

Kristin Poinar

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University at Buffalo

Department of Geology and Research & Education in
eNergy, Environment, & Water (RENEW) Institute
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Education

Ph.D. in Geophysics	University of Washington, Seattle	2015
Graduate Certificate in Climate Science	Univ. Washington Program on Climate Change	2015
B.S. in Physics and B.A. in English	Case Western Reserve University, Cleveland	2007

Professional Experience

Assistant Professor	SUNY University at Buffalo
Department of Geology and RENEW Institute	2018–present
NASA Postdoctoral Fellow	NASA Goddard Space Flight Center
Greenland Ice Sheet hydrology; Advisor: Sophie Nowicki	2016–2018
Research Assistant	University of Washington
Numerical modeling of ice sheet thermodynamics; Advisor: Ian Joughin	2007–2015

Publications (also on [Google Scholar](#)) (*grad student advisee, **undergrad advisee, †postdoc advisee)

1. D. Yang*, **K. Poinar**, S. Nowicki, & B. Csatho, 2024. “Characteristics of dynamic thickness change across diverse outlet glacier geometries and basal conditions,” accepted at *Journal of Glaciology*.
2. **K. Poinar**, K. Mankoff, X. Fettweis, B. Loomis, R. Fausto, B. Smith, B. Medley, A. Wehrlé, C. Jensen, M. Tedesco, J. Box, T. Mote, & J. Scheller, 2024. “The Greenland Ice Sheet” in *The Arctic* chapter of the BAMS *State of the Climate in 2023*, *Bulletin of the American Meteorological Society* 105(8). [10.1175/BAMS-D-24-0101.1](#). *Special note: Cover photo for The Arctic chapter.*
3. A. Sommers, C. Meyer, **K. Poinar**, & J. Mejía†, M. Morlighem, H. Rajaram, K. Warburton, & W. Chu, 2024. “Velocity of Greenland’s Helheim Glacier controlled both by terminus effects and subglacial hydrology with distinct realms of influence,” *Geophysical Research Letters* 51(15), 1–12. [10.1029/2024GL109168](#).
4. **K. Poinar**, K. Mankoff, R. Fausto, X. Fettweis, B. Loomis, T. Mote, M. Tedesco, A. Wehrlé, & C. Jensen, 2023. “Greenland Ice Sheet 2023” chapter within the NOAA *Arctic Report Card*, edited by M. Druckenmiller, R. Thoman, and T. Moon. [10.25923/yetx-rs76](#).
5. C. Trunz*, **K. Poinar**, L. Andrews, M. Covington, J. Mejía†, J. Gulley, & V. Siegel, 2023. “Observed and modeled moulin heads in the Pâkitsoq region of Greenland suggest subglacial channel network effects”. *The Cryosphere* 17, 5075–5094. [10.5194/tc-17-5075-2023](#).
6. B. Graham, J. Briner, N. Young, A. Balter-Kennedy, M. Koppes, J. Schaefer, **K. Poinar**, & E. Thomas, 2023. “In situ ¹⁰Be modeling and terrain analysis constrain subglacial quarrying and abrasion rates at Sermeq Kujalleq (Jakobshavn Isbræ), Greenland”. *The Cryosphere* 17, 4535–4547. [10.5194/tc-17-4535-2023](#).

7. **K. Poinar**, 2023. “Small lakes could destabilize Earth’s ice sheets”. *Physics Today* 76(10), 70–71, [10.1063/PT.3.5333](https://doi.org/10.1063/PT.3.5333).
8. **K. Poinar**, K. Mankoff, T. Moon, R. Fausto, X. Fettweis, B. Loomis, T. Mote, M. Tedesco, A. Wehrlé, & C. Jensen, 2023. “The Greenland Ice Sheet” in *The Arctic* chapter of the BAMS *State of the Climate in 2022*, *Bulletin of the American Meteorological Society* 104(9). [10.1175/BAMS-D-23-0079.1](https://doi.org/10.1175/BAMS-D-23-0079.1).
9. **K. Poinar**, 2023. “Seasonal flow types of glaciers in Sermilik Fjord, Greenland, over 2016–2021”. *Journal of Geophysical Research* 128(7). [10.1029/2022JF006901](https://doi.org/10.1029/2022JF006901).
10. A. Sommers, C. Meyer, M. Morlighem, H. Rajaram, **K. Poinar**, W. Chu, & J. Mejía[†], 2023. “Subglacial hydrology modeling predicts high winter water pressure and spatially variable transmissivity at Helheim Glacier, Greenland”. *Journal of Glaciology*. [10.1017/jog.2023.39](https://doi.org/10.1017/jog.2023.39).
11. E. Cicero**, **K. Poinar**, R. Jones-Ivey, J. Sperhac, A. Petty, A. Patra, & J. Briner, 2023. “Firn aquifer water discharges into crevasses across Southeast Greenland”. *Journal of Glaciology*. [10.1017/jog.2023.25](https://doi.org/10.1017/jog.2023.25).
12. T. Moon, K. Mankoff, R. Fausto, X. Fettweis, B. Loomis, T. Mote, **K. Poinar**, M. Tedesco, A. Wehrlé, & C. Jensen, 2022. “Greenland Ice Sheet” chapter in *NOAA Arctic Report Card*, edited by M. Druckenmiller, R. Thoman, and T. Moon. [10.25923/c430-hb50](https://doi.org/10.25923/c430-hb50).
13. J. Briner, C. Walcott, J. Schaefer, N. Young, J. MacGregor, **K. Poinar**, B. Keisling, S. Anandakrishnan, M. Albert, T. Kuhl, & G. Boeckmann, 2022. “Drill site selection for cosmogenic nuclide exposure dating of the bed of the Greenland Ice Sheet”. *The Cryosphere* 16(10), 3933–3948. [10.5194/tc-16-3933-2022](https://doi.org/10.5194/tc-16-3933-2022).
14. C. Trunz*, M. Covington, **K. Poinar**, L. Andrews, J. Mejía, & J. Gulley, 2022. “Modeling the impact of moulin shape on englacial hydrology”. *Journal of Geophysical Research* 127(8). [10.1029/2022JF006674](https://doi.org/10.1029/2022JF006674).
15. L. Andrews, **K. Poinar**, & C. Trunz*, 2022. “Controls on Greenland moulin geometry and evolution from the Moulin Shape model”. *The Cryosphere* 16(6), 2421–2448. [10.5194/tc-16-2421-2022](https://doi.org/10.5194/tc-16-2421-2022).
16. C. Sbarra, J. Briner, B. Graham, **K. Poinar**, E. Thomas, & N. Young, 2022. “Evidence for a more extensive Greenland Ice Sheet in southwestern Greenland during the Last Glacial Maximum”. *Geosphere* 18(4), 1316–1329. [10.1130/GES02432.1](https://doi.org/10.1130/GES02432.1).
17. **K. Poinar** & L. Andrews, 2021. “Challenges in predicting Greenland supraglacial lake drainages at the regional scale”. *The Cryosphere* 15(3), 1455–1483. [10.5194/tc-15-1455-2021](https://doi.org/10.5194/tc-15-1455-2021).
18. J. Sperhac, **K. Poinar**, R. Jones-Ivey, E. Snitzer, J. Briner, B. Csatho, S. Nowicki, E. Simon, & A. Patra, 2021. “GHub: Building a glaciology gateway to unify a community”. *Concurrency and Computation: Practice and Experience* Special Issue “Human oriented solutions for intelligent analysis, multimedia and communication systems: Science Gateways 2020” 33(19). [10.1002/cpe.6130](https://doi.org/10.1002/cpe.6130).
19. **K. Poinar**, C. Dow, & L. Andrews, 2019. “Long-term support of an active subglacial hydrologic system in Southeast Greenland by firn aquifers”. *Geophysical Research Letters* 46(9), 4772–4781. [10.1029/2019GL082786](https://doi.org/10.1029/2019GL082786).

20. C. Dow, W. S. Lee, J. Greenbaum, D. Blankenship, C. Greene, **K. Poinar**, A. Forrest, D. Young, & C. Zappa, 2018. “Basal Channels Drive Active Ice-Shelf Hydrology and Fracture”. *Science Advances* 4(6). [10.1126/sciadv.aao7212](https://doi.org/10.1126/sciadv.aao7212).
21. **K. Poinar**, I. Joughin, D. Lilien, L. Brucker, L. Kehrl, & S. Nowicki, 2017. “Drainage of Southeast Greenland Firn-Aquifer Water through Crevasses to the Bed”. *Frontiers in Earth Science* Special Issue “Melt Water Retention Processes in Snow and Firn on Ice Sheets and Glaciers: Observations and Modeling” 5(5), 8–15. [10.3389/feart.2017.00005](https://doi.org/10.3389/feart.2017.00005).
22. **K. Poinar**, I. Joughin, J. Lenaerts, & M. van den Broeke, 2016. “Englacial Latent-Heat Transfer Has Limited Influence on Seaward Ice Flux in Western Greenland”. *Journal of Glaciology* 62(235). [10.1017/jog2016.103](https://doi.org/10.1017/jog2016.103).
23. D. Shapero, I. Joughin, **K. Poinar**, M. Morlighem, F. Gillet-Chaulet, 2016. “Basal Resistance for Three of the Largest Greenland Outlet Glaciers”. *Journal of Geophysical Research* 121(1), 1–13. [10.1002/2015JF003643](https://doi.org/10.1002/2015JF003643).
24. **K. Poinar**, I. Joughin, S. Das, M. Behn, J. Lenaerts, & M. van den Broeke, 2015. “Limits to Future Expansion of Surface-Melt-Enhanced Ice Flow Into the Interior of Western Greenland”. *Geophysical Research Letters* 42(6), 1800–1807. [10.1002/2015GL063192](https://doi.org/10.1002/2015GL063192).

Non-peer-reviewed academic contributions

K. Poinar. “The choice of new life: musings from Antarctica”. Review of memoir / nonfiction book *The Quickening* by Elizabeth Rush. Science–Culture blog at *American Scientist*, Sigma Xi magazine, americanscientist.org.

J. Sperhac, **K. Poinar**, R. Jones-Ivey, E. Snitzer, J. Briner, B. Csatho, S. Nowicki, E. Simon, & A. Patra, 2019. “GHub: Building a Glaciology Gateway to Unify a Community”. *Gateways 2019*. [10.17605/OSF.IO/JGHBZ](https://doi.org/10.17605/OSF.IO/JGHBZ).

K. Poinar, J. Lamp, A. Balter, C. Gustafson, P. Spector, D. Winebrenner, & S. Tulaczyk, 2019. “Subglacial Access Working Group: Access Drilling Priorities in Greenland”. A [white paper](#) drafted for the U.S. Ice Drilling Program.

J. Briner, R. Alley, M. Bender, B. Csatho, **K. Poinar**, & J. Schaefer, 2017. “How stable is the Greenland Ice Sheet?” White paper from NSF workshop. hdl.handle.net/10477/82467.

R. Schnee, Z. Ahmed, S. Golwala, D. Grant, & **K. Poinar**, 2007. “Screening Surface Contamination with BetaCage”. *American Institute of Physics Conference Proceedings* 897(20). [10.1063/1.2722063](https://doi.org/10.1063/1.2722063).

Publications submitted or in review

(* graduate student advisee, † postdoctoral advisee)

J. Mejía[†], **K. Poinar**, C. Meyer, A. Sommers, & W. Chu. “Mechanisms for upstream migration of firn aquifer drainage: preliminary observations of Helheim Glacier, Greenland,” in revision at *Journal of Glaciology* after submission in July 2024, [doi:10.31223/X5QH6C](https://doi.org/10.31223/X5QH6C).

B. Reynolds, S. Nowicki, & **K. Poinar**. “Comprehensive assessment of stress calculations for crevasse depths and testing with crevasse penetration as damage,” submitted to *The Cryosphere* in July 2024.

Research Funding

Pending Research Funding

CAREER: Dimensionality reduction of glacier and ice-sheet processes using deep learning: Development, evaluation, and ethics

\$728,557 project budget

\$728,557 requested by University at Buffalo: Kristin Poinar (PI)

National Science Foundation

(requested for 2025–2030)

Submitted July 2024

Understanding the role of hydrology in the imminent retreat of Helheim Glacier, Greenland

\$1,500,000 total project budget

\$438,326 requested by University at Buffalo: Kristin Poinar (PI)

\$773,618 requested by Dartmouth College: Colin Meyer (PI)

\$288,056 requested by Georgia Institute of Technology: Winnie Chu (PI)

Heising-Simons Foundation

(requested for 2025–2028)

Submitted July 2024

Awarded Research Funding

Data fusion for mass-change measurements over complex ice surfaces

\$604,068 total project budget

\$423,436 to University of Washington: Ben Smith (lead PI), Tyler Sutterley & Dave Shean (Co-Is)

\$180,632 to University at Buffalo: Kristin Poinar (Co-I)

NASA Decadal Survey Initiative (DSI)

2022–2025

Follow the water: Hydrology of Helheim Glacier

\$2,190,524 total project budget

\$770,238 to University at Buffalo: Kristin Poinar (PI)

\$546,815 to Dartmouth College: Colin Meyer (PI)

\$873,472 to Georgia Institute of Technology: Winnie Chu (PI)

Heising-Simons Foundation

2020–2024

Frameworks: Ghub as a community-driven data–model framework for ice-sheet science

\$4,259,893 total project budget

\$3,522,878 Univ. Buffalo: J.Briner (lead PI), B.Csatho, S.Nowicki, K.Poinar & A.Schenk (Co-Is)

\$574,537 to Tufts University: Abani Patra (Co-I)

\$162,478 to University Corporation for Atmospheric Research (UCAR): Bill Lipscomb (Co-I)

NSF Cyberinfrastructure (CSSI)

2020–2025

Integration of ICESat-2 observations into ice sheet elevation change records to investigate ice sheet processes

\$551,450 total project budget

\$551,450 to Univ. Buffalo: Beata Csatho (lead PI), Sophie Nowicki & Kristin Poinar (Co-Is)

NASA Cryospheric Sciences

2021–2024

Physically based and stochastic models for Greenland moulin formation, longevity, and spatial distribution

\$438,658 total project budget

\$143,437 to NASA Goddard Space Flight Center: Lauren Andrews (lead PI)

\$295,221 to University at Buffalo: Kristin Poinar (Co-I)

NASA Cryospheric Sciences

2019–2022

NCE–2024

Probing sub-ice sediments using geophysical surveys to understand the response of Alaska and Greenland glaciers to climate change

\$35,000 internal award

Kristin Poinar (PI), Erasmus Oware, Beata Csatho, & Kamelia Atefi-Monfared (Co-Is)

Univ. Buffalo RENEW SEED

2018–2019

EAGER: Exploring a community driven data–model framework for testing the stability of the Greenland Ice Sheet NSF Arctic Natural Science
 \$278,843 total project budget 2018–2019
 \$278,843 to Univ. Buffalo: J.Briner (lead PI), B.Csatho, A.Patra & K.Poinar (Co-Is)

“Timescales and Processes of Glacier Dynamics”: an International Glaciological Society (IGS) Symposium in Buffalo, New York NSF Arctic Natural Science
 \$25,000 total workshop support budget 2018
 \$25,000 to University at Buffalo: Kristin Poinar (PI)

“Timescales and Processes of Glacier Dynamics” Topical Workshops, Symposia, and Conferences NASA Cryospheric Sciences
 \$20,500 total workshop support budget 2018
 \$20,500 to University at Buffalo: Kristin Poinar (PI)

NASA Postdoctoral Fellowship NASA Postdoctoral Program (NPP)
 ~\$200,000 over two years 2016–2017

NSF Graduate Research Fellowship National Science Foundation
 \$123,000 over three years 2008–2011
 Only 913 awards made in 2008, compared to >2000/year from 2009–present

Support of Undergraduate Research and Creative Endeavors (SOURCE) award Case Western Reserve University
 \$3,000 internal funding 2006

University Teaching

University at Buffalo

GLY 102	Climate Change	2018, 2019, 2020, 2024
GLY 312	Surface Processes & Hydrology	2024
GLY 427/527	Statistics & Modeling of Geologic Data	2018, 2020, 2021, 2022
GLY 447/547	Glaciology	2019, 2022, 2023
GLY 493	Pegrum Seminar	2018–2020

University of Washington

ESS 431 / 505	Principles of Glaciology (TA and lecturer)	2012–2015
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Colorado College

EV 128	Intro. to Global Climate Change (Co-instructor)	Winter 2014
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Student & Postdoc Advising

PhD thesis advisor

1. **Naureen Khan** (expected 2026): “Deep-learning-enabled detection of crevasses on the Greenland Ice Sheet for prediction of future states”
2. **Courtney Shafer** (expected 2026): “Hydrologically induced basal motion across the Greenland Ice Sheet”
Shafer receives the United States Department of Energy (DOE) Computational Science Graduate Fellowship (CSGF), a four-year fellowship awarded annually to ~30 top PhD students nationally.

Host for visiting PhD student

3. **Celia Trunz**, University of Arkansas student (PhD 2021): “Modeling and measuring water level fluctuations in the Greenland Ice Sheet: How moulin life cycle and shape can inform us on the subglacial drainage system” (173 page thesis). *Now a postdoctoral researcher at Oregon State Univ.*
Trunz did a volunteer ‘student sabbatical’ in my lab while her advisor was away on sabbatical for the 2019–2020 academic year.

MS thesis advisor

4. **Mary Verne** (expected 2025): Inferring crevasse depths on Greenland outlet glaciers from ICESat-2 observations and a numeric model
5. **Donglai Yang** (2023): “Characteristics of dynamic elevation change at diverse outlet glacier geometries and basal conditions” (77 page thesis). *Now a PhD student at Georgia Inst. Technology.*
6. **Joshua Charlton** (2021): “Multi-year evolution of river canyons on a Greenland outlet glacier” (99 page thesis). *Now a PhD student at University of Utah.*
7. **Jeremy Stock** (2020): “Modeled patterns of crevassing induced by supraglacial lake drainage in western Greenland” (104 page thesis). *Now a Professional Geologist at Parsons Corporation, NY.*

Postdoctoral advisor

8. **Jessica Mejía** (2021–2024): Helheim Glacier aquifer. *Now an Assistant Prof. at Syracuse Univ.*

Undergraduate thesis supervisor

9. **Eric Cicero** (2022): “Detection and analysis of crevasses along downstream boundary of firn aquifers in Southeast Greenland” (20 page thesis). *Now a PhD student at University of Arizona.*

Undergraduate research supervisor

10. Hannah Ambrosino (BS 2022), Moulin detection in western Greenland
11. Leah Bargnesi (BS 2022), Ice flow at Glacier de France, Southeast Greenland
12. Zaw Win “Francis” Naung (BS 2020), Incised river canyons on Greenland glaciers and ice shelves

Thesis committee member for 5 graduated PhD students (*Graham, Narkevic, Roberts, Trunz, Tulenko*), 4 current PhD students (*Franklin, Gao, Lindberg, Moraes-Luzardi*), 7 graduated MS students (*Corcoran, Croft, Grogan, Jiang, Rodgers, Sbarra, Soonthornrangsan*), 1 current MS student (*Reynolds*)

Higher-Profile Public Speaking

Vail Symposium

“Melting Ice Shelves: New Discoveries and Immediate Impacts”

Vail, CO

October 2023

Capital Science Evening Lectures

Lecture available at carnegiescience.edu/greenland

Carnegie Science Institute, DC

February 2020

Friday Nights at Cary public lecture

“Meltwater on, in, and under the Greenland Ice Sheet”

Cary Institute of Ecosystem Studies, NY

February 2018

TED talk: “What’s hidden beneath the Greenland Ice Sheet?”

Invited speaker in the “Planet, Protection” session

TED 2017, Vancouver

April 2017

Invited Academic Speaking

Interagency Arctic Research Policy Committee (IARPC) / United States Association of Polar Early Career Scientists (USAPECS) Webinar [Water in a Frozen Arctic: Cross-Disciplinary Perspectives](#), “Greenland’s firn aquifers: Their origins and recent changes”. (Mar. 2024)

New York University Courant Institute, Center for Atmosphere Ocean Science department seminar. “[Water and ice flow interactions on Helheim Glacier, Southeast Greenland](#)”. (Nov. 2023)

SAGE/GAGE Community Science Workshop. “Insights into processes behind current and future sea-level rise from the Greenland Ice Sheet.” Invited plenary speaker in session [New Horizons in Scope: Geophysics in Extreme and Unconventional Environments](#). (Jun. 2022)

Cornell University Earth and Atmospheric Science seminar. “Physical models for moulines: conduits to the subglacial world.” (Oct. 2021)

Georgia Institute of Technology School of Earth and Atmospheric Sciences seminar (virtual). “Physical models for moulines: conduits to the subglacial world.” (Sep. 2020)

University of Washington Dept. of Earth and Space Sciences, Glaciology group brown bag (virtual). “Two Moulin Models.” (Jun. 2020)

SUNY Binghamton Department of Geological Sciences and Environmental Studies seminar. “Meltwater on, in, and under the Greenland Ice Sheet.” (Feb. 2020)

AGU Fall Meeting session *Modeling of the Cryosphere: Glaciers and Ice Sheets*. “East Greenland firn aquifer water extends the efficiency of the subglacial hydrological system beyond the melt season.” Invited speaker in session [Modeling of the Cryosphere: Glaciers and Ice Sheets II](#). (Dec. 2019)

University at Albany Department of Atmospheric and Environmental Sciences seminar. “Meltwater on, in, and under the Greenland Ice Sheet.” (Apr. 2019)

Subglacial Access Working Group Science Planning Workshop [Young investigator overview presentation](#). “What are the critical & compelling scientific questions related to ice sheet flow in Greenland?” (Mar. 2019)

University of Arkansas Department of Geosciences colloquium. “Meltwater on, in, and under the Greenland Ice Sheet.” (Mar. 2019)

Interagency Arctic Research Policy Committee (IARPC) Glaciers & Sea Level meeting (virtual). “Firn aquifers and ice dynamics.” (Oct. 2017)

Case Western Reserve University, Cleveland, Dept. of Geological Sciences. “Destabilization mechanisms of the Greenland Ice Sheet and why it is likely to slowly melt in place instead.” (Oct. 2014)

Professional Service

Scientific Editor

An open-access European Geophysical Union journal, impact factor 5.7

The Cryosphere

2021–present

Volunteer user working group member

Distributed Active Archive Center (DAAC) [User Working Group](#)

National Snow & Ice Data Center

2019–present

Proposal panelist and <i>ad hoc</i> reviewer <i>for particular NASA and NSF programs and international funding agencies</i>	2017–present
Manuscript reviewer for <i>The Cryosphere, Current Climate Change Reports, Geophys. Res. Letters, GIScience & Remote Sensing, J. Geodesy, J. Geophys. Research, Nature, Nature Geoscience, PNAS, J. Glaciology, Sci. Advances, Water Resources Research, Earth System Dynamics</i>	2015–present
Conference session convener <i>Various sessions within the Cryosphere section of AGU</i>	AGU Fall Meeting 2017–2021
<ul style="list-style-type: none"> • 2021: Advances in Glacier and Ice Sheet Hydrology (4 sessions, 32 abstracts) • 2019: Pathways to eureka from unexplained phenomena and interdisciplinary approaches to glaciology (9 abstracts) • 2018: Advances in Subglacial, Englacial, and Supraglacial Hydrology (2 sessions, 28 abstracts) • 2017: Hydrology of Mountain Glaciers and Ice Sheets (2 sessions, 21 abstracts) 	
Scientific Writing Workshop: Essential Skills for Earth Scientists <i>Contributor to half-day workshop with 300 (2020) and 60 (2021) participants</i>	AGU Fall Meeting 2020–2021
Outstanding Student Presentation Award (OSPA) judge <i>I judge ~5–12 student presentations annually with detailed constructive feedback</i>	AGU Fall Meeting 2016–2021
Conference session chair <i>University of Milan (virtual)</i>	Alpine Glaciology Meeting March 2021
Group Reviewer, Special Report on Ocean & Cryosphere <i>Chapter 4: “Sea Level Rise & Implications for Low Lying Islands”</i>	APECS / IPCC 2018
Conference organizing committees <i>NSF Greenland Ice Sheet stability workshop</i> <i>IGS “Timescales and Processes of Glacier Dynamics” symposium</i>	Buffalo, NY Sep. 2017 Jun. 2018
Cryosphere Career Development Mentor Panel <i>Organized a discussion and networking event for early-career polar scientists</i>	AGU Fall Meeting Dec. 2013

University Service

EarthScope Consortium representative <i>Geophysics research consortium (formerly UNAVCO and IRIS)</i>	University at Buffalo 2022–present
Policy Committee member <i>Representative of the Geology Department</i>	College of Arts & Sciences 2022–present
Graduate Committee member <i>The junior faculty member on the three-person committee that oversees the Geology Department’s graduate program</i>	UB Geology Dept. 2019–present
VicTalk at “New To UB” (Freshman Orientation) <i>TED-style talk “Earth was an ice planet for 20 million years”</i>	UB Center for the Arts August 2021
Open Access Policy Committee <i>Deliberation and drafting of UB’s Open Access policy</i>	UB Libraries 2018–2019

Community Service

Western New York STEM Forum <i>Evening lecture for local middle- and high-school STEM teachers</i>	University at Buffalo September 2024
EarthEd Institute <i>Classroom-ready glacier flow lesson & lab for Erie County school teachers</i>	University at Buffalo July 2023–2024
Buffalo Pint of Science <i>“Earth: From the not-so-distant past to millions of years ago”</i>	Buffalo, NY 2019
Buffalo Association of Professional Geologists <i>Evening public lectures on the Greenland Ice Sheet</i>	Buffalo, NY 2018, 2019
Laboratory and remote sensing exercise <i>Analysis of LiDAR topography data and glacier flow experiment</i>	Seattle Academy High School 2014–2015
Observing for Evidence of Learning <i>Content expert at workshop to redevelop a middle school science lesson</i>	Center for Inquiry Science Dec. 2014
Climate and Earth system science labs <i>Visualizing our past climate using high-resolution geospatial data</i>	UW in the High School 2014
Classroom lesson and laboratory <i>Glacier flow and erosion</i>	Einstein Middle School, Shoreline, WA 2013–2014
Classroom lessons, laboratory, and field trip <i>Past, present, and future climate of Puget Sound; Glacier flow and erosion</i>	Seattle city schools 2013–2014
Cryosphere Career Development Mentor Panel <i>Organized a discussion and networking event for early-career polar scientists</i>	AGU Fall Meeting 2013
Post-film discussions for <i>Chasing Ice</i> <i>“The Science Behind Chasing Ice”</i>	Washington State History Museum, 2013 Seattle Independent Film Festival, 2012
Public lecture <i>A Recent History of Ice in Greenland and Antarctica</i>	Friends of the Burke Gilman Trail 2013

Conference Presentations († postdoc advisee, * graduate student advisee, ** undergrad student advisee)

1. **K. Poinar**, “Post-Operation IceBridge, can we know the firn aquifer water table depth?” Future of Greenland Ice Sheet Science (FOGSS) meeting, Apr. 2024 (*lightning talk*)

2023 AGU Fall Meeting (San Francisco):

2. J. Mejía[†], **K. Poinar**, C. Meyer and W. Chu. “Integrating observations and modeling to investigate firn aquifer hydrology and its role in crevasse propagation on Helheim Glacier” (invited talk)
3. N. Khan* & **K. Poinar**. “DeepLearning-based Crevasse Detection from Sentinel-1 SAR Imagery on the Greenland Ice Sheet” (poster)
4. C. Shafer*, A. Hager, M. Hoffman, C. Begeman, T. Hillebrand, & **K. Poinar**. “Evaluation of modeled subglacial discharge from the Antarctic Ice Sheet to the Southern Ocean” (poster)

5. A. Moraes Luzardi, S. Nowicki, D. Felikson, R. Oien, B. Csatho, J. Briner, & **K. Poinar**. “Greenland-wide geometry reconstruction at the Little Ice Age boundary” (talk)
6. B. Smith, T. Sutterley, P. Milillo, **K. Poinar**, P. Rizzoli, & J. Nueso-Bello. “Hybrid-Lagrangian processing to measure glacier and ice-shelf change, crevasses, and rifts using laser-altimetry and DEM data” (poster)
7. S. Goliber, J. Briner, S. Nowicki, B. Csatho, R. Jones-Ivey, J. Tulenko, W. Lipscomb, A. Patra, **K. Poinar**, J. Quinn, A. Schenk, & K. Thayer-Calder. “Ghub: Empowering collaboration and advancing ice sheet science through open-source tool sharing” (invited talk)

2022 AGU Fall Meeting (Chicago):

8. C. Shafer* and **K. Poinar**. “Seismoelectric exploration of an englacial aquifer on the Greenland Ice Sheet” (poster)
9. D. Yang and **K. Poinar**. “Modeling Ice Thickness Change Reveals Distinctive Dominant Glaciological Control Across Glacier Types” (talk)
10. A. Sommers, C. Meyer, M. Morlighem, H. Rajaram, **K. Poinar**, W. Chu, and J. Mejía[†]. “Winter Subglacial Hydrology Modeling: High Water Pressure and Spatially Variable Transmissivity” (talk)
11. J. Mejía[†] and **K. Poinar**. “Building **crevprop**, an open source crevasse propagation model to investigate a firn-aquifer’s ability to drive hydrofracture on Helheim Glacier” (talk)

2022 SAGE/GAGE Community Science Workshop (Pittsburgh):

12. **K. Poinar**. “Insights into processes behind current and future sea-level rise from the Greenland Ice Sheet.” SAGE/GAGE Community Science Workshop, Pittsburgh, June 2022. (invited talk)
13. C. Shafer* and **K. Poinar**. “Seismoelectric exploration of an englacial aquifer on the Greenland Ice Sheet.” SAGE/GAGE Community Science Workshop, Pittsburgh, June 2022. ([poster](#))

2021 AGU Fall Meeting (New Orleans):

14. **K. Poinar**. “Are the Sermilik Fjord glaciers terminus-controlled, runoff-controlled, or runoff-adapting? Decomposition of glacier speed maps at Helheim, Fenris, Midgard, and Pourquoi-Pas Glaciers, 2006-2019.” [10.1002/essoar.10509236.1](https://doi.org/10.1002/essoar.10509236.1) (*eLightning*)
15. G. Catania, L. Stearns, C. Carr, **K. Poinar**, R. Datta, L. Simkins, & C. Florentine. “Increasing Retention of Minoritized Genders in the Cryospheric Sciences.” (*talk*)
16. C. Trunz*, J. Mejía, M. Covington, **K. Poinar**, L. Andrews, V. Siegel, & J. Gulley. “Field Observations Reveal Short Moulin Life Spans in the Pâkitsoq Region of the Greenland Ice Sheet.” (*Invited talk*)
17. A. Sommers, C. Meyer, **K. Poinar**, W. Chu, H. Rajaram, & M. Morlighem. “Modeling the Influence of Meltwater Inputs on Subglacial Hydrology Downstream of a Perennial Firn Aquifer: The Dance of SHAKTI Below Helheim Glacier, East Greenland.” (*poster*)
18. J. Briner, S. Nowicki, **K. Poinar**, B. Csatho, & J. Spermac. “Introducing Ghub: An Open-Access Online Resource for Anyone Interested in Ice Sheets.” (*Town Hall*)

2020 AGU Fall Meeting (Virtual):

19. **K. Poinar**. “Water-filled ditches: Surface expressions of dead crevasses that are not connected to the bed.” [10.1002/essoar.10505037.1](https://doi.org/10.1002/essoar.10505037.1) (*ePoster*)
20. J. Stock*, **K. Poinar**, & L. Andrews. “Investigating the Possibility of Cascading Lake Drainage in the Pakitsoq Region of Western Greenland using an Analytical Ice-Flow Model”. (*talk*)

21. J. Charlton*, **K. Poinar**, & Z. Naung**. “Hydrologic constraints on supraglacial canyon evolution in Greenland using high-resolution DEMs, ICESat-2, and a new numeric model.” (*ePoster*)
22. C. Trunz*, **K. Poinar**, L. Andrews, M. Covington, J. Mejía, J. Gulley, V. Siegel, & C. Breithaupt. “Combined Modeled and Explored Moulin Shape Informs Subglacial Pressure Dynamics in Western Greenland.” [10.1002/essoar.10506189.1](https://doi.org/10.1002/essoar.10506189.1) (OSPA-winning *talk*)
23. E. Cicero**, **K. Poinar**, R. Jones-Ivey, J. Sperhac, A. Petty, & J. Briner. “Distribution and Evolution of Crevasses Draining the Firn Aquifer in Southeast Greenland Identified with a Ghub Tool.” (*ePoster*)
24. C. Sbarra, J. P. Briner, **K. Poinar**, E. Thomas, N. Young, & B. Graham. “Support for a More Extensive Greenland Ice Sheet in Southwestern Greenland During the LGM.” (*ePoster*)
25. J. Briner, S. Nowicki, **K. Poinar**, J. Sperhac, A. Patra, R. Jones-Ivey, E. Cicero**, B. Csatho, W. Lipscomb, E. Larour, J. Quinn, E. Simon, & T. Schenk. “Ghub: A new community-driven data-model resource for ice-sheet scientists.” (*ePoster*)

2019 AGU Fall Meeting (San Francisco):

26. **K. Poinar**, C. Dow, & L. Andrews. “East Greenland firn aquifer water extends the efficiency of the subglacial hydrological system beyond the melt season.” (*Invited talk*)
27. **K. Poinar**, B. Csatho, K Atefi Monfared, & E. Oware. “Subsurface profiles of crevasses in the temperate Vaughan Lewis Glacier, Juneau Icefield, Alaska inferred from transient electromagnetic (TEM) data.” (*talk*)
28. L. Andrews & **K. Poinar**. “A Physical Model of Moulin Formation and Evolution on the Greenland Ice Sheet.” (*talk*)
29. J. Stock*, **K. Poinar**, & L. Andrews. “How far away can a rapidly draining supraglacial lake induce a crevasse?” (*poster*)
30. C. Trunz*, **K. Poinar**, M. Covington, L. Andrews, J. Mejía, V. Siegel, J. Gulley, & C. Breithaupt, “Modeling impact of evolving moulin shape on subglacial pressure and conduit evolution.” (*poster*)
31. E. Oware, **K. Poinar**, B. Csatho, & K. Atefi Monfared. ”Ground-based transient electromagnetic characterization of the temperate Vaughan Lewis Glacier at the Juneau Icefield, Alaska, in the presence of crevasses.” (*poster*)
32. S. Evans & **K. Poinar**. “How does playing The Wedge Game affect undergraduates’ outlook on solving the climate crisis?” (*poster*)

2018 AGU Fall Meeting (Washington, DC):

33. **K. Poinar**, L. Andrews, C. Meyer, & K. Brunt. “Do closely spaced crevasses in Greenland connect englacially to reach the bed?” (*poster*)
34. J. Stock, **K. Poinar**, & L. Andrews. “Predicting crevasse and moulin formation through analytic modeling.” (*poster*)

Other conferences:

35. L. Andrews, **K. Poinar**, & C. Trunz*. “A Physical Model of Moulin Evolution on the Greenland Ice Sheet.” NASA PARCA conference. ntrs.nasa.gov/citations/20200001230 (Feb. 2020) (*poster*)
36. J. Sperhac, **K. Poinar**, R. Jones-Ivey, E. Snitzer, J. Briner, B. Csatho, S. Nowicki, E. Simon, and A. Patra. “GHub: Building a Glaciology Gateway to Unify a Community”. *Gateways 2019*, [10.17605/OSF.IO/JGHBZ](https://doi.org/10.17605/OSF.IO/JGHBZ). (Sep. 2019) (*talk*)

37. L. Andrews & **K. Poinar**. “A physical model of moulin formation and evolution.” *International Glaciological Society (IGS) Symposium on Glacial Erosion and Sedimentation, Madison*. (May 2019) (*talk*)
38. S. Ligtenberg, C. Miège, M. MacFerrin, **K. Poinar**, & M. van den Broeke. “Meltwater retention within the Greenland ice sheet percolation zone: a near-binary separation between firm aquifers and impermeable ice slabs?” EGU General Assembly, Vienna (Apr. 2018) (*talk*)
39. **K. Poinar**, L. Andrews, T. Moon, & S. Nowicki. “Challenges in Understanding and Predicting Greenland Lake Drainage Events”. *AGU Fall Meeting*, New Orleans. (Dec. 2017) (*poster*)
40. L. Andrews, C. Dow, **K. Poinar**, & S. Nowicki. “Subglacial efficiency and storage modified by the temporal pattern of high-elevation meltwater input”. *AGU Fall Meeting*, New Orleans. (Dec. 2017) (*talk*)
41. C. Dow, W. Lee, J. Greenbaum, C. Greene, D. Blankenship, **K. Poinar**, A. Forrest, D. Young, & C. Zappa. “The Role of Basal Channels in Ice Shelf Calving”. *AGU Fall Meeting*, New Orleans. (Dec. 2017) (*talk*)
42. **K. Poinar**, L. Andrews, V. Chu, T. Moon, and S. Nowicki. “Temporal evolution of strain rates at western Greenland moulins”. EGU General Assembly, Vienna. (Apr. 2017) (*poster*)
43. L. Andrews, **K. Poinar**, & T. Neumann. “Using remote sensing to constrain regional changes in summer ice motion and subglacial evolution in western Greenland”. EGU General Assembly, Vienna. (Apr. 2017) (*poster*)
44. **K. Poinar**, I. Joughin, D. Lilien, L. Brucker, L. Kehrl, & S. Nowicki. “Delivery of water from the East Greenland firm aquifer to the bed through crevasse hydrofracture”. PARCA meeting, Greenbelt, MD. (Jan. 2017) (*talk*)
45. **K. Poinar**, I. Joughin, D. Lilien, L. Brucker, L. Kehrl, & S. Nowicki. “Evolution of crevasses fed by water from the East Greenland firm aquifer.” *AGU Fall Meeting*, San Francisco. (Dec. 2016) (*talk*)
46. **K. Poinar**, S. Nowicki, I. Joughin, D. Lilien, L. Brucker, M. Studinger, & L. Kehrl. “Englacial penetration of Greenland firm-aquifer water into crevasses.” Goddard Young Scientists’ Forum, Greenbelt, MD. (Oct. 2016) (*talk*)
47. **K. Poinar**, I. Joughin, C. Miège, L. McNerney, & S. Nowicki. “Model-based constraints on the depths and thermal influence of water-filled crevasses in western and southeastern Greenland.” *Workshop on meltwater retention processes in snow and firm*, Copenhagen. (Jun. 2016) (*talk*)
48. V. Chu, L. Smith, C. Gleason, K. Yang, **K. Poinar**, I. Joughin, & L. Pitcher. “Moulin distribution and formation on the southwest Greenland ice sheet.” *AGU Fall Meeting*, San Francisco. (Dec. 2015) (*poster*)
49. **K. Poinar** & I. Joughin. “Supraglacial lakes, rivers, and moulins in western Greenland.” Northwest Glaciologists’ Meeting, Portland. (Oct. 2015) (*talk*)
50. **K. Poinar** & I. Joughin. “The contribution of englacial latent heat transfer to seaward ice flux in western Greenland.” *AGU Fall Meeting*, San Francisco. (Dec. 2014) (*poster*)
51. D. Shapero, I. Joughin, **K. Poinar**, & M. Morlighem. “Inferring basal stress under Greenland’s big three outlet glaciers.” *AGU Fall Meeting*, San Francisco. (Dec. 2014) (*poster*)
52. **K. Poinar** & I. Joughin. “Elevation limits to supraglacial lake drainage in western Greenland.” *International Glaciological Society (IGS) Symposium on the Contribution of Glaciers and Ice Sheets to Sea-Level Change*, Chamonix, France. (May 2014) (*poster*)
53. **K. Poinar** & I. Joughin. “How deep does a typical crevasse in Western Greenland carry meltwater?” *International Arctic Science Committee (IASC) Network on Arctic Glaciology Workshop on the dynamics and mass budget of Arctic glaciers*, Ottawa. (Feb. 2014) (*talk*)

54. **K. Poinar** & I. Joughin. “How deep does a typical crevasse in Western Greenland carry meltwater?” *AGU Fall Meeting*, San Francisco. (Dec. 2013) (*poster*)
55. **K. Poinar** & I. Joughin. “How deep do crevasses carry meltwater in Greenland?” *Northwest Glaciologists’ Meeting*, Vancouver. (Oct. 2013) (*talk*)
56. **K. Poinar** & I. Joughin. “The depth and distribution of crevasses’ thermal influence in Western Greenland.” *AGU Fall Meeting*, San Francisco. (Dec. 2012) (*talk*)
57. **K. Poinar** & I. Joughin. “Thermal signatures of crevasse-based cryo-hydrologic warming in western Greenland.” *Northwest Glaciologists’ Meeting*, Seattle. (Oct. 2012) (*poster*)
58. **K. Poinar** & I. Joughin. “Does softening of the margins influence the speed of of Jakobshavn Isbræ, Greenland?” *AGU Fall Meeting*, San Francisco. (Dec. 2011) (*poster*)
59. **K. Poinar**. “Crevasses’ effect on the albedo of the Greenland Ice Sheet.” *Graduate Climate Conference*, Woods Hole, Massachusetts. (Oct. 2011) (*poster*)
60. **K. Poinar** & I. Joughin. “Temperate ice under Jakobshavn Isbræ and other Greenland glaciers.” *AGU Fall Meeting*, San Francisco. (Dec. 2010) (*poster*)
61. **K. Poinar** & I. Joughin. “The Likelihood of Sudden Sea Level Rise from Greenland.” *Program on Climate Change Summer Institute*, Friday Harbor, Washington. (Sep. 2010) (*poster*)
62. **K. Poinar**, D. Akerib, D. Grant, R. Schnee, T. Shutt, S. Golwala, & Z. Ahmed. “Beta Cage: Screening Low Radioactive Backgrounds.” *APS Division of Nuclear Physics Annual Meeting*, Nashville. (Oct. 2006) (*poster*)

About the Design

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