# Erin Christine Pettit

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## Education

2003 **Ph.D. University of Washington, Geophysics**
Dissertation: *Unique Dynamic Behaviors of Ice Divides: Siple Dome and the Rheological Properties of Ice.* Advisor: Edwin D. Waddington. Committee: Howard Conway, Charles F. Raymond, John Stone

1994 **Sc.B. Brown University, Mechanical Engineering, with Honors**
Honors Thesis: *Effects of Excited State Emission of Erbium Doped Fiber Pumped at 820 nm.* Advisor: Theodore F. Morse

## Professional Appointments

2019-present **Associate Professor, Glaciology; Director, Inspiring Girls Expeditions**
College of Earth, Ocean, and Atmospheric Sciences
Oregon State University

2015-2018 **Associate Professor, Tenured; Director, Inspiring Girls Expeditions**
Dept of Geosciences, University of Alaska Fairbanks

2010-2015 **Assistant Professor and Director, Inspiring Girls Expeditions**
Dept of Geosciences, University of Alaska Fairbanks

2008-2010 **Research Assistant Professor**
Dept of Geosciences, University of Alaska Fairbanks

2006-2008 **Research Physical Scientist**
Cold Regions Research and Engineering Lab

2005-2008 **Research Assistant Professor**
Dept of Geology, Portland State University

2003-2006 **Post-Doctoral Research Fellow**
Dept of Earth and Space Sciences, University of Washington

1997–2003 **Graduate Research Assistant**
Dept of Earth and Space Sciences, University of Washington

1994–1997 **Mechanical and Systems Engineer**
Hybrid Car Team, AeroVironment, Inc.

1992-1994 **Research Assistant**
Laboratory for Lightwave Technology, Brown University

1993 **Summer Research Program for Women and Minorities**
AT&T Bell Labs

## Honors and Awards

| | |
|---|---|
| 2018-present | International Thwaites Glacier Collaboration Leadership Team |
| 2018 | *Inspiring Programs in STEM Award* Insight into Diversity |
| 2017 | University of Alaska Fairbanks *Usibelli Award* for Service |
| 2016-present | *Physical Science Delegate* U.S. Delegation to International Scientific Committee on Antarctic Research (SCAR) |
| 2015 | *Inspiring Women in STEM Award* Insight into Diversity |
| 2015 | *TEDWomen 2015* Speaker |
| 2013 | *National Geographic* Emerging Explorer |
| 2012 | UAF College of Natural Science and Mathematics Outstanding Teaching Award |
| 2011 | Representative for U.S. Department of State Brazil-US Women in Science Program |
| 2011 | UAF College of Natural Science and Mathematics Faculty Merit Award for Research Excellence and Coordination of the Girls on Ice Program. |
| 2007 | *WINGS WorldQuest* Earth Award |
| 1998-2003 | National Science Foundation Graduate Research Fellowship |
| 2000 | David A. Johnston Memorial Scholarship Award |
| 1997-1998 | University of Washington Graduate School Merit Award |
| 1997 | Fannie and John Hertz Foundation Research Fellowship Grant |

## Selected Recent Invited Talks and Panel Discussions

| | |
|---|---|
| 2020 | International Women in Engineering Day #INWED20 US-UK Virtual Event (US Embassy) |
| 2020 | International Glaciological Society Global Seminar Series |
| 2018 | West Antarctic Ice Sheet Initiative Workshop |
| 2019 | ComSciCon PNW Panelist: Panelist: Creativity in Science Communication |
| 2018 | Society for Ecological Restoration and Society Wetlands Ecologists Joint Conference (Plenary Speaker) |
| 2017 | Brown University Presidential Scholars Program Symposium Speaker |
| 2016 | Institute for Arctic and Alpine Research Distinguished Speaker Series, University of Colorado |
| 2016 | Interagency Arctic Research Policy Committee |
| 2015 | Student Climate and Conservation Congress Keynote Speaker, Green Schools Alliance |
| 2015 | TEDWomen 2015 |
| 2015 | OCEANOISE 2015 |
| 2015 | National Science Teachers Association National Conference, National Geographic |
| 2013 | National Geographic Explorers Symposium |
| 2012 | International Glaciological Society Symposium (panel discussion for Association of Polar Early Career Scientists) |
| 2011 | United State Embassy, Brazil (panel discussion on mentoring) |

## Teaching Experience

| | |
|---|---|
| 2019-2021 | Oregon State University |
| | *Glaciers in the Climate System* (graduate and upper undergraduate, Winter 2021) |
| | *Science Teaching and Leadership in Field Environments (Inspiring Girls Leadership Workshop)* (graduate and upper undergraduate, Spring 2019) |
| | *Inspiring Girls Expeditions: Girls in Icy Fjords, Expeditions at Home* (pre-college and instructor training, Summer 2019, 2020) |
| 2008-2018 | University of Alaska Fairbanks |
| | *Foundations of Geophysics/Geodynamics* (graduate and upper undergraduate, Fall 2008, 2010, 2012 to 2016, 2018) |
| | *Ice in the Climate System* (upper undergraduate, Spring 2012, 2014, 2016) |
| | *Mentoring in the Sciences* (graduate, Fall 2014, 2015) |
| | *Undergraduate Field Glaciology Workshop* (upper undergraduate, Spring 2013) |
| | *Glaciers, Earthquakes, and Volcanoes* (introductory undergraduate, Spring 2010) |
| | *Glaciology Reading Seminar* (graduate, Springs 2008 to 2013) |
| | *International Glaciology Summer School* (graduate, Summer 2010) |
| | *Inspiring Girls Expeditions: Girls on Ice and Girls in Icy Fjords*, (pre-college, Summers 2008 to 2018) |
| | *Inspiring Girls Leadership Workshops* (Summer 2015, Spring 2016, Spring 2018, Summer 2018) |
| 2006 | Portland State University |
| | *Global Environmental Change* (introductory undergraduate) |
| 2005 | University of Washington |
| | *Mount Rainier: Geological, Ecological, Cultural, and Wilderness Perspectives* (introductory undergraduate field course) |
| 2001–2009 | North Cascades Institute |
| | *Girls on Ice* |
| | *Mount Baker's Ice: Glaciology Backpack* |
| | *A River's Journey: The Skagit Watershed from Headwaters to Delta* |
| 2000–2001 | Seattle Partnership for Inquiry-Based Science |
| | *Land and Water: Science Content for Elementary Teachers* |
| 2000–2001 | University of Washington |
| | *Glaciers and Global Change* (TA, rintroductory undergraduate) |
| | *Introduction to Geologic Sciences* (TA, introductory undergraduate) |
| 1999 | UW Educational Outreach for Youth |
| | *The Ice, An Exploration of Antarctica* |
| | *The Glacier Climate Connection, A Field Course in Glaciology* |

## Current Students and Post Docs

| | |
|---|---|
| Supervisor | **Christian Wild**. Post Doc, 2019-present Oregon State University |
| Supervisor | **Kiya Riverman**. Post Doc, 2021-present Oregon State University |
| Chair | **Emilie Sinkler**, PhD Geophysics, expected 2021. Univ. of Alaska Fairbanks. |
| Member | Jenna Epifanio, Ph.D. Paleoclimate, expected 2023. Oregon State Univ. |
| Member | Sam Cargill, Ph.D. Geomorphology, expected 2023. Oregon State Univ. |
| Member | Kali Abel, Ph.D. Geography, expected 2022. Oregon State Univ. |
| Member | Amber Phillipe, Ph.D. Interdisciplinary, History of Glacial Landscapes, expected 2021. Univ. of Alaska Fairbanks. |
| Mentor | **Undergraduate:** Margot Shaya (Carlton College); Georgia Carroll (OSU); Catilin Barnes (OSU); Pieter Hilton (OSU); Journey Berry (Rutgers Univ); Adriane Burk (OSU); Haylee Smith (OSU) |

## Former Students and Post Docs

| | |
|---|---|
| Supervisor | **Alessio Gusmeroli**. Post Doc, 2010-2012 Univ. of Alaska Fairbanks. |
| Chair | **Christina Carr**, PhD Geophysics, 2021. Univ. of Alaska Fairbanks. |
| Chair | **Joanna Young**, PhD Geophysics with Climate Education, 2020. Univ. of Alaska Fairbanks. |
| Chair | **Joseph Kennedy**, PhD Physics, 2015. Univ. of Alaska Fairbanks. |
| Member | Marc Oggier, Ph.D. Geophysics, 2020. Univ. of Alaska Fairbanks. |
| Member | Kristin Timm, MS Science Communication, 2014. Univ. of Alaska Fairbanks. |
| Member | Kristen Rahilly, MS Geology, 2014. Univ. of Alaska Fairbanks. |
| Member | Megan O'Sadnick, MS Geophysics, 2014. Univ. of Alaska Fairbanks. |
| Member | Joshua Carmichael, PhD Geophysics, 2013. Univ. of Washington. |
| Member | Robert McNabb, PhD Geophysics, 2013. Univ. of Alaska Fairbanks. |
| Member | Marijke Haberman, PhD Geophysics, 2013. Univ. of Alaska Fairbanks. |
| Member | Tim Bartholomaus, PhD Geophysics, 2013. Univ. of Alaska Fairbanks. |
| Member | Jason Amundson, PhD Geophysics, 2010. Univ. of Alaska Fairbanks. |
| Member | Erin Whorton, MS Geology, 2008. Univ. of Washington. |
| Mentor | **Undergraduate:** Nicole Bohall (2019-2020); Natalie Wagner (2017-2020); Johannes Kuppers (2019); Spencer Strobel (2019-2020); McKayla Meier (2019-2020); Anny Sainvil (2016-2017), Jessica Badgeley (2013-2017), Tiffany Green (2013-2015), Alison Giffoni (2012-2017) Caroline Aubry-Wake (Sp. 2013), Annelise Miska (Fall 2012), Ephy Wheeler (2012-2013), David Tise (2012-13), Trevor Scott (Sp. 2012), Jason Theis (2009-2012), Joel Brann (2010), Tara Hutchison (2010), Grace Amundson (Fall 2009), Erin Whorton (2004-2005) |

## Professional Affiliations

| | |
|---|---|
| Member | American Geophysical Union |
| Member | International Glaciological Society |
| Member | Geological Society of America |
| Member | Association for Women in Science |
| Member | National Association of Geoscience Teachers |
| Member | Earth Science Women's Network |
| Member | National Science Teacher Association |

## Community Leadership and Service

| | |
|---|---|
| 2019-present | Science Advisory Board *US Antarctic Program Ice Drilling Program* |
| 2018-present | Leadership Team *International Thwaites Glacier Collaboration (ITGC)* |
| 2016-present | U.S. Physical Science Representative to the international *Scientific Committee for Antarctic Research (SCAR)* |
| 2016 | Co-author, McMurdo Dry Valleys Environmental Assessment |
| 2015-2018 | Director, Antarctic Art Contest and Traveling Exhibit |
| 2012-present | IDDO/IDPO Borehole Logging Advisory Group |
| 2013-2016 | Associate Editor, Journal of Geophysical Research Earth Surface |
| 2009-2013 | NSF Ice Core Working Group |
| 2011-2012 | NSF PASSCAL/UNVACO Polar Facilities Planning Group |
| 2008-2012 | WAIS Divide Replicate Coring Planning Committee |
| 2005-2009 | UNAVCO, Inc., Education and Outreach Steering Committee |
| 2005 | NSF OPP Antarctic Artists and Writers Program Panel Review |
| 2010-present | University of Alaska Fairbanks |
| | *UAF Committee on the Status of Women* (2014-2017) |
| | *UAF Committee for Review of Interdisciplinary PhDs* (2014-2015) |
| | *College of Natural Science and Mathematics Science Teaching and Outreach Certificate Program Committee* (2014-present) |
| | *College of Natural Science and Mathematics Outreach Committee* (2011-2014) |
| | *Undergraduate and Graduate Geophysics Curriculum Revision* (2010-2012) |
| | *Departmental Student Learning Outcomes Assessment* (2012-present) |
| 1999-2002 | University of Washington, Department of Earth and Space Sciences, |
| | *Undergraduate Curriculum (during departmental merger)* |
| | *Graduate Representative to Faculty* |
| | *Graduate Representative for Qualifying Exam* |

## Selected Public Outreach

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|---|---|
| | more links here http://www.explore-ice.gi.alaska.edu/about/ |
| 2014-present | Current Events related to Antarctic Ice Shelf behavior, science media advisor: |
| | Thwaites Glacier: https://thwaitesglacier.org/ |
| | Discover Magazine blog: Team of Top Scientists Prepare to Invade Antarctica's Scariest Glacier |
| | Discover Magazine blog: Scientists Race to Understand Why Ice Shelves Collapse |
| | NSIDC Field blog – http://www.iceshelf.wordpress.com |
| | National Geographic online: Foehn Winds Melt Ice Shelves |
| | Other press |
| | Alaska Dispatch: A glacier in Interior Alaska is a testing ground for equipment intended for use in space. |
| | National Geographic: What's Really In Antarctica's Mysterious Blood Falls. |
| | CTV and other news outlets: Scientists Solve Century Old Mystery of Antarctica's Blood Falls. |
| 2015-2016 | National Geographic IMAX Film: Extreme Weather, Science advisor |
| 2015 | Student Climate and Conservation Congress Presentation: Artists, Scientists, Leaders, Explorers live outside their Comfort Zone |
| | TEDWomen 2015 |
| | Earth Magazine: Down to Earth With: Glaciologist Erin Pettit |
| | Associated Press: Bubbles from glacier ice turn up the noise in Alaska fjords. |
| | Director of WAIS Divide Antarctica Art/Science Contest |
| | Velvet Ice – Polartrec Teacher Field experience |
| 2014 | Radiolab: Supercool |
| | NBC science advisor |
| | Advisor for undergraduate-elementary student experience |
| 2013 | Fairbanks Science Cafe |
| | National Geographic Live! Video Presentation: The Ice in Alive |
| | McMurdo Station Sunday Science Talk |
| | Live from Antarctica, virtual classroom visit |
| | National Geographic Weekend Radio Interview |
| 2007 | Wings WorldQuest |
| 2006 | Smithsonian Online: Glaciologist Erin Pettit Reports from the Field |
| 2005 | New York Times: Young Women Get Serious in a Laboratory of Ice |

## Grants and Funding Awards

**Currently Funded Projects**

2021-2026 **In Review** *AccelNet-Implementation: HimLink: Linking networks to understand natural hazards in the Himalaya and their impacts.* Lead PI: Marianne Karplus (UTEP) $1,536,133

2021-2023 **In Review** *EHR-Polar DCL: Exploring the role of emotions in informal science learning for girls during polar field experiences.* Lead PI: Nancy Staus (OSU) $298,444

2021-2026 **In Review** *NSF - OIA - STC: Center for OLDest Ice EXploration (COLDEX)* Lead PI. E. Brook, PIs E. Pettit (OSU), M. Koutnik (UW), J. Higgins (Princeton), J. Severinghaus (Scripps). $25,000,000 (Total)

2020-2023 *NSF-OPP: Collaborative Research: How fast do tidewater glaciers melt? Quantifying the processes that control boundary layer transport across the ice-ocean interface.* Lead PI: J. Nash (OSU). PIs M. Wengrove (OSU), E. Skillingstad (OSU), D. Sutherland (UOregon), R. Jackson (Rutgers). $ 1,963,346 (OSU Portion)

2020-2023 *Keck Foundation: Physics of Glacier Melt: A Robotic Lander to Study Ice-Ocean Interactions at a Structurally Complex and Evolving Ice Boundary."* Lead PI: J. Nash, PIs E. Pettit (OSU), E. Skillingstad (OSU), M. Wengrove (OSU) $1,000,000

2019-2022 *Seismometer to Investigate Ice and Ocean Structure (SIIOS)* . NASA ICEE2. Lead PI S. Bailey (U. of Arizona), PIs P. Dahl (U. Wash), E. Pettit (OSU), N. Schmerr (U. Maryland), et al. $149,053 (Pettit Portion)

2018-2023 *NSFPLR-NERC: Thwaites-Amundsen Regional Survey and Network (TARSAN) Integrating Atmosphere-Ice-Ocean Processes affecting the Sub-Ice-Shelf Environment.* NSF Office of Polar Programs. Lead PI E. Pettit (OSU), U.K. Lead PI K. Heywood (UEA), PIs: R. Hall (UEA), M. Truffer (UAF), A. Muto (Temple U), L. Boehme (St. Andrews), and T. Scambos (CU-NSIDC) $4,000,000 of which $2,500,000 is US portion plus an REU supplement).

2017-2022 *Seismometer to Investigate Ice and Ocean Structure (SIIOS)* . NASA PSTAR. Lead PI S. Bailey (U. of Arizona), PIs P. Dahl (U. Wash), E. Pettit (OSU), N. Schmere (U. Maryland), D. Albert (CRREL) $571,290 (Pettit Portion)

2017-2022 *Collaborative Research: Feedbacks between Orographic Precipitation and Ice Dynamics* NSF Office of Polar Programs. PIs A. Aschwandan, E. Pettit (OSU), G. Roe (UW). $521,691 (UAF portion)

**Past Funded Projects**

2018-2020 *Rising waters and melting ice - listening to the interplay between a warming global ocean and rapid glacier retreats* National Geographic. Lead PI E. Pettit (OSU), PI J. Nash (OSU) $100,000

2012–2019 *Collaborative Research: VELVET Ice: Evolution of Fabric and Texture in Ice at WAIS Divide, West Antarctica.* NSF Office of Polar Programs. Lead PI E. Pettit (UAF). PI R. Obbard (Dartmouth College). $571,649 (Pettit Portion)

## Grants and Funding Awards, cont.

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|---|---|
| 2015-2018 | *RAPID: Observing the Weakening and Disintegration of the Scar Inlet Ice Shelf.* NSF Office of Polar Program. Lead PI E. Pettit (UAF), PIs: M. Truffer (UAF), T. Scambos (CU-NSIDC). $229,344 (Total UAF) |
| 2012–2018 | *Collaborative Research: MIDGE: Minimally Invasive Direct Glacial Exploration of Biogeochemistry, Hydrology and Glaciology of Blood Falls, McMurdo Dry Valleys* NSF Office of Polar Programs. Lead PI J. Mickuki. PIs E. Pettit (UAF), S. Tulaczyk (USCS), and W. Lyons (OSU) $346,679 (Pettit Portion) |
| 2011–2018 | *Girls on Ice: Using Immersion to Teach Fluency in Science.* NSF Office of Polar Programs. Lead PI E. Pettit (UAF) $344,751. |
| 2015-2016 | *Dawes Glacier Ice/Ocean Boundary Exploration.* Sean Casey IMAX and National Geographic Logistics Support. Lead PI E. Pettit (UAF) |
| 2010–2016 | *The Relationship between Climate and Ice Rheology at Dome C, East Antarctica.* NSF Office of Polar Programs. Lead PI E. Pettit (UAF) $459,161. |
| 2009–2015 | *Collaborative Research in IPY: Abrupt Environmental Change in the Larsen Ice Shelf System, a Multi-disciplinary Approach – Cryosphere and Oceans.* NSF Office of Polar Programs. Lead PI T. Scambos (CU-NSIDC), PIs: E. Pettit (UAF), M. Truffer (UAF), E. Mosley-Thompson and L. Thompson (OSU), B. Huber and A. Gordon (CLDEO). $268,556 (Pettit Portion) |
| 2012–2014 | *Collaborative Research: Sonic Logging the NEEM Corehole, Greenland* NSF Office of Polar Programs. Lead PI: E. Waddington (UW), PI: E. Pettit (UAF). $58,414. (Pettit portion) |
| 2012-2013 | *Thermal Signature of Blood Falls: a Supraglacial Link to the Subglacial Environment* Alaska Space Grant. Lead PI E. Pettit (UAF) $51,898 (includes matching funds) |
| 2009–2012 | *Collaborative Research: Ice core paleoclimate records from Combatant Col, British Columbia, Canada.* NSF Paleoclimate Program. Lead PI E. Steig (UW), PIs E. Pettit (UAF), D. Clark (WWU), J. McConnCRI). $156,981 (Pettit Portion). |
| 2007–2011 | *Collaborative Research: Anisotropy, abrupt climate change, and the deep ice in West Antarctica.* NSF Office of Polar Programs. Lead PI E. Pettit (UAF), PI Ed Waddington (UW). $309,796 (Pettit Portion) |
| 2008–2011 | *Collaborative Research: A New Method for Observing Variability in Freshwater Discharge from Arctic and Antarctic Marine-Terminating Glaciers using Passive Ocean Acoustic Measurements.* NSF Office of Polar Programs. Lead-PI: E. Pettit (UAF), PIs J. Nystruen (UW-APL), S. O'Neel (CU Boulder). $140,099 (Pettit Portion). |
| 2009 | *High Resolution Ground Penetrating Radar for Undergraduate Research and Learning* . UAF TAB Proposal (Internal) $12,950. |
| 2007–2008 | *Where there Once was Ice: the Effects of Ice Shelf Breakup on Glaciers and Sea Level Rise.* National Geographic Expedition Council. PI: E. Pettit. $14,019 plus travel expenses |
| 2006–2008 | *Alaska Glacier Monitoring Program.* United States Geological Survey. Lead PI E. Pettit (no proposal written) $180,000 |
| 2007 | *GPS surface profiling for volume change of North Cascades Glaciers.* North Cascades National Park. Lead PI E. Pettit. $2400 |
| 2000 | *Ice-Penetrating Radar Profiles of the Summit Craters, Mount Rainier.* Mount Rainier National Park. 01 July 2000 - 15 Sept 2000. $0 |
| 2003–2008 | *Collaborative Research: Mechanics of dry-based ice cliffs.* NSF Office of Polar Programs. 01 May 2003 - 30 April 2008. Lead-PI B. Hallet (UAF), PI Andrew Fountain (PSU) PostDoc: E. Pettit $266,648 (UW Portion) ***Note: I designed this project and wrote this proposal to fund my Post Doc under the guidance of Drs. Hallet and Fountain* |

# Publications

Papers with ** are first-authored by undergraduate students, graduate students, or post docs under my primary supervision

*Peer-reviewed papers in progress (in review or expected submission in next six months)*

in review R. Maguire, N. Schmerr, **E.C. Pettit**. K. Riverman, C. Gardner, D. Della-Giustina, B. Avenson, N. Wagner, A.G. Marusiak, N. Habib, J.I. Broadbeck, V.J. Bray, and H. Bailey *in review.* Geophysical constraints on the properties of a subglacial lake in northwest Greenland. The Cryosphere.

in prep **Pettit, E.C.**, C.G. Carr, J. Badgeley, J. Mikucki, and S. Tulaczyk. *in prep.* Active englacial conduit system in cold ice: wintertime activity of Blood Falls.

in prep Carr, C.G., **E.C. Pettit**, A. Hawkins. *in prep.* Active englacial conduit system in cold ice: wintertime activity of Blood Falls.

in prep **Sinkler, E, **E.C. Pettit**, R. Obbard. *in prep.* Fabric and flow at the WAIS Divide borehole

in prep **Pettit, E.C.,** R. McCracken, A. Aschwanden, C., T.A. Scambos, and T. Haran. *in prep.* The Antarctic Peninsula Paradox: Asymmetry due to orographic precipitation, ice dynamics, and erosion.

in prep **Pettit, E.C**. T. Scambos, M. Truffer, and A. Luckman. *in prep.* Fast-ice modulated ice-shelf dynamics.

in prep **Pettit, E.C**, J. Theis, P. Neff, E. Stieg, and D. Clark. *in prep.* Thermal Layering and Perched Aquifers in the Percolation Zone.

in prep **Pettit, E.C.** A. Gusmeroli, C. Ritz, J.H. Kennedy, M. Montagnat, C. Carr, and G. Durand. *in prep.* Strongly varying rheological properties of the deep ice in central East Antarctica.

in prep **Pettit, E.C**. *in prep.* Ice Cliffs and the Terminus Dynamics of Polar Glaciers.

*Peer-reviewed papers published or accepted for publication*

2021 Wahlin, A.K., A. Graham, K. A. Hogan, B. Y. Queste, L. Boehme, R. Larter, **E. Pettit**, J. Wellner and K. J. Heywood. *2021.* Pathways and modification of warm water flowing beneath Thwaites ice shelf, West Antarctica *Sciences Advances.*

2021 Huston, A., N. Siler, G.H. Roe, **E. Pettit**, and N.J. Steiger. *2021.* Understanding Drivers of Glacier Length Variability Over the Last Millennium. The Cryosphere

2021 Marusiak, A.G., N.C. Schmerr, D.N. DellaGiustina, B. Avenson, S.H. Bailey, V.J. Bray, J.I. Brodbeck, C.G. Carr, P.H. Dahl, N. Habib, **E.C. Pettit**, N. Wagner, and R.C. Weber, 2021. The Deployment of the Seismometer to Investigate Ice and Ocean Structure (SIIOS) in Northwest Greenland: An analog experiment for icy ocean world seismic deployments. Seismological Research Letters.

2020 **Young, J., L. Conner, and **E.C. Pettit**. 2020 "You really see it": Environmental identity shifts through interacting with a climate change-impacted glacier landscape. *International Journal of Science Education* doi:10.1080/09500693.2020.1851065

2020 **Young, J., A. Arendt, E. Hood, **E.C. Pettit**, G.E. Liston, and J. Beamer 2020. A changing hydrological regime: Trends in magnitude and timing of glacier ice melt and glacier runoff in a high latitude coastal watershed. Water Resources Research

2020 **Carr, C.G., J.D. Carmichael, **E.C. Pettit**, and M. Truffer 2020. The influence of environmental microseismicity on detection and interpretation of small-magnitude events in a polar glacier setting *Journal of Glaciology.* 66(259) 790–806.

2020 Marusiak, A.G., N.C. Schmerr, B. Avenson, S.H. Bailey, V.J. Bray, P. Dahl, D.N. DellaGiustina, **E.C. Pettit**, N. Wagner, and R.C. Weber, 2020. Cluster Analysis of Thermal Icequakes Using the Seismometer to Investigate Ice and Ocean Structure (SIIOS): Implications for Ocean World Seismology.

## Publications, cont.

2020 Marusiak, A.G., N.C. Schmerr, D.N. DellaGiustina, **E.C. Pettit**, P.H. Dahl, B. Avenson, S.H. Bailey, V.J. Bray, N. Wagner, C.G. Carr, and R.C. Weber, 2020. The Deployment of the Seismometer to Investigate Ice and Ocean Structure (SIIOS) on Gulkana Glacier, Alaska. Seismological Research Letters. 91(3) 1901–1914

2019 Zeh, M.C., Glowacki, O., Deane, G.B., Ballard, M.S., **Pettit, E.C.** and Wilson, P.S., 2019. Model-data comparison of sound propagation in a glacierized fjord with a variable ice top-boundary layer. The Journal of the Acoustical Society of America, 145(3), pp.1887-1887.

2019 Deane, G.B., Glowacki, O., Stokes, M.D., **Pettit, E.C.** in press. The Underwater Sounds of Glaciers. Acoustics Today.

2019 Jackson, R.H., J.D. Nash, C. Kienholz, D.A. Sutherland, J.M Amundson, R.J. Motyka, D. Winters, E. Skyllingstab, and **E.C. Pettit**. 2020. Meltwater intrusions reveal mechanisms for rapid submarine melt at a tidewater glacier. Geophysical Research Letters 47, no. 2 (2020): e2019GL085335.

2019 Campen, R., J Kowalski, W.B. Lyons, S. Tulaczyk, B. Dachwalk, **E.C. Pettit**, K.A. Welch, J.A. Mikucki. *2019* Microbial diversity of an Antarctic subglacial community and high-resolution replicate sampling inform hydrological connectivity in a polar desert. *Environmental Microbiology*, doi: 10.1111/1462-2920.14607

2019 Lyons, W.B., J.A. Mikucki, L.A. German, K.A. Welch, S.A. Welch, C.B. Gardner, S.M. Tulaczyk, **E.C. Pettit**, J. Kowalski, B. Dachwald, and the EnExTeam. *2019* The Geochemistry of Englacial Brine from Taylor Glacier, Antarctica. *Journal of Geophysical Research: Biogeosciences*, 124(3), pp. 633-648, doi:10.1029/2018JG004411

2019 Wellner, J.S., T. Scambos, E.W. Domack, M. Vernet, A. Leventer, G. Balco, S. Brachfeld, M. Cape, B. Huber, S. Ishman, M. McCormick, E. Mosely-Thompson, E. Pettit, C. Smith, M. Truffer, C. Van Dover, K.-C. Yoo. *2019* The Larsen Ice Shelf System, Antarctica (LARISSA): Polar Systems Bound Together, Changing Fast. *GSA Today*, 29, doi:10.1130/GSATG382A.1

2019 Dammann, D.O., L.E. Eriksson, S.V. Nghiem, **E.C. Pettit**, N.T. Kurtz, J.G. Sonntag, T.E. Busche, F.J Meyer, and A.R. Mahoney, 2019. Iceberg topography and volume classification using TanDEM-X interferometry. The Cryosphere, 13(7), pp.1861-1875.

2019 Cape, M.R., M. Vernet, **E.C. Pettit**, J.S. Wellner, M. Truffer, G. Akie, E. Domack, A. Leventer, C.R. Smith, B.A. Huber. *in review* Circumpolar Deep Water impacts glacial meltwater export and coastal biogeochemical cycling along the west Antarctic Peninsula. *Frontiers in Marine Science*, 6(144), doi:10.3389/fmars.2019.00144

2018 Conner, L., S. Perin, and **E.C. Pettit**. 2018. Tacit knowledge and girls' notions about field science through membership in a community of practice. *International Journal of Science Education, Part B* DOI: 10.1080/21548455.2017.1421798

2018 **Young, J., A. Arendt, R. Hock, and **E.C. Pettit**. 2018. The challenge of monitoring glaciers with extreme altitudinal range: Mass balance reconstruction for Kahiltna Glacier, Alaska. *Journal of Glaciology*, 64(243), pp. 75-88.

2018 Zeh, M.C., Wilson, P.S., Lee, K.M. and Pettit, E.C., 2018. Acoustical characteristics and contributions of bubbles released from melting glacier ice. *The Journal of the Acoustical Society of America*, 143(3), pp.1832-1832.

2017 **Badgeley, J.A., **E.C. Pettit**, C.G. Carr, S. Tulaczyk, J.A. Mikucki, and W.B. Lyons. 2017. An englacial hydrologic system of brine within a cold glacier: Blood Falls, McMurdo Dry Valleys, Antarctica. *Journal of Glaciology*, 63(239), pp.387-400.

## Publications, cont.

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