DR. JESSICA M. YOUNG-ROBERTSON – CURRICULUM VITAE

Ecosystem Ecologist & Data Scientist
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I am an ecosystem ecologist who focuses on boreal forest responses to climate change in Alaska. I co-direct the research in the Forest Soils Lab at the University of Alaska Fairbanks. My research includes understanding the intersection between the boreal forest, water resources, and renewable heating sources for communities. My research is both fundamental and applied, wherein the boreal forest is an understudied part of our biosphere with many basic questions that still need to be addressed, and it is a rich biome that contributes a wide array of resources to meet societal needs. My lab uses field, lab, and Bayesian modeling tools that focus on eco-physiology, eco-hydrology, and stable isotope science. I collaborate with local, state, federal, and tribal agencies to meet the forestry needs through fundamental and applied research.

I believe in sharing science and environmental information using conversation as the vehicle. To this end, I am also the co-founder of Alaska Voices (www.alaskavoices.org), a StoryCorps inspired project that builds bridges of knowledge by sharing conversations among Alaska's community members, friends, policy makers, and co-workers. We also share stories about the environment from community members and scientists.

EDUCATION AND TRAINING

2020	University of Alaska Fairbanks, Clinical Mental Health Counseling, Fairbanks, AK, M.Ed.
2006	University of Arizona, Ecology and Evolutionary Biology, Tucson, AZ, Ph.D.
2004	University of Arizona, Ecology and Evolutionary Biology, Tucson, AZ, M.S.
2000	Fort Lewis College, Durango, CO, B.S. Biology, *summa cum laude*, valedictorian

RESEARCH AND PROFESSIONAL EXPERIENCE

2021 - present	Research Associate Professor, Agriculture and Forestry Experiment Station, University of Alaska Fairbanks Research Co-Director of the Forest Soils Lab Research Lead for the Agriculture Forestry Experiment Station (2022-2024)
2017 - 2021	Research Assistant Professor, Agriculture and Forestry Experiment Station, University of Alaska Fairbanks, co-direct research in Forest Soils Lab
2017	Research Professional 4, Director of Forestry Growth and Yield Program, Agriculture and Forestry Experiment Station, University of Alaska Fairbanks
2016 – 2017	Research Assistant Professor, International Arctic Research Center, University of Alaska Fairbanks
2014 – 2016	Research Landscape Ecologist, USGS Alaska Science Center, Anchorage, AK
2011 – 2014	Research Assistant Professor, International Arctic Research Center, University of Alaska Fairbanks
2009–2011	Postdoctoral Fellow, Office of Polar Programs, NSF with Dr. Jeff Welker (Univ. of Alaska) and Dr. Kiona Ogle (Univ. of Wyoming).
2006–2009	Postdoctoral Research Scientist with Dr. Kiona Ogle and Dr. David Williams, Dept. of Botany and Dept. of Renewable Resources, University of Wyoming.
2005	Graduate Research Assistant (woody plant encroachment effects on carbon cycling), University of Arizona (UA).

2004–2005	NSF fellowship: Collaboration for the Advancement of Teaching Technology and Science (CATTS) Graduate K–12 (science outreach to public schools), UA.
2001, 2003, 2004, 2006	Graduate Teaching Assistant (Conservation Biology 2001, Ecology 2003, Environmental Biology 2004, Genetics 2006), UA.
2002–2003	Graduate Research Assistant (biogenic crust response to precipitation), UA.
2001	Graduate Research Assistant (conservation genetics of hummingbirds), UA.
1998–2000	Undergraduate Field Research Assistant in studies of grazing effects on bird nesting.
2000	Undergraduate Teaching Assistant (Ornithology), Fort Lewis College.
1998–2000	Tutor, Program for Academic Advancement, Fort Lewis College.

PUBLICATIONS – MY PROFESSIONAL NAME CHANGED FROM CABLE TO YOUNG-ROBERTSON

Thomas, H., S. Dempster, and **J. Young-Robertson**. *In Preparation*. Boreal plant form and function: Critical variables for ecosystem modeling

Clark, J. A., Tape, K. D., & **Young-Robertson, J. M.** (2023). Quantifying evapotranspiration from dominant Arctic vegetation types using lysimeters. *Ecohydrology*, *16*(1), e2484.

Clark, J. A., Tape, K. D., & **Young-Robertson, J. M.** (2022). Deciduous Shrub Stem Water Content in Arctic Alaska. *Ecohydrology & Hydrobiology*, *22*(3), 476-483.

Young-Robertson J.M. and W.R. Bolton. (2022). Building bridges through conservation: Humanizing science and scientists. Community | Media | Possibility. *Forum* - A magazine of the Alaska Humanities Forum, Winter Issue 2021-2022, pp. 40-41.

Young-Robertson J.M, W.R. Bolton, and R. Toohey. (2020). Northern Ecohydrology of Interior Alaska Subarctic. In *Arctic Hydrology, Permafrost and Ecosystems* (pp. 657-680). D. Yang and D. Kane (Eds). Springer, Cham. ISBN-13: 978-3030509286

Young-Robertson J.M., N. Raz-Yaseef, L.R. Cohen, T. Rahn, B. Newman, C. Wilson, and S. Wullschleger (2018). Evaporation dominates evapotranspiration on Alaska's Arctic Coastal Plain. *Arctic, Antarctic, and Alpine Research*, 50(1), DOI: 10.1080/15230430.2018.1435931

Raz-Yaseef, N., **J. Young-Robertson**, T. Rahn, V. Sloan, B. Newman, C. Wilson, S. Wullschleger, and M. Torn (2017). Evapotranspiration across plant types and geomorphological units in polygonal arctic tundra. *J. Hydrology* 553, 816-825, doi.org/10.1016/j.jhydrol.2017.08.036

Endalamaw, A., W. R. Bolton, **J. M. Young-Robertson**, D. Morton, L. Hinzman, and B. Nijssen (2017). Toward improved parametrization of a meso-scale hydrologic model in a discontinuous permafrost, boreal forest ecosystem. *Hydrology and Earth System Sciences Discussion* doi:10.5194/hess-2017-25.

Young-Robertson J.M., K. Ogle, J. Welker (2017). Thawing seasonal ground ice: An important water source for boreal forest plants in Interior Alaska. *Ecohydrology*, 10(3), DOI: 10.1002/eco.1796.

Young-Robertson J.M., W.R. Bolton, U. Bhatt, J. Cristobal, R. Thoman (2016). Deciduous trees are a large and overlooked sink for snowmelt water in the boreal forest. *Nature Scientific Reports* 6, Art no. 29504, DOI: 10.1038/srep29504.

Klein, E. S., Nolan, M., McConnell, J., Sigl, M., Cherry, J., **Young, J.,** & Welker, J. M. (2016). McCall Glacier record of Arctic climate change: Interpreting a northern Alaska ice core with regional water isotopes. *Quaternary Science Reviews*, 131, 274-284.

Throckmorton H.M., B. Newman, J. Heikoop, G. Perkins, X. Feng, D. Graham, D. O'Malley, V. Vesselinov, **J. Young-Robertson**, S. D. Wullschleger, and C. Wilson (2016). Active layer hydrology in an arctic tundra ecosystem: Quantifying water sources and cycling using water stable isotopes. *Hydrological Processes* 30(26), DOI: 10.1002/hyp.10883.

Klein, E., J. Cherry, **J. Young**, D. Noone, A. Leffler, J. Welker (2015). Arctic cyclone water vapor isotopes support past sea ice retreat recorded in Greenland ice. *Nature Scientific Reports* 5, article number 10295, DOI:10.1038/srep10295.

Ogle K., J.J. Barber, G.A. Barron-Gafford, L.P. Bentley, **J.M. Cable**, R.W. Lucas, T.E. Huxman, M.E. Loik, and D.T. Tissue (2015). Quantifying ecological "memory" of plant and ecosystem processes. *Ecology Letters* 18:221-235, doi.org/10.1111/ele.12399.

Cohen L.R., N. Raz Yaseef, J.B. Curtis, **J.M. Young**, T. Rahn, B. Newman, S. Wullschleger (2014). Measuring diurnal cycles of evapotranspiration in the Arctic with an automated chamber system. *Ecohydrology,* DOI: 10.1002/eco.1532.

Herman, R.L, J. Cherry, **J.M. Young**, J. Welker, D. Noone, S.S. Kulawik, J. Worden. Aircraft Validation of Tropospheric Emission Spectrometer Retrievals of HDO and H_2O (2014). A*tmospheric Measurement Techniques* 7:3127-3138, doi.org/10.5194/amt-7-3127-2014

Scott, R.L., T.E. Huxman, G. Barron-Gafford, D. Jenerette, **J.M. Young**, E. Hamerlynck (2014). When vegetation change alters ecosystem water availability. *Global Change Biology* 20(7):2198-2210, doi.org/10.1111/gcb.12511.

Tucker C.L., **J.M. Cable**, D.G. Williams, and K. Ogle (2014). Process-based partitioning of winter soil respiration in a subalpine ecosystem reveals importance of autotrophic respiration. *Biogeochemistry* 121:389-408, www.jstor.org/stable/24717586

Barron-Gafford G.A., **J.M. Cable**, L. Patrick Bentley, R.L. Scott, T.E. Huxman, G.D. Jenerette, and K. Ogle (2014). Quantifying endogenous and exogenous legacy effects on the "ecological memory" of soil respiratory efflux in a semiarid shrubland. *New Phytologist* 202(2):442-454.

Ogle K., C. Tucker, and **J.M. Cable** (2014). Beyond simple linear mixing models: Process-based isotope partitioning of ecological processes. *Ecological Applications* 24(1):181-195, www.jstor.org/stable/23596812

Cable J.M., K. Ogle, W.R. Bolton, L.P. Bentley, V. Romanovsky, H. Iwata, Y. Harazono, and J. Welker (2013a). Permafrost thaw affects boreal deciduous plant transpiration through increased soil water, deeper thaw, and warmer soils. *Ecohydrology* 7(3):982-997, doi.org/10.1002/eco.1423

Cable J.M., K. Ogle, G. Barron-Gafford, L.P. Bentley, W.L. Cable, R.L. Scott, D.G. Williams, and T.E. Huxman (2013b). Soil respiration responses to antecedent conditions: the differential impacts of shrubs and grasses. *Ecosystems* 16:1230-1247, DOI: 10.1007/s10021-013-9679-7

Ogle K., R.W. Lucas, L.P. Bentley, **J.M. Cable**, G.A. Barron-Gafford, A. Griffith, D. Ignace, G.D. Jenerette, A. Tyler, T.E. Huxman, M.E. Loik, S.D. Smith, and D.T. Tissue (2012). Differential daytime and nighttime stomatal behavior and substantial nighttime water loss in plants from North American deserts. *New Phytologist* 194(2):464-476, doi.org/10.1111/j.1469-8137.2012.04068.x

Cable J.M., G. Barron-Gafford, K. Ogle, M. Pavao-Zuckerman, R.L. Scott, D.G. Williams, and T.E. Huxman (2012). Shrub encroachment alters sensitivity of soil respiration to temperature and moisture. *JGR-Biogeosciences* 117(G1), DOI: 10.1029/2011JG001757.

Cable J.M., K. Ogle, and D.W. Williams. (2011a). Application of isotopic measurements and a Bayesian mixing model to determine the contribution of glacier meltwater to streamflow in the Wind River Range, Wyoming. *Hydrological Processes* 25(14):2228-2236, doi.org/10.1002/hyp.7982

Cable J., K. Ogle, R. Lucas, M. Cleary, A. Griffith, T. Huxman, M. Loik, E. Pendall, M. Rogers, H. Steltzer, P. Sullivan, D. Tissue, N. van Gestel, and J. Welker. (2011b). The temperature response of soil respiration: a seven desert synthesis. *Biogeochemistry* 103(1-3):71-90, https://link.springer.com/article/10.1007/s10533-010-9448-z

Miller G.R., **J.M. Cable**, A.K. McDonald, B. Bond, A.P. Tyler, T.E. Franz, L. Wang, and T. Franz (2011). Using a system dynamics model to assess how ecohydrological connectivity affects ecosystem responses to environmental presses and pulses: A case study in savannah ecosystems. *Ecohydrology* 5(2):200-220, doi.org/10.1002/eco.245

Wang L., C. Zou, F. O'Donnell, S. Good, T. Franz, G.R. Miller, K. Caylor, **J.M. Cable**, and B. Bond. (2010). Characterizing ecohydrological and biogeochemical connectivity across multiple scales: a new conceptual framework. *Ecohydrology* 5(2):221-233, doi.org/10.1002/eco.187

Cable J.M., K. Ogle, A.P. Tyler, M. Pavao-Zuckerman, and T.E. Huxman. (2009). Woody plant encroachment impacts on soil carbon and microbial processes: results from a hierarchical Bayesian analysis of soil incubation data. *Plant and Soil* 320:153-167, https://link.springer.com/article/10.1007%2Fs11104-008-9880-1

Potts D.L., T.E. Huxman, **J.M. Cable**, R.L. Scott, M.A. Pavao-Zuckerman, D.G. Williams and D.C. Goodrich. (2008). Sensitivity of mesquite shrubland carbon exchange to precipitation in contrasting physiographic settings. *Ecology* 89:2900-2910, DOI: 10.1890/07-1177.1

Cable J.M., K. Ogle, D.G. Williams, J.F. Weltzin, and T.E. Huxman (2008). Soil texture drives responses of soil respiration to precipitation pulses in the Sonoran Desert: Implications for climate change. *Ecosystems* 11:961-979, DOI: 10.1007/s10021-008-9172-x

Cable, J.M., Enquist B.J., and Moses M.E. (2007). The Allometry of Host-Pathogen Interactions. *PLoS ONE* 2(11): e1130.

Patrick L., **J.M. Cable**, D.D. Ignace, D.L. Potts, G. Barron-Gafford, N. Van Gestel, T. Robertson, H. Alpert, A. Griffith, T.E. Huxman, J. Zak, M. Loik, and D. Tissue (2007). Effects of an increase in summer

precipitation on leaf, soil, and ecosystem CO_2 and H_2O fluxes in a sotol-grassland in Big Bend National Park, Texas. *Oecologia* 151(4):704-718, DOI: 10.1007/s00442-006-0621-y

Potts D.L., T.E. Huxman, **J.M. Cable**, N.B. English, D.D. Ignace, J.A. Eilts, M.J. Mason, J.F. Weltzin, and D.G. Williams (2006). Antecedent moisture and seasonal precipitation influence the response of canopy-scale carbon and water exchange to rainfall pulses in a semiarid grassland. *New Phytologist* 170(4): 849-860, DOI: 10.1111/j.1469-8137.2006.01732.x

Huxman T.E., **J.M. Cable**, D.D. Ignace, J.A. Eilts, N.B. English, J. Weltzin, and D.G. Williams. (2004) Response of net ecosystem gas exchange to a simulated precipitation pulse in a semiarid grassland: the role of native versus non-native grasses and soil texture. *Oecologia* 141(2):295-305, DOI: 10.1007/s00442-003-1389-y

Cable J.M. and T.E. Huxman (2004). Precipitation pulse size effects on Sonoran Desert soil microbial crusts. *Oecologia* 141(2):317-324, DOI: 10.1007/s00442-003-1461-7

GRANTS AND FELLOWSHIPS

2023-2026	Department of Energy – Co-I ($1,345,477) - *Agrivoltaics: Unlocking Mid-Market Solar in Northern Climates and Rural North America*
2023-2027	USDA- PI ($499,844) - *Quantifying Boreal Forest Tree Health, Growth, and Resilience in Response to Climate Change and Pathogens Using Plant Physiology-Informed Dendrochronology*
2022-2026	USDA – PI ($1,130,000) - *Spruce Response to Beetle Infestation in Alaska: An Evaluation of Tree Ecophysiology Using an Integrated Field and Modeling Approach*
2021	University of Alaska Fairbanks National Science Foundation EPSCoR Seed Grant – PI ($30,000) – *Tree Water Content: Using R to Process a Multi-year Dataset of Live Fuel Moisture for Interior Alaska*
2021-2024	USDA – PI ($345,344) – *Cooperative Alaska Forestry Inventory*
2021-2023	USDA – PI ($176,328) – *Sustainable Birch Harvest in Alaska's Boreal Forest*
2021 - 2025	USDA – PI ($2,800,000) – *Boreal Forest Carbon and Water Cycling: Response to Climate and Insect Infestation Using Field Measurements, Dendrochronology, & Remote sensing*
2020-2021	USDA Equipment Grant Program - PI ($494,496) - *Equipment to enhance capability of low-cost stable isotope measurements for boreal forest research in Interior Alaska*
2019 - 2024	USDA – PI ($876,948) - *Real-time monitoring of tree water content in Interior Alaska's boreal forest to identify the optimal time to harvest wood when trees are at the driest level to empower the public to improve wintertime air quality*
2016-2021	USDA– Co-I ($540,000) - *Understanding key environmental factors for design of an adaptive management plan for the boreal forest in Interior Alaska*
2018	University of Alaska Foundation Grant ($35,000) – Alaska Voices Phase II
2017	Alaska Climate Adaptation Science Center ($80,000) – Alaska Voices Phase I
2014-2018	NSF Arctic Natural Sciences – PI ($850,000) – *Quantifying snowmelt water use by deciduous plants*
2013-2014	NSF EAGR (co-I with Dr. Jeffrey Welker) ($300,000) – *Utilizing flight and tower measurements of vapor isotopes to quantify the water vapor dynamics of the tundra.*
2011-2014	DoE SciDAK – co-I with Dr. Bob Bolton and Dr. Larry Hinzman ($831,037) – *Toward the development of a cold regions regional-scale hydrologic model.*
2011-2014	NSF Hydrology – co-I with Dr. Bob Bolton ($544,489) – *Role and Simulation of Eco-Hydrological processes in the Alaska Boreal Forest.*

2011	NSF EPSCoR Integrative Faculty Development grant from UAF – co-I with Dr. Bob Bolton ($30,000) - *Role and simulation of ecohydrological processes in the Alaskan boreal forest.*
2010	NSF EPSCoR travel grant from UAF for the BASIN The Roles of Stable Isotopes in Water Cycle Research conference, Keystone, CO ($2,000)
2010	Permafrost Young Researchers Network travel grant to attend the American Geophysical Union annual meeting ($500)
2010	NSF EPSCoR travel grant for the State of the Arctic conference, Miami, FL ($1,000)
2009-2012	NSF Major Research Instrumentation – Co-I with Dr. Jeff Welker ($588,056) - *Detecting and monitoring changes in the arctic using stable isotope techniques*
2009-2011	NSF Office of Polar Programs Postdoctoral Fellowship ($127,000) – *The consequences of permafrost degradation on plant water use strategies*
2009-2011	International Arctic Research Center Postdoctoral Fellowship ($175,000) – *The effect of permafrost degradation on plant transpiration dynamics.* I declined this fellowship.
2008	NSF Office of Polar Programs Travel grant ($3,000) – to explore field sites in Alaska; collect preliminary data on the effects of permafrost thaw on plant water uptake
2008-2011	NASA EPSCoR – co-I with Dr. Glenn Tootle ($275,000) (Civil Engineering, University of Wyoming)– *Climate Variability and Glacial Recession in the Wind River Range and Grand Teton Range, Wyoming,* declined due to Dr. Tootle's move to the University of Tennessee
2008	University of Wyoming – National Park Service Research Center grant ($5000), *Using stable isotopes of water to determine the contribution of glacial melt to stream flow and plant water use in Grand Teton National Park*
2008	Discover Denali Research Fellowship ($4200), *The consequences of permafrost degradation and plant water-use strategies for plant community composition in Denali National Park*
2007	Dissertation initiative for the advancement of Climate Change Research (DISCCRS) travel grant ($1,000) - Volcanoes National Park, Hawaii
2005	U. of Arizona Institute for the Study of Planet Earth ($490) - travel grant
2004	Biosphere-Atmosphere Stable Isotope Network (BASIN) ($1,000) travel grant - stable isotope workshop, San Francisco, CA
2004	BASIN ($1,200) travel grant - isotope meeting, Interlaken, Switzerland
2004-2005	NSF CATTS GK-12 Science Outreach Fellowship ($30,000)
2004	Sustainability of semiarid Hydrology and Riparian Areas (SAHRA) – automated soil respiration chamber construction ($3,000)
2004	Precipnet-STEPS ($800) travel grant – multi-disciplinary graduate student global change workshop, U.C. Santa Cruz
2002	U. of Arizona ($500) – Stable Isotope Ecology graduate course at the U. of Utah

HONORS AND AWARDS

2005	Best student poster award in Hydrology, American Geophysical Union Joint Session
2005	McGinnies Arid Land Research Scholarship, U. of Arizona
2004	R.W. Hoshaw Memorial Scholarship for excellence in graduate research, U. of Arizona
2003	Galileo Circle Scholars Program scholarship, U. of Arizona
2000	Fort Lewis College class of 2000 valedictorian
1999	John Dever Award for top Senior Seminar project in Biology, Fort Lewis College
1999	Outstanding Senior in Biology, Fort Lewis College
1998-2000	Tri Beta Biology Honor Society, Fort Lewis College

1998	Outstanding Junior in Biology, Fort Lewis College
1996-2000	Dean's List for 9 semesters, Fort Lewis College

SYNERGISTIC ACTIVITIES

2023	Partnered with OneTree Alaska citizen science sap cooperative on data collection of spring sap run in birch trees
2023	Mentor peer reviewed publication development for staff
2022-2025	Invited board member of Polar Explorer Virtual Reality education project (Northern Arizona University), integrate Alaska Voices with virtual reality education approaches
2022	Participated in Arctic Data Science Workshop Using R - NCEAS
2022	Served on USDA grant panel – Higher Education Challenge
2022	Mentor for UAF undergraduate URSA (Undergraduate Research and Scholarly Activity) student (Spring 2022, Fall 2022 awards were granted)
2022	Lead "Stable Isotope Ecology" discussion group with staff, graduate, and undergraduate students at UAF
2021	Invited scientist at the Learning from Kk'eeyh (birch) summer camp for grades 4-7, worked with Alaska Native holders of traditional knowledge to develop content.
2021	Aurora Publication: Squeezing Secrets From Trees, https://spark.adobe.com/page/3jqF4zErjwAyH/
2021	Fellowship with Alaska Humanities Forum for Community | Media | Possibility program, enhancing community diversity, equity, and inclusion in the media
2021	Invited to teach about science communication and Alaska Voices in Dr. Lombardi's Environmental Communications class at Cornell University
2020 - 2021	Invited member of Diversity, Equity, and Inclusion action group at UAF for the betterment of all members of the university.
2019	Agroborealis publication (https://www.uaf.edu/afes/Firewood.pdf) and local TV and radio news story on my research.
2018-2020	Steering committee member on UAF Strategic Planning Committee, Chair of Goal #5 to increase the inclusivity and diversity at UAF.
2018	Mentored female REU student on ethnobotany project.
2018	Organized a seminar on Burnout and Mental Health in the Sciences for employee wellness at UAF.
2018	Co-organized UA workshop sponsored by EPSCoR (Mindful Leadership: Creating a Diverse and Inclusive UA).
2018	Member of Chancellor White's Diversity and Inclusivity Taskforce
2017 – present	Co-founder of Alaska Voices podcast (www.alaskavoices.org) and Alaska public radio program on KUAC developed in partnership with StoryCorps, purpose is to build bridges by sharing knowledge through conversations
2017	Contributed to science communication workshop in IARC (UAF)
2017, 2018	Attended Mindful Leadership Summit, Washington, D.C.
2017	Co-mentored a female student participating in the Research Experience for Undergraduates at UAF
2017	Developed graduate seminar on Navigating Interpersonal Interactions in Science Careers for the School of Natural Resources and Extension
2017	Contributed to letter to UAF leadership about discrimination against women on campus
2016	Displayed my paintings depicting my research in the art and science venue for Arctic Science Summit Week at the University of Alaska Fairbanks.

2016 - 2019	Art and Science outreach activities for children in Fairbanks with Mind-Full Learning, LLC.
2015 – 2019	Supervised and graduated two PhD students, supervise multiple undergraduate students.
2015	Organized female researcher meeting about Title IX violations, sexual assault and discrimination in the sciences, particularly in the field.
2014	Interview on the radio about my research (Emily Schwing KUAC, KIAK FM, Charlie O'Toole 970 KFBX-AM)
2014	Interview with Ned Rozelle science reporter, story written about my research published in 5 newspapers in Alaska and Washington (www.adn.com/2014/04/01/3404991/ned-rozell-even-on-frozen-ground.html)
2013	Panelist for the National Science Foundation Ecosystems Program
2013	UAF IARC faculty senate representative
2011	Lead convener of session at the fall 2011 American Geophysical Union meeting on "The role of antecedent conditions on physical and biological processes".
2011	Served as a group leader in a Bayesian workshop at the Ecological Society of America meeting, Austin, TX.
2011	Co-lead classroom outreach activities (4th grade, 6/7th grade) on permafrost, soil moisture, and Interior Alaska plant ecology. This included making videos, bringing soil cores into the classrooms, setting up a demonstration about soil thermal dynamics and the insulation properties of different materials.
2010-11	Coordinated the seminar series for the International Arctic Research Center
2010	Lead convener of session at the fall 2010 American Geophysical Union meeting on "Ecohydrology of Arctic and sub-Arctic Ecosystems: Patterns and Processes Across Spatial and Temporal Scales".
2010	Served on undergraduate thesis committee (BriAnna Graves); provided guidance on data analysis and interpretation, and presentation skills, project: determining the utility of deciduous plant transpiration in drying out the soil in clay-capped landfill sites.
2009	Contributed to the postdoctoral mentoring plan for the International Arctic Research Center at the University of Alaska Fairbanks
2009	Mentored female undergraduate student (Kelley Ryan) in a research project through the International Arctic Research Center, provided guidance on field work, lab work, literature reviews.
2009	Interview with *Smithsonian Magazine* on climate change impacts in the Arctic.
2007	Mentored female minority high school student (Arla Mistica) through the SRAP at the University of Wyoming, provided guidance on field work, paper writing, presentation preparation.

INVITED TALKS AND LECTURES, DEIA-RELEVANT PRESENTATIONS

2022	AGU poster: Creating a Psychologically Inclusive Field Work Environment: Understanding and Managing Distress Tolerance and Emotion Regulation in STEM Fields
2022	Invited talk "Autumn colors in Fairbanks: More Reds Means Warmer August" for Master Gardeners class (Fairbanks, AK)
2022	Invited talk "Alaska Voices" at the National Adaptation Forum - *Diverse communication approaches to engage diverse audiences*
2021	Invited talk "Boreal shrub water use in permafrost and permafrost-free systems" at the Regional Conference on Permafrost

2021	Invited talk "Alaska Voices: Building Bridges of Knowledge Through Shared Conversations" at the Regional Conference on Permafrost
2020	Invited talk on Cut below zero: When to harvest trees to promote burning of dry wood for OneHealth, OneFuture international conference (postponed due to COVID-19).
2018	Invited talk at the Alaska Forum on the Environment on the AlaskaVoices project.
2017	Invited talk on boreal forest ecohydrology and co-lead field trip for annual Climate Science Center meeting
2016	Invited talk at the American Geophysical Union meeting on "Trees' Surprising Role in the Boreal Water Cycle".
2016	Invited webinar for the National Climate Change and Wildlife Science Center on my recent publication "Trees' Surprising Role in the Boreal Water Cycle".
2015	Invited seminar as subject expert on boreal plant responses to drought in Alaska for the Climate Science Center workshop on Ecological Drought.
2014	Invited seminar on "Chamber based evapotranspiration measurements across a permafrost and hydrological gradient on the Arctic coastal tundra" at the American Society for Agricultural and Biological Engineers conference on Evapotranspiration.
2014	Invited for a multi-agency seminar on "Deciduous trees impact the hydrology of boreal forests" for the Alaska Water Resource Association in Fairbanks, Alaska.
2013	Invited seminar on "Boreal ecohydrology" at the Northern Research Basin conference, Anchorage, Alaska
2012	Invited seminar on "Boreal water cycling: Deciduous plants put the Eco in Ecohydrology" at the Water and Environmental Resources Center in the College of Engineering, and the Institute of Arctic Biology, University of Alaska.
2012	Invited teaching seminar on "Plant responses to rising CO_2" at Montana State University.
2012	Invited seminars on "Boreal forest ecohydrology: what is the role of plant physiology in the water cycle?" at Montana State University and Idaho State University.
2012	Invited seminar and workshop leader on "Using Bayesian statistics to analyze stable isotope data" at the University of Alaska Anchorage.
2012	Invited Hugh Hanson Ecology lecture on "Controls on soil respiration in the Sonoran Desert: the role of woody plant encroachment" at Arizona State University.
2011	Invited seminar on "The isotope composition of water for Interior Alaskan boreal ecosystems reveals temporal scales of water availability and vapor fluxes" at Oak Ridge National Laboratory.
2011	Invited seminar on "The isotope composition of water for Interior Alaskan boreal ecosystems reveals temporal scales of water availability and vapor fluxes" for Climate for the Classrooms at the University of Alaska Anchorage.
2011	Invited seminar on "Northern Ecohydrology" for EPSCoR's Living on Earth II at the University of Alaska Anchorage.
2010	Guest lecture in Dr. Kiona Ogle's Inverse Analysis in Isotope Ecology course, taught about the application of Bayesian statistics to stable isotope mixing model analyses, used my research as examples
2010	Co-instructor for IARC summer school course for graduate students "Arctic in a changing climate: Physical and biological linkages to permafrost"
2010-2018	Lead workshop activity with teachers in collaboration with the GLOBE (Global Learning and Observation to Benefit the Environment) program, developed module on boreal forest ecohydrology
2010	Guest lecture in Dr. Kiona Ogle's Bayesian Data Analysis course, taught about how to assess model convergence

2009	Guest lecture in Dr. Terry Chapin's Ecosystem Ecology course: The role of northern ecosystems in the global water cycle
2009	Denali Education Center, Denali National Park: Ecohydrology in interior Alaskan ecosystems: why are these deserts so green?
2009	Arctic Schoolyard LTER Program, Barrow, Alaska: Ecohydrology in interior Alaskan ecosystems: why are these deserts so green?
2008	Denali Education Center, Denali National Park: The Effect of Permafrost Thaw on Plants
2007	Wyoming Water Development Commission: Tracing glacial ice and snow melt-water with stable isotopes

MEMBERSHIPS AND ASSOCIATIONS

International Permafrost Association; American Geophysical Union; Ecological Society of America; Dissertation Initiative for the Advancement of Climate Change Research (DISCCRS); Ecological Society of America (ESA).

REVIEWER for National Science Foundation, USGS, USDA, *Hydroecology and Ecohydrology*, *Plant and Soil, Journal of Arid Environments, Ecology, Rangeland Ecology and Management, Acta Oecologia, Biogeochemistry, Ecological Applications, Ecohydrology, Nature, Frontiers in Forests and Climate.*