Idaho, Eastern Washington, Geology	2008
	Ischia Island, Italy, in situ Geochemical Analysis	2008
	Puerto Rico, Soil and Water Sampling	2007
	Western United States, Dartmouth Earth Sciences Field Camp	2006
	Hawaii, Volcanology and Remote Sensing	2006
HONORS AND AWARDS	Colorado School of Mines Diversity Progress Report President's Choice Award, 2023 Mines Research Council's Excellence in Research Award (Junior Faculty), 2022–2023 Mines Earth & Society Programs Outstanding Assistant Professor Award, 2022–2023 University Public Policy Fellow, inaugural cohort, 2022–2023 Outstanding Mines Faculty Award, 2021–2022 Department of Geophysics T.K. Young Geophysics Leadership Award, 2021 National Science Foundation NSF CAREER Award recipient, 2022 Mentor for NSF Graduate Research Fellowship Program recipient (H. Verboncoeur), 2022 National Aeronautics and Space Administration Robert H. Goddard Award as part of the Operation IceBridge Science Team, 2020 Group Achievement Award as part of the ICESat-2 Mission Science Team, 2020 National Sciences and Engineering Research Council of Canada Mentor for NSERC Graduate Scholarship–Doctoral Recipient (E. Savidge), 2021 American Geophysical Union Editors' Citation for Excellence in Refereeing, Geophysical Research Letters, 2019 West Antarctic Ice Sheet Workshop Mentor for Best Student Presentation recipient (H. Verboncoeur), 2021 Best Student Presentation recipient, 2013	

Scripps Institution of Oceanography

Student Video Challenge award winner, 2014

Director's Cabinet Quarterly Meeting invited presenter, May 2014

Pontifical Academy of Sciences/Pontifical Academy of Social Sciences

Sustainable Humanity, Sustainable Nature: Our Responsibility

Joint Workshop invited observer, May 2014

United States Congress

Antarctic Service Medal recipient, 2012

Dartmouth College

NASA Space Grant Graduate Student Award, 2010

Aisstant Curator for Dana Collection of Minerals, 2007-2008

PROFESSIONAL MEMBERSHIPS American Geophysical Union, 2008–present

International Glaciological Society, 2010–present

Society for Advancement of Chicanos/Hispanics and Native Americans in Science

2019–present

Institute of Electrical and Electronics Engineers, 2020–present

American Meteorological Society, 2017–2019

Sigma Xi, 2023–present

CONFERENCE

* indicates student or postdoctoral advisee

ABSTRACTS

† indicates M.R.S. presenting author

‡ indicates contributed equally as co-first author

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- [223] Bryant, M., A. Borsa, C. C. Masteller, R. J. Michaelides*, M. R. Siegfried and A. Young, 2023. Mapping coastal morphology and retreat rates along the Beaufort Sea Coast using high-resolution satellite elevation measurements, *AGU Fall Meeting*.
- [222] *Follingstad, V., R. J. Michaelides*, M. R. Siegfried, K. Hughson, J. Bradford, A. Kubas, E. Quartini, A. Mullen, A. Routt, B. Schmidt, H. G. Sizemore and A. Swidinsky, 2023. Quantifying the Surface Deformation of Pingos on the Alaskan North Slope using Interferometric Synthetic Aperture Radar (InSAR), *AGU Fall Meeting*.
- [221] *Howard, J., J. McCall*, B. S. Murphy, J. D. Pepin, A. Miller*, B. Mullett*, B. Passerella, B. Dugan, M. R. Siegfried and Colorado School of Mines 2023 Geophysics Field Camp, 2023. Shallow Magnetotelluric Soundings for Developing a Hydrogeological Conceptual Model of the Steamboat Basin and North Park, Colorado, *AGU Fall Meeting*.
- [220] Hughson, K., B. Schmidt, M. R. Siegfried, J. Bradford, A. Kubas, A. Routt, V. Follingstad*, R. J. Michaelides*, A. Swidinsky, A. Mullen, E. Quartini and H. G. Sizemore, 2023. Exploring the Diversity of Pingo Morphology and Structure: A Comparative Analysis of Pingos in the Alaskan and Canadian Arctics, *AGU Fall Meeting*.
- [219] Kubas, A., A. Routt, K. Hughson, M. R. Siegfried, J. Bradford, V. Follingstad*, A. D. Mullen, A. Swidinsky, E. Quartini, H. G. Sizemore, R. J. Michaelides* and B. Schmidt, 2023. Exploring Alien Ice Hills: Terrestrial Pingos as Analogs for Planetary Hydrology, *AGU Fall Meeting*.
- [218] *Michaelides, R. J., M. R. Siegfried, J. Lovekin, K. Berry, D. L. Roth and B. Dugan, 2023. Wildfire Progression Time Series Mapping with Interferometric Synthetic Aperture Radar (InSAR), *AGU Fall Meeting*.
- [217] *Miller, A., H. Verboncoeur*, E. Reddy and M. R. Siegfried, 2023. Glaciers in the South: A Comprehensive Framework for Evaluating Public School District Capacities for Cryosphere

Education, *AGU Fall Meeting*.

- [216] Noh, K., A. Swidinsky, K. Hughson, B. Schmidt, M. R. Siegfried, J. Bradford, A. Kubas, E. Quartini, A. Routt, V. Follingstad*, R. J. Michaelides*, A. Mullen and H. G. Sizemore, 2023. Can time-domain electromagnetics be used to characterize cryo-hydrogeological systems on Mars and Ceres? Insights from the Canadian Arctic, *AGU Fall Meeting*.
- [215] Ryan, J., B. Medley, C. M. Stevens, T. C. Sutterley and M. R. Siegfried, 2023. Role of snowfall on Greenland Ice Sheet melt-albedo feedbacks, *AGU Fall Meeting*.
- [214] Wagner, T. J. W., N. Sartore, N. Pujara, M. R. Siegfried and L. Zoet, 2023. The role of footloose-type calving at the front of the Ross Ice Shelf, *AGU Fall Meeting*.
- [213] *Sauthoff, W., M. R. Siegfried, B. E. Smith and R. Venturelli, 2023. Altimetry-based, surface-deformation delineation algorithm reveals tens of new active subglacial lake candidates across Antarctica, *AGU Fall Meeting*.
- [212] *Savidge, E., T. Snow* and M. R. Siegfried, 2023. Multi-decadal Record of Sensible-Heat Polynya Variability from Satellite Optical and Thermal Imagery at Pine Island Glacier, West Antarctica, *AGU Fall Meeting*.
- [211] Schroeder, D. M. and M. R. Siegfried, 2023. Enabling Subglacial Geodesy Through High-Precision Radar Sounding and GNSS Time Series Observations, *AGU Fall Meeting*.
- [210] Siegfried, M. R., L. Miller, K. A. Christianson, I. Das, J. A. MacGregor, E. MacKie, B. Medley and P. D. Neff, 2023. Centering community at scientific meetings: 30 years of the West Antarctic Ice Sheet Workshop, *AGU Fall Meeting*, [invited].
- [209] Smith, B. E., B. Medley, T. C. Sutterley, N. Holschuh, M. R. Siegfried and T. Neumann, 2023. Mass balance of Antarctica and Greenland from two decades of laser-altimetry measurements, *AGU Fall Meeting*.
- [208] *Snow, T., M. R. Siegfried, M. Zhao, A.-S. Zinck, W. Sauthoff*, L. Bachelot, S. L. Howard, L. Padman, A. Harris, S. Grigsby, E. Abrahams*, W. Zheng and W. Abdalati, 2023. Observing persistent polynyas at the Antarctic coastline with year-round ICESat-2 surface elevations and Landsat temperature fields, *AGU Fall Meeting*.
- [207] *Snow, T., J. D. Millstein*, W. Sauthoff*, J. Scheick, J. Colliander, W. J. Leong, J. Munroe, F. Perez, D. Felikson, T. C. Sutterley, M. Fisher, F. Sapienza, E. Abrahams, W. Zheng and M. R. Siegfried, 2023. Accelerating scientific discovery for NASA Cryosphere communities with the CryoCloud JupyterHub, *AGU Fall Meeting*.
- [206] *Snow, T., J. Millstein*, W. Sauthoff*, J. Scheick, W. J. Leong, J. Colliander, J. Munroe, F. Perez, D. Felikson, T. C. Sutterley, M. Fisher, F. Sapienza, E. Abrahams, W. Zheng and M. R. Siegfried, 2023. CryoCloud JupyterHub for NASA Cryosphere communities: Open science in the cloud as a process, not a product, *AGU Fall Meeting*.
- [205] Tarzona, A., W. Chu, H. Verboncoeur*, M. R. Siegfried, D. M. Schroeder, A. Altaweel, B. Amaro and K. Tran, 2023. Improved Vertical Calibration of the Historical SPRI-NSF-TUD Airborne Radar Echo Sounding Ice Thickness Measurements at Ross Ice Shelf, Antarctica, *AGU Fall Meeting*.
- [204] Venturelli, R., W. Sauthoff*, M. R. Siegfried, T. J. Vick-Majors, C. Davis and B. E. Rosenheim, 2023. Antarctic subglacial lakes as repositories of Holocene ice-ocean interaction, *AGU Fall Meeting*.
- [203] *Verboncoeur, H., M. R. Siegfried, J. P. Winberry, N. Holschuh, D. Byrne*, W. Sauthoff*, T. C. Sutterley and B. Medley, 2023. Multidecadal signals of dynamic thickness change in the Crary Ice Rise region driven by century-scale reorganization of the southern Ross Sea sector ice streams, *AGU Fall Meeting*.
- [202] Sartore, N., T. Wagner, N. Pujara, M. R. Siegfried and L. Zoet, 2023. The role of footloose-type calving at the front of the Ross Ice Shelf, *West Antarctic Ice Sheet Workshop*.
- [201] *Savidge, E., T. Snow* and M. R. Siegfried, 2023. Multi-decadal Record of Sensible-Heat

- Polynya Variability from Satellite Optical and Thermal Imagery at Pine Island Glacier, West Antarctica, *West Antarctic Ice Sheet Workshop*.
- [200] *Snow, T., M. R. Siegfried, M. Zhao, A.-S. Zinck, W. Sauthoff*, L. Bachelot, S. Howard, L. Padman, A. Harris, S. Grigsby, E. Abrahams*, W. Zheng and W. Abdalati, 2023. Observing persistent polynyas at the Antarctic coastline with year-round ICESat-2 surface elevations and Landsat temperature fields, *West Antarctic Ice Sheet Workshop*.
- [199] Tarzona, A., W. Chu, H. Verboncoeur*, M. R. Siegfried, D. Schroeder, A. Altaweel, B. Amaro and K. Tran, 2023. Extraction of Ice Thickness Measurements from Digitized Historical SPRI-NSF-TUD Airborne Radar Echo Sounding at Ross Ice Shelf, Antarctica through Computer Vision Algorithms, *West Antarctic Ice Sheet Workshop*.
- [198] Schroeder, D. M. and M. R. Siegfried, 2023. Enabling Subglacial Geodesy Through High-Precision Radar Sounding and GNSS Time Series Observations, *Scientific Committee on Antarctic Research INSTabilities & Thresholds in ANTArctic (INSTANT) Conference 2023*.
- [197] Siegfried, M. R., M. Dinniman and W. Sauthoff*, 2023. Tracing Antarctic freshwater from the grounding zone to the ice front in the Ross Embayment, *Scientific Committee on Antarctic Research INSTabilities & Thresholds in ANTArctic (INSTANT) Conference 2023*.
- [196] Siegfried, M. R., M. Dinniman and W. Sauthoff*, 2023. Tracing Antarctic freshwater from the grounding zone to the ice front in the Ross Embayment, *Southern Ocean Observing System Symposium 2023: Southern Ocean in a Changing World*.
- [195] Rosenheim, B., R. Venturelli, C. Davis, A. Michaud, B. Boehman, B. Christner, V. Galy, D. Harwood, A. Leventer, W. Li, Z. Liu, T. Vick-Majors, M. R. Siegfried, J. Priscu and the SALSA Science Team, 2023. Millennial scale marine incursion into an isolated environment fuels a contemporary subglacial microbial community beneath the West Antarctic Ice Sheet, *Geochemical Society Goldschmidt Conference*.
- [194] *Sauthoff, W., M. R. Siegfried and B. E. Smith, 2023. Surface-deformation delineation algorithm reveals subglacial lake candidates and underestimates of subglacial volume fluxes, *International Glaciology Society Symposium on the Edges of Glaciology*.
- [193] Siegfried[†], M. R., R. A. Venturelli[†], M. O. Patterson, W. Arnuk, T. D. Campbell, C. D. Gustafson, A. B. Michaud, B. K. Galton-Fenzi, M. B. Hausner, S. N. Holzschuh*, B. Huber, K. D. Mankoff, D. M. Schroeder, P. Summers, S. Tyler, S. P. Carter, H. A. Fricker, D. M. Harwood, A. Leventer, B. E. Rosenheim, M. L. Skidmore, J. C. Priscu and the SALSA Science Team, 2023. The life and death of a subglacial lake in West Antarctica, *International Glaciology Society Symposium on the Edges of Glaciology*.
- [192] *Verboncoeur, H., M. R. Siegfried, J. P. Winberry, N. Holschuh and W. Sauthoff*, 2023. Multidecadal signals of dynamic thickness change in the Crary Ice Rise region driven by century scale reorganization of the Siple Coast ice Streams, *2nd Annual Colorado Glaciology Workshop*.
- [191] *Snow, T., J. Millstein*, W. Sauthoff*, J. Colliander, C. Holdgraf, F. Pérez and M. R. Siegfried, 2023. Accelerating Discovery for NASA Cryosphere Communities with Jupyter-Hub, *JupyterCon*.
- [190] *Snow, T., J. Millstein*, W. Sauthoff*, J. Colliander, C. Holdgraf, F. Pérez and M. R. Siegfried, 2023. Accelerating Discovery for NASA Cryosphere Communities with Open-Cloud Infrastructure, *American Meteorological Society Annual Meeting*.
- 2022 [189] *Abrahams, E., T. Snow*, E. Lee*, W. Zheng, M. Field*, E. Savidge*, F. Sapienza, S. Grigsby*, J. Taylor, M. R. Siegfried, and F. Pérez, 2022. Automated Detection of West Antarctic Persistent Polynyas with Multiband Remote Sensing Imagery, *AGU Fall Meeting*.

- [188] Bryant, M., E. J. Anderson, A. A. Borsa, C. C. Masteller, R. J. Michaelides*, M. R. Siegfried and A. Young, 2022. Integrating ICESat-2 altimetry, optical imagery, and digital elevation models to measure erosion rates and coastal morphology along the Alaskan Beaufort Sea Coast, *AGU Fall Meeting*.
- [187] *Field, M., T. Snow*, E. Abrahams*, E. Lee*, C. Baumhoer and M. R. Siegfried, 2022. Mapping Ice Shelf Calving Fronts at Thwaites Glacier using Deep Learning and Satellite Imagery in a Cloud-Based Workflow, *AGU Fall Meeting*.
- [186] Medley, B., T. C. Sutterley, M. E. Dattler, J. Lenaerts, T. B. Overly, J. Ryan, M. R. Siegfried, C. M. Stevens, M. Thompson-Munson and N. Wever, 2022. Constraining surface mass balance, firn air content, ICESat-2 volume change, and GRACE/-FO mass change to improve ice-sheet mass balance estimates, *AGU Fall Meeting*.
- [185] Roth, D. L., G. Jin, M. Bezada, A. Titov, C. C. Masteller, B. Tate and M. R. Siegfried, 2022. The Sound of Water: Spatially Continuous River Monitoring Through Distributed (Hydro)Acoustic Sensing, *AGU Fall Meeting*.
- [184] *Sauthoff, W., M. R. Siegfried and B. E. Smith, 2022. CryoSat-2/ICESat-2 integrated time series and comparison of shoreline evolution in Antarctic active subglacial lakes, *AGU Fall Meeting*.
- [183] *Savidge, E., T. Snow*, M. R. Siegfried, Y. Zheng, B. Villas Bôas, G. Bortolotto, L. Boehme and K. E. Alley, 2022. Wintertime Polynya Structure and Variability at Pine Island Glacier, West Antarctica, from Thermal Remote Sensing and Seal-borne Observations, *AGU Fall Meeting*.
- [182] Stubblefield, A. G., W. Sauthoff*, M. R. Siegfried, M. W. Spiegelman and C. Meyer, 2022. Reconstructing subglacial lake activity with physics-based altimetry inversions, *AGU Fall Meeting*.
- [181] *Snow, T., A. Wåhlin, B. Queste, G. Bortolotto, L. Boehme, E. Savidge*, E. Abrahams, M. R. Siegfried and W. Abdalati, 2022. Pairing eyes in the sky with instruments in the deep: mapping the Antarctic Coastal Current in the Amundsen Sea, *AGU Fall Meeting*.
- [180] Tarzona, A., W. Chu, H. Verboncoeur*, M. R. Siegfried, D. M. Schroeder, L. Combs, A. Prabu, A. Altaweel and K. Tran, 2022. Geographical Repositioning Efforts and Vertical Calibration of Z-scopes from SPRI-NSF-TUD surveys at Ross Ice Shelf, Antarctica, *AGU Fall Meeting*.
- [179] Venturelli, R., B. Boehman, C. Davis, J. Hawkings, S. E. Johnston, C. Gustafson, A. B. Michaud, C. Mosbeux, M. R. Siegfried, T. Vick-Majors, V. Galy, R. G. Spencer, S. Warny, B. Christner, J. E. Dore, H. A. Fricker, D. M. Harwood, A. Leventer, J. C. Priscu, M. L. Skidmore, B. E. Rosenheim and the SALSA Science Team, 2022. Constraints on the Timing and Extent of Deglacial Grounding Line Retreat in West Antarctica from Subglacial Sediments, *AGU Fall Meeting*.
- [178] *Verboncoeur, H., M. R. Siegfried, P. Winberry, N. Holschuh, A. Tarzona, W. Chu and D. Schroeder, 2022. Leveraging Multidecadal Remote Sensing Data to Evaluate Interactions Between Century-Scale Ice-Dynamics and the Local Evolution of Crary Ice Rise, *AGU Fall Meeting*.
- [177] Zheng, W., F. Pérez, C. Holdgraf, E. Sundell, M. R. Siegfried, T. Snow*, S. Grigsby, F. Sapienza, J. Taylor and the Executable Books Community, 2022. Jupyter Book-based Supplemental Material: a FAIR Practice to Connect Research Articles with Scientific Data, *AGU Fall Meeting*.
- [176] Zheng, W., F. Sapienza, M. R. Siegfried, S. Grigsby, T. Snow*, F. Pérez and J. Taylor, 2022. Mapping dynamic mass loss by fully decomposing glacier elevation change, *AGU Fall Meeting*.
- [175] Millstein, J., T. Snow*, W. Sauthoff*, J. Colliander, C. Holdgraf, F. Pérez, T. Sutterley and M. R. Siegfried, 2022. Accelerating Discovery for NASA Cryosphere Communities

- with Open-Cloud Infrastructure, *ICESat-2 Open Science Conference*.
- [174] *Sauthoff, W., M. R. Siegfried and B. E. Smith, 2022. ICESat-2-extended time series of subglacial volume fluxes using time-variable shorelines of Antarctic active subglacial lakes, *ICESat-2 Open Science Conference*.
 - [173] Siegfried[†], M. R., R. A. Venturelli[†], M. O. Patterson, W. Arnuk, T. D. Campbell, C. D. Gustafson, A. B. Michaud, B. K. Galton-Fenzi, M. B. Hausner, S. N. Holzschuh*, B. Huber, K. D. Mankoff, D. M. Schroeder, P. Summers, S. Tyler, S. P. Carter, H. A. Fricker, D. M. Harwood, A. Leventer, B. E. Rosenheim, M. L. Skidmore, J. C. Priscu and the SALSA Science Team, 2022. The life and death of a subglacial lake in West Antarctica, *ICESat-2 Open Science Conference*.
 - [172] *Snow, T., W. Sauthoff*, M. Zhao, L. Bachelot, A.-S. Zinck and M. R. Siegfried, 2022. A tale at the coastline: paired year-round ICESat-2 and Landsat thermal infrared observations of persistent polynyas, *ICESat-2 Open Science Conference*.
 - [171] Hughson, K. H., B. E. Schmidt, E. Quartini, R. Michaelides*, M. R. Siegfried, A. Mullen, J. H. Bradford, J. Scully, A. Swidinsky and H. G. Sizemore, 2022. Terrestrial Pingos as morphometric and geophysical analogs for small hills on Ceres, *GSA Connects Annual Meeting*.
 - [170] *Sauthoff, W., M. R. Siegfried and B. E. Smith, 2022. Variable shorelines of Antarctic active subglacial lakes reveal large underestimates of subglacial volume fluxes, *GSA Connects Annual Meeting*.
 - [169] Robel, A., C. Meyer, J. Sim, M. R. Siegfried and C. Gustafson, 2022. Potentially Significant Water Exfiltration from Subglacial Till Driven by Contemporary Ice Sheet Thinning, *West Antarctic Ice Sheet Workshop*.
 - [168] *Snow, T., A. Wåhlin, B. Queste, G. Bortolotto, L. Boehme, E. Savidge*, E. Abrahams, M. R. Siegfried and W. Abdalati, 2022. Pairing eyes in the sky with instruments in the deep: mapping the Antarctic Coastal Current in the eastern Amundsen Sea, *West Antarctic Ice Sheet Workshop*.
 - [167] Tarzona, A., W. Chu, H. Verboncoeur*, M. R. Siegfried, D. Schroeder, L. Combs, A. Altaweel, A. Prabu and K. Tran, 2022. Archival airborne radio-echo sounding data geographical repositioning and calibration progress at Ross Ice Shelf, Antarctica, *West Antarctic Ice Sheet Workshop*.
 - [166] *Verboncoeur, H., M. R. Siegfried, P. Winberry, N. Holschuh, A. Tarzona, W. Chu and D. Schroeder, 2022. Multidecadal surface elevation anomalies of the Cray Ice Rise region from combined ICESat, CryoSat-2, and ICESat-2 altimetry, *West Antarctic Ice Sheet Workshop*.
 - [165] Zheng, W., F. Pérez, E. Abrahams, S. Grigsby*, F. Sapienza, M. R. Siegfried, T. Snow* and J. Taylor, 2022. Recent thinning and speed-up may make the upper Pine Island Glacier more prone to diffusive thinning, *West Antarctic Ice Sheet Workshop*.
 - [164] *Savidge, E., T. Snow*, M. R. Siegfried, Y. Zheng, A. B. V. Bôas, G. A. Bortolotto, L. Boehme and K. E. Alley, 2022. Linking thermal remote sensing and seal-borne measurements to investigate wintertime polynya structure and variability at Pine Island Glacier, West Antarctica, *International Symposium on Ice, Snow and Water in a Warming World*.
 - [163] *Snow, T., A. Wåhlin, B. Queste, G. Bortolotto, L. Boehme, E. Savidge*, E. Abrahams, M. R. Siegfried and W. Abdalati, 2022. Persistent polynya variability infers basal channel outflow at the Eastern Thwaites Ice Shelf, *International Symposium on Ice, Snow and Water in a Warming World*.
 - [162] *Snow, T., M. Field*, E. Abrahams, F. Sapienza, W. Zheng, E. Savidge*, F. P. J. Taylor, W. Abdalati, T. Scambos and M. R. Siegfried, 2022. Single channel and split-window SSTs from Landsat in Antarctica, *GHRSSST23 International Science Team Meeting*.
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- and A. Swidinsky, 2022. Detailed mapping of the internal structure of Arctic pingos using ground-penetrating radar, *19th International Conference on Ground Penetrating Radar*.
- [160] *Hubbard, K. A., M. R. Siegfried, W. Sauthoff* and B. Dugan, 2022. Integrating visual imagery and modeling to assess groundwater connectivity in Antarctica’s Taylor Valley, *AGU Frontiers in Hydrology Meeting*.
- [159] *Sauthoff, W., M. R. Siegfried and B. E. Smith, 2022. Antarctic subglacial lake shoreline migration and variability in response to fill-drain cycles, *AGU Frontiers in Hydrology Meeting*.
- [158] Siegfried[†], M. R., R. A. Venturelli[†], M. O. Patterson, W. Arnuk, T. Campbell, C. D. Gustafson, A. Michaud, B. Galton-Fenzi, M. B. Hausner, S. N. Holzschuh*, B. Huber, K. Mankoff, D. M. Schroeder, P. Summers, S. Tyler, S. P. Carter, H. A. Fricker, D. Harwood, A. Leventer, B. E. Rosenheim, M. Skidmore, J. C. Priscu and the SALSA Science Team, 2022. The Life and Death of a Subglacial Lake in West Antarctica: A Process-to-Paleo Perspective, *AGU Frontiers in Hydrology Meeting*.
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- [154] Pérez, F., E. Sundell, Y. Panda, E. Abrahams, A. Azari, S. Grigsby, C. Holdgraf, F. Sapienza, M. R. Siegfried, T. Snow*, J. Taylor and W. Zheng, 2022. Keeping your head in the clouds: reproducible, collaborative science with open cloud infrastructure, *EarthCube Annual Meeting*.
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- 2021 [152] Siegfried[‡], M. R., R. A. Venturelli[‡], M. O. Patterson, W. Arnuk, T. Campbell, C. D. Gustafson, A. B. Michaud, B. K. Galton-Fenzi, M. B. Hausner, S. N. Holzschuh*, B. Huber, K. Mankoff, D. M. Schroeder, P. Summers, S. Tyler, S. P. Carter, H. A. Fricker, D. Harwood, A. Leventer, B. E. Rosenheim, M. Skidmore, J. C. Priscu and the SALSA Science Team, 2021. The life and death of a subglacial lake in West Antarctica, *AGU Fall Meeting*.
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- [147] Bryant, M., A. A. Borsa, R. J. Michaelides* and M. R. Siegfried, 2021. Exploring coupled surface hydrology and freeze-thaw dynamics around Toolik Lake, Alaska, using ICESat-2 and InSAR data, *AGU Fall Meeting*.
- [146] Gardner, A. S., S. Adusumilli, P. A. Arndt, K. Brunt, B. M. Csatho, D. Felikson, F. Paolo, H. A. Fricker, C. A. Greene, S. Kacimi, N. T. Kurtz, R. Kwok, B. Medley, T. Neumann, J. Nilsson, A. Petty, D. E. Shean, M. R. Siegfried and B. Smith, 2021. Surface Topography Observations Needed to Advance Cryosphere Science in the Coming Decades, *AGU Fall Meeting*.
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- [141] Smith, B. E., T. C. Sutterley, S. Dickinson, B. P. Jelley, S. Adusumilli, H. A. Fricker, A. S. Gardner, N. Holschuh, T. Neumann, L. Padman and M. R. Siegfried, 2021. An introduction to ICESat-2's gridded land-ice products, *AGU Fall Meeting*.
- [140] Sutterley, T. C., B. Smith, K. Brunt, L. Padman, S. L. Howard, M. R. Siegfried, A. S. Gardner, H. A. Fricker, S. Adusumilli and N. Holschuh, 2021. Estimating Antarctic Grounding Zone Ice Flexure with ICESat-2 Data, *AGU Fall Meeting*.
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- [136] *Sauthoff, W., M. R. Siegfried and B. E. Smith, 2021. Observing connected subglacial lake drainage at Slessor Glacier, East Antarctica, using ICESat-2 laser altimetry, *WAIS Workshop*.
- [135] *Savidge, E., T. Snow*, M. R. Siegfried, L. Boehme, G. A. Bortolotto and K. E. Alley, 2021. Investigating persistent polynya structure and variability at Pine Island Glacier, West Antarctica, using seal-borne measurements and thermal remote sensing, *WAIS Workshop*.
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- [132] Skidmore, M., J. Barker, B. Christner, C. Davis, J. E. Dore, C. Gardner, B. Gill-Olivas, A. Michaud, J. Hawkings, W. Li, W. B. Lyons, M. R. Siegfried, A. Steigmeyer, M. Tranter, T. J. Vick-Majors, J. C. Priscu and the SALSA Science Team, 2021. Solute sources and weather processes in subglacial lake systems beneath the West Antarctic Ice Sheet, *26th International Symposium on Polar Sciences*.
- [131] Summers, P. T., D. M. Schroeder and M. R. Siegfried, 2021. Constraining ice sheet basal sliding and horizontal velocity profiles using a stationary phase sensitive radar sounder, *IGARSS 2021: 2021 IEEE International Geoscience and Remote Sensing Symposium*.
- [130] Zheng, W., S. Grigsby*, F. Sapienza, J. Taylor, T. Snow*, F. Perez and M. R. Siegfried, 2021. Mapping ice flow velocity using an interactive, cloud-based feature tracking workflow, *Arctic Research Collaboration Workshop*.
- [129] Livingstone, S., H. Björnsson, J. Bowling, W. Chu, C. Dow, H. A. Fricker, Y. Li, M. McMillan, J. Mikucki, F. Ng, N. Ross, A. Rutishauser, R. Sanderson, M. Siegert, M. R. Siegfried, A. Sole and K. Winter, 2021. Global synthesis of subglacial lakes and their changing role in a warming climate, *EGU General Assembly*.
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- [127] *Michaelides, R. J., R. H. Chen, K. M. Schaefer, A. Parsekian, G. V. Frost, Jr., T. D. Sullivan, H. A. Zebker, M. Moghaddam, S. Natali and M. R. Siegfried, 2020. Wildfire, permafrost, and vegetation interactions in a discontinuous permafrost region revealed by dual-frequency airborne radar observations, *AGU Fall Meeting*.
- [126] Bienert, N. L., D. M. Schroeder, S. T. Peters, E. MacKie, M. R. Siegfried and E. Dawson, 2020. Design of Direct Path Synchronized Bistatic Radar Technique for Long Offset Glacial Temperature Tomography, *AGU Fall Meeting*.
- [125] Bryant, M., A. A. Borsa, H. A. Fricker, R. J. Michaelides, W. Neely and M. R. Siegfried, 2020. Integrating ICESat-2 and Sentinel-1 measurements to quantify thaw subsidence in Alaska, *AGU Fall Meeting*.
- [124] Campbell, T., M. L. Skidmore, M. R. Siegfried, J. Winans, B. Zook, J. C. Priscu and the SALSA Science Team, 2020. Basal Ice Stratigraphy from Mercer Ice Stream, West Antarctica: Implications for sub ice stream accretionary processes, *AGU Fall Meeting*.
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- [122] Gustafson, C., K. Key, M. R. Siegfried and H. A. Fricker, 2020. Extensive saline groundwater beneath Whillans Ice Stream, West Antarctica, *AGU Fall Meeting*.
- [121] Hughson, K., B. Schmidt, K. Udell, H. G. Sizemore, J. E. C. Scully, D. Buckowski, J. Bradford, M. R. Siegfried, A. Swidinsky, C. A. Raymond and C. T. Russell, 2020. A Comparative Morphological and Geospatial Analysis of Terrestrial Pingos and Anomalous Hills on Ceres, *AGU Fall Meeting*.
- [120] Rosenheim, B. E., R. Venturelli, C. Subt, I. M. Browne, T. M. King, T. Campbell, P. J. Bart, J. E. Dore, D. M. Harwood, J. Kingslake, J.-I. Lee, A. Leventer, A. B. Michaud, M. Patterson, A. Shevenell, M. R. Siegfried, M. L. Skidmore, K.-C. Yoo, H. I. Yoon and the SALSA Science Team, 2020. What can advances in Antarctic deglacial sediment ^{14}C dating tell us about grounding line evolution?, *AGU Fall Meeting*.
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- [118] Sutterley, T. C., B. E. Smith, K. Brunt and M. R. Siegfried, 2020. Evaluating Southern Ocean Tides Using ICESat-2 over Ice Shelves, *AGU Fall Meeting*.
- [117] Venturelli, R., C. Davis, T. Vick-Majors, W. Li, M. R. Siegfried, J. D. Barker, A. Leventer, D. M. Harwood, B. Christner, H. A. Fricker, J. C. Priscu, B. E. Rosenheim and the SALSA Science Team, 2020. On the origin and cycling of Holocene-aged carbon beneath the West Antarctic Ice Sheet, *AGU Fall Meeting*.
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- [115] Culberg, R., M. R. Siegfried, B. Medley and D. M. Schroeder, 2020. Quantifying uncertainty in a 16-year time series of Larsen C Ice Shelf thickness from airborne radar sounding, *WAIS Workshop*.
- [114] Gustafson, C. D., K. Key, M. R. Siegfried and H. A. Fricker, 2020. Imaging salty groundwater in sedimentary basins beneath Whillans Ice Plain, West Antarctica, *WAIS Workshop*.
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- [112] Siegfried, M. R., R. A. Venturelli, M. O. Patterson, T. Campbell, J. Dore, H. A. Fricker, C. Gustafson, A. Leventer, A. Michaud, J. Priscu, B. E. Rosenheim, M. Skidmore, B. Huber, K. Mankoff, S. Cook, B. Galton-Fenzi and the SALSA Science Team, 2020. The life cycle of an Antarctic active subglacial lake: A process to paleo perspective, *SCAR Open Science Conference*.
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- [110] Adusumilli, S., H. A. Fricker, B. Medley, L. Padman and M. R. Siegfried, 2019. Time-dependent freshwater fluxes from deep and shallow meltwater sources under Antarctica's large ice shelves, *AGU Fall Meeting*.
- [109] Becker, M. K., H. A. Fricker, L. Padman, M. R. Siegfried, B. Medley, I. Das, S. I. Cordero, R. E. Bell and the ROSETTA-Ice Team, 2019. Mapping Marine Ice Beneath Ross Ice Shelf, Antarctica, with ROSETTA-Ice Radar Sounding and ICESat-2 Laser Altimetry, *AGU Fall Meeting*.
- [108] Bienert, N. L., D. M. Schroeder, S. T. Peters, E. Dawson, E. Mackie and M. R. Siegfried, 2019. Inferring Temperature Distribution in Shear Margins from Large-Offset Bistatic Radar Sounding, *AGU Fall Meeting*.
- [107] Gustafson, C., K. Key, M. R. Siegfried and H. A. Fricker, 2019. Electromagnetic imaging of subglacial hydrogeology of Whillans Ice Plain, West Antarctica, *AGU Fall Meeting*.
- [106] Jordan, T. M., D. M. Schroeder, A. Brisbourne, C. Martin, C. W. Elsworth, M. R. Siegfried, R. Schlegel and A. Smith, 2019. Measurement of Ice Fabric within Ice Streams using Polarimetric Phase-Sensitive Radar Sounding, *AGU Fall Meeting*.
- [105] Priscu, J. C., J. D. Barker, T. Campbell, B. C. Christner, C. Davis, J. E. Dore, H. A. Fricker, C. B. Gardner, D. M. Harwood, A. Leventer, W. Li, W. B. Lyons, A. B. Michaud, M. Patterson, B. E. Rosenheim, M. R. Siegfried, M. L. Skidmore, M. Tranter, R. Venturelli, T. Vick-Majors, B. Zook and the SALSA Science Team, 2019. SALSA: An Integrated Program Focusing on Carbon Transformations in Mercer Subglacial Lake located ~1100 m beneath the West Antarctic Ice Sheet, *AGU Fall Meeting*.

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- [103] Smith, B. E., B. Medley, F. S. Paolo, J. Nilsson, N. Holschuh, S. Adusumilli, M. R. Siegfried and the ICESat-2 Land-Ice Team, 2019. Sixteen Years of Ice-Sheet Change from ICESat to ICESat-2, *AGU Fall Meeting*.
- [102] Venturelli, R., B. E. Rosenheim, A. Leventer, D. M. Harwood, M. O. Patterson, T. Campbell, M. R. Siegfried, H. A. Fricker and the SALSA and WISSARD Science Teams, 2019. A Dynamic Holocene Grounding Line: In situ sedimentary evidence from Whillans and Mercer ice streams, West Antarctica, *AGU Fall Meeting*.
- [101] Barcheck, G., E. Brodsky, P. Fulton, M. King, M. R. Siegfried and S. Tulaczyk, 2019. Insights into earthquake initiation from ice stream stick-slip dynamics, *International Antarctic Earth Science Workshop*.
- [100] Derby, L., N. Ross, F. Ferraccioli, R. Carr, T. Jordan, M. R. Siegfried, G. Paxman, K. Matsuoka, R. Forsberg and T. Casal, 2019. Active subglacial lakes of the Foundation Ice Stream, Antarctica, *International Glaciological Society British Branch Meeting*.
- [99] *Becker, M. K., H. A. Fricker, L. Padman, M. R. Siegfried, C. Mosbeaux and T. J. W. Wagner, 2019. An overlooked ice-shelf calving process for accelerating Antarctic Ice Sheet loss, *Forum for Research into Ice Shelf Processes*.
- [98] *Adusumilli, S., H. A. Fricker, B. Medley, L. Padman and M. R. Siegfried, 2019. Partitioning time-varying meltwater fluxes from Antarctica’s large ice shelves into the intermediate and upper ocean, *Forum for Research into Ice Shelf Processes*.
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- [96] Siegfried, M. R. and D. M. Schroeder, 2019. Interpreting radar bed-echo power from active subglacial lakes on lower Mercer and Whillans ice streams, West Antarctica, *IGS Symposium on Radioglaciology*.
- [95] Bienert, N., D. Schroeder, S. Peters and M. R. Siegfried, 2019. Improving constraints on englacial temperature and water distribution using an autonomous phase-sensitive radio echo sounder (ApRES) and a bistatic software defined receiver, *IGS Symposium on Radioglaciology*.
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 - [78] Siegfried, M. R. and D. M. Schroeder, 2018. Radar sounding of active subglacial lakes on the Siple Coast, *Bay Area Glaciology Meeting*.
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