

JANNEKE HILLE RIS LAMBERS

IBZ D-USYS, ETHZ
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Email: jannekeh@ethz.ch
Born: October 24, 1972

RESEARCH INTERESTS

Climate change ecology, Community assembly, Forest regeneration, Masting, Phenology, Range limits

POSITIONS

2020-present: Full Professor and Head of Plant Ecology Group, IBZ, USYS, ETH Zürich
2016-2020: Doug and Maggie Walker Professor of Natural History, University of Washington, Seattle.
2015-2020: Full Professor, Department of Biology, University of Washington, Seattle.
2011-2015: Associate Professor, Department of Biology, University of Washington, Seattle.
2006-2011: Assistant Professor, Department of Biology, University of Washington, Seattle.
2004-2006: Post-doctoral Research Associate, University of California, Santa Barbara.
2001-2004: Post-doctoral Research Associate, University of Minnesota.

AWARDS AND HONORS

2018: Ecological Society of America Fellow
2014: National Academy of Sciences Kavli Frontiers in Science Fellow
2011-2016: National Science Foundation Career Awardee

EDUCATION

2001: Ph.D., Department of Biology, Duke University.
1994: B.A., Department of Environmental Sciences, University of Virginia.

GRANTS

2024: Swiss National Science Foundation (SNF): "MastFor: Costs and Benefits of Masting in Temperate Forest Communities" (€450,000, Co-PI with Lizzie Wolkovich)
2022: ETH Zürich Innovedum: "DiQ: Entwicklung eines interaktiven Werkzeugs für die quantitative Ökologieausbildung" (€60,000. Co-PI with Rubén Manzanedo Delgado)
2019: University of Washington Royalty Research Fund "A tough nut to crack: Assessing the impacts of seed predation on conifers in a warming world" (\$38,390).
2016-2019: National Science Foundation DEB 1555883 "Community assembly and disassembly with climate change" (\$620,000; co-PI with Amy Angert at UBC).
2013-2014: National Aeronautics and Space Administration Earth Science Applications "Snow, Montane Wildflowers, and Citizen Scientists" (\$189,248; co-PI w/ Jessica Lundquist).
2013: Australian Research Council Discovery Grant "Exotic and native plant coexistence in novel communities" (\$10,000 travel money; PI. Dr. Margie Mayfield).
2011-2016: National Science Foundation DEB 1054012 "CAREER: Life on the Edge: The effects of climate, competition and history on range limits" (\$763,000).
2009-2011: Department of Energy - National Institute for Climate Change "The heat is on: forecasting range shifts of Pacific Northwest conifers with climate change" (\$227,929).
2008-2009: University of Washington Royalty Research Fund "Climate, competition and tree growth: transient dynamics following climate change" (\$39,545).
2008-2011: USDA CSREES "Importance of avian seed dispersal and herbivore control for agriculture and tropical forest structure on Guam" (\$399,294; co-PI w/ Josh Tewksbury).
2008-2011: National Science Foundation DEB 0816465 "What is the fate of a silent forest" (\$310,761; co-PI w/ Josh Tewksbury).
2007-2012: National Science Foundation DEB 0743183 "Niche and neutral controls over the coexistence of serpentine annual plants" (\$390,000; collaborative grant w/ Jonathan Levine).

SELECTED PUBLICATIONS (of >100 published or in press; ¹ student authors mentored, ² equal contribution)

- Chin, A.R.O., A. Gessler, O. Lain, I. Osterlund, M. Schaub, G. Theroux-Rancourt, K. Voggeneder, J. **Hille Ris Lambers**. 2024. The memory of past water abundance shapes trees 7 years later. *Am. J. Bot.* 112(1): e16452
- John, A., K. Pradhan, M.J. Case, A.K. Ettinger, J. **Hille Ris Lambers**. 2024. Forest canopy cover affects microclimate buffering during an extreme heat event. *Env.Res. Com.* 6(9): 091015
- John, A., E.J. Theobald, N. Cristea, A. Tan, J. **Hille Ris Lambers**. 2024. Using photographs and deep neural networks to understand flowering phenology and diversity in mountain meadows. *Remote Sensing in Ecology and Conservation* 10(4): 480-499.
- Visakorpi, K., R. Manzanedo, A. Görlich¹, K. Schiendorfer¹, A. Altermatt Bieger, E. Gates¹, J. **Hille Ris Lambers**. 2024. Leaf-level resistance to frost, drought and heat covaries across European temperate tree seedlings. *Journal of Ecology* 112(3): 559-574.
- Wilson, R.N., C.W Kopp, J. **Hille Ris Lambers**, A.L. Angert. 2024. Fire sparks upslope range shifts of North Cascades plant species. *Ecology*. 105(3) e4242
- Chin, A.R.O., P. Guzman-Delgado, Anna Görlich¹ & J. **Hille Ris Lambers**. 2023. Towards multivariate functional trait syndromes: Predicting foliar water uptake in trees. *Ecology* 104(8)
- Pradhan¹, K, AK Ettinger, MJ Case, J. **Hille Ris Lambers**. Applying climate change refugia to forest management and old-growth restoration. 2023. *Global Change Biology* 29(13): 3692-3706
- Núñez, TA, L Prugh, J **Hille Ris Lambers**. 2023. Animal seed dispersal and plant niche tracking in a changing climate. *Trends in Ecology & Evolution* 38(7): 654-665.
- Qui, T, and 102 authors (including **Hille Ris Lambers**). 2022. Limits to reproduction and seed size-number trade-offs that shape forest dominance and future recovery. *Nat Comm* 13(10), 1-12.
- Hille Ris Lambers**, J, AF Cannistra, A John¹, E Lia¹, RD Manzanedo, M Sethi¹, J Sevigny¹, EJ Theobald¹, JK Waugh. 2021. Climate change impacts on natural icons: Do phenological shifts threaten the relationship between peak wildflowers and visitor satisfaction? *Climate Change Ecology* 2: 100008
- Sethi¹, M.L & J. **Hille Ris Lambers**. 2021. When 'Higher' means 'Hungrier': Climate and population trait differences drive increased herbivory with elevation in a perennial subalpine wildflower. *Climate Change Ecology* 2: 100030
- Clark, J.S, and 64 authors (including **Hille Ris Lambers**). 2021. Continent-wide tree fecundity driven by indirect climate effects. *Nature Communications* 12: 1242.
- Waters¹, S, WL Chen¹, & J. **HilleRisLambers**. 2020. Experimental shifts in exotic flowering phenology produce strong indirect effects on native plant reproductive success. *J of Ecology* (108): 2444-2455.
- Breckheimer¹, IB, EJ Theobald¹, N Cristea, A Wilson¹, JD Lundquist, R Rochefort & J **HilleRisLambers**. 2020. Crowd-sourced data reveals climate-driven phenological mismatch between social & ecological systems. *Frontiers in Ecology and the Environment* 18(2): 76-82.
- Ford¹, KR & J **HilleRisLambers**. 2020. Soil alters seedling establishment responses to climate change. *Ecology Letters* 23(1): 140-148.
- Sethi¹, M, EJ Theobald, IB Breckheimer & J **HilleRisLambers**. 2020. Early snowmelt and warmer, drier summers shrink post-flowering transition times in subalpine wildflowers. *Ecology* 101(12) e03171
- Anderegg¹, LDL & J **HilleRisLambers**. 2019. Local range boundaries vs. large-scale trade-offs: climatic and competitive constraints on tree growth. *Ecology Letters* 22(5): 787-796.
- Anderegg¹, LDL, LT Berner, G Badgely, BE Law, & J **HilleRisLambers**. 2018. Within species patterns challenge our understanding of the leaf economics spectrum. *Ecology Letters* 21(5): 734-744.
- Bjorkman, AD, I Myers-Smith, SC Elmendorff, N Ruger, S Normand, & 140 other authors (including J. **HilleRisLambers**). 2018. Plant functional trait change with warming. *Nature* 562: 57-62

SELECTED PUBLICATIONS (CONT'D) ^(1 student authors mentored, ² equal contribution)

- Ettinger¹, AK & J **HilleRisLambers**. 2017. Competition and facilitation may lead to asymmetric range shift dynamics with climate change. *Global Change Biology* 23: 3921–3933.
- Rogers¹, HS, J **HilleRisLambers**, E Buhle, and JJ Tewksbury. 2017. Effects of an invasive predator cascade to plants via a mutualism disruption. *Nature Communications* 14557
- Theobald¹, EJ, I Breckheimer¹ & J **HilleRisLambers**. 2017. Climate change induced phenological reassembly of a flowering community. *Ecology* 98(11): 2799-2812.
- Anderegg¹, L.D.L & J. **HilleRisLambers**. Drought stress limits the geographic ranges of two tree species via different physiological mechanisms. 2016. *Global Change Biology* 22(3): 1029-1045.
- Kroiss, S & J **HilleRisLambers**. 2015. The importance of recruitment and microsite limitation for conifer regeneration in a warming world. *Ecology* 96(5): 1286-1297.
- Theobald¹, EJ, A Crowe, J **HilleRisLambers**, M Wenderoth, S Freeman. 2015. Women learn more from local than global examples of the biological impacts of climate change. *Frontiers in Ecology and the Environment* 13(3): 132-137.
- Theobald¹, EJ, AK Ettinger¹, L Berg, H Burgess, H Nelson, N Schmidt, C Wagner, J. **HilleRisLambers**, J. Tewksbury, & J. Parrish. 2015. Global change and local solutions: tapping the unrealized potential of Citizen Science for biodiversity research. *Biological Conservation* 181: 236-344.
- Harsch, M, Y Zhou, J **HilleRisLambers** & M Kot. 2014. Keeping pace with climate warming: the roles of generation time, dispersal ability, and life-history strategies. *The American Naturalist* 184:25-37.
- Waters¹, S., S.E Fisher¹, & J. **HilleRisLambers**. 2014. Neighborhood-contingent indirect interactions between native and exotic plants: multiple shared pollinators mediate reproductive success during invasions. *Oikos* 123(4): 433-440.
- HilleRisLambers**, J, K. Ford¹, D. Haak¹, M. Horwith¹, A. Ettinger¹, B. Miner¹, H. Rogers¹, K. Sheldon¹, S. Waters¹, S. Yang¹, & J. Tewksbury. 2013. Accidental experiments: ecological and evolutionary insights and opportunities derived from anthropogenic change. *Oikos* 122(12): 1649-1661.
- HilleRisLambers**, J, KR Ford¹, AK Ettinger¹, ET Theobald¹, & M Harsch. 2013. How will biotic interactions influence climate change-induced range shifts? *Ann. N. Y. Acad. Sci.* 1297: 112-125
- HilleRisLambers**, J, PB Adler, WS Harpole, J. Levine, M. Mayfield. 2012. Rethinking community assembly through the lens of coexistence theory. *Annual Review of Ecology, Evolution and Systematics* 43: 227-238 (invited contribution).
- Ettinger¹, AK, KR Ford¹ & J **HilleRisLambers**. 2011. Climate determines upper, but not lower, range limits in Pacific Northwestern conifers. *Ecology* 92(6): 1323-1331.
- Haak¹, DC, J **HilleRisLambers**, E Pitre & S. Freeman. 2011. Increased structure and active learning reduce the achievement gap in introductory biology. *Science* 332: 1213-1216.
- Levine², JM & J. **HilleRisLambers**². 2009. The importance of niches for the maintenance of diversity. *Nature* 461: 254-257.
- Adler, PB, J **HilleRisLambers**, JM Levine. 2007. A niche for neutral theory. *Ecol. Letters* 10(2): 95-104.
- HilleRisLambers**, J, JS Clark, & B Beckage. 2002. Density-dependent mortality and the latitudinal gradient in species diversity. *Nature*: 417:732-735.

SEMINARS, MEETINGS, WORKSHOPS (SINCE 2018)

- Invited seminars: University of Basel, University of Bern, University of California, Riverside, EAWAG, University of Miami, UCLA, University of Georgia, University of British Columbia (CA), Montana State University, Florida State University, University of Otago (NZ); McGill University (CA)
- Conference talks: Swiss Forest Days (Keynote speaker – 2023), Plant Population Biology (Keynote speaker - 2023), Mountain Climate Meeting (2018).

TEACHING (SINCE 2018)

2022-present: Seminar Umweltbiologie (every fall, ETH Zürich, ~20-30 Bachelors students)
2021-present: Advanced Ecological Processes (every fall, ETH Zürich, ~30-40 Masters students)
2020: Biological Impacts of Climate Change (UW Bio315, ~45 Bachelors students)
2020: Scientific Manuscript Writing (UW Bio506, ~20 PhD students)
2019: Community Ecology & Lab (UW Bio472; ~20 Bachelors students)

TRAINEES; CURRENT IN *ITALICS*

Postdocs: *Billur Bektas* (2024-); Alana Chin (2021-2023): ETH Research Fellow. Ruben Manzanedo (2018-2024); Swiss National Science Foundation Postdoctoral Fellow. Cynthia Chang (2012-2014); NSF Postdoctoral Fellow, currently an Assistant Professor (UW Bothell, WA). Melanie Harsch (2012-2015); NSF Postdoctoral Fellow, currently a Research Associate with NOAA (Seattle, WA). Steve Kroiss (2012-2015); currently a Research Scientist at the Institute for Disease Modeling (Bellevue, WA); Tristan Nunez (2021-2023); NSF Postdoctoral Fellow, currently an Assistant Professor (University of Maine). Sarah Richman (2021-2023); currently a Project Manager. *Agostina Torres* (2024-); *Mikko Tuisanen* (2023-present).

PhD Students (2 current, 11 previous): Leander Anderegg (PhD 2017), Assistant Professor at UC Santa Barbara. Ian Breckheimer (PhD 2017), research scientist at Rocky Mountain Biological Station. Ailene Ettinger (PhD 2013), Quantitative Ecologist at the Nature Conservancy. *Emma Fryer* (2023-present). Kevin Ford (PhD 2014), Biometrician with the Bureau of Land Management (Portland, OR). Stuart Graham (PhD 2021), Data Scientist with Meta. Aji John (2018-2023), Postdoc at University of Washington. (2020-present). *Eleonore Perret* (2023-present). Kavya Pradhan (2017-2023), Postdoc at Conservation International. Haldre Rogers (PhD 2011), Assistant Professor at Iowa State University. Meera Sethi (2015-2021). Susan Waters (PhD 2013), Senior Research Ecologist Quamash (Olympia, WA). Sylvia Yang (PhD 2011); Research Scientist at SPMC Western Washington University.

Masters Student theses: Four mentored or co-mentored since 2020

Bachelors Student theses: Three mentored or co-mentored since 2020

SELECTED SERVICE

2022-present: Member of the Swiss National Science Foundation Postdoctoral Grant Panel
2021-present: Board of Research Editors, *Science*
2016-present: *American Naturalist* Associate Editor
2023-2024: Chair of IBZ (Institute of Integrative Biology, D-USYS, ETH Zürich)
2019-2020: Guest member of the *Annual Review of Ecology, Evolution and Systematics* Board
2017-2021: Research Oversight Committee for CoAdaptTree, funded by Genome British Columbia
2017-2019: Jasper-Loftus Hill Awards Committee (ASN); committee member and Chair (2019)
2014-2019: UW Doris Duke Conservation Scholars Program Steering Committee
2011-2016: *Ecology Letters* Associate Editor

MEADOWWATCH (A COMMUNITY SCIENCE PROGRAM AT MT. RAINIER NATIONAL PARK)

2013-present: Executive Director of MeadoWatch (see www.meadowatch.org)
2013-2023: Annual orientation sessions for ~150 volunteers. Virtual format from 2020 onwards.
2013-2020: Orientation talk on MeadoWatch for the Mount Rainier Interpretative Rangers.
2013-2019: 8+ Popular talks on MeadoWatch to the University of Washington Groundskeepers, the Mountaineers (Seattle and Olympia), the Washington Native Plant Society (Seattle and Bellevue),
2018: Successful crowd funding campaign to fund MeadoWatch (through Experiment)
2014, 2018: Coverage by the High Country News, the Washington Trail Association, Tahoma News.
2015-2017: Annual MeadoWatch fieldtrip for Doris Duke Conservation Scholars.