Kristin H. Braziunas

Ecosystem Dynamics and Forest Management
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EDUCATION

2018-2021 **Ph.D.**, University of Wisconsin-Madison, Department of Integrative Biology (major), Quantitative Ecology and Modeling (minor)
Dissertation: *Operationalizing resilience of social-ecological systems to changing climate and fire in US Northern Rocky Mountain forests*
Phi Kappa Phi. Advisor: Dr. Monica G. Turner

2016-2018 **M.S.**, University of Wisconsin-Madison, Department of Integrative Biology
Thesis: *Looking beyond the mean: Drivers of variability in postfire stand development of Rocky Mountain conifers*
Phi Kappa Phi. Advisor: Dr. Monica G. Turner

2004-2008 **B.A.**, Oberlin College, Environmental Studies (major), Philosophy (minor)
Phi Beta Kappa, Sigma Xi. Advisor: Dr. John E. Petersen

ACADEMIC EXPERIENCE

2022-Present Postdoctoral Researcher, Ecosystem Dynamics and Forest Management Group, Technical University Munich

2017-2021 Graduate Research Assistant, Integrative Biology, University of Wisconsin-Madison

2016-2017 Graduate Teaching Assistant, Integrative Biology, University of Wisconsin-Madison

2016 Research Specialist, Integrative Biology, University of Wisconsin-Madison
Project: *Parameterizing the process-based model iLand for forests in Yellowstone*

2007-8 Senior Operator, Living Machine, Environmental Studies, Oberlin College
Project: *Measuring wastewater metabolism and nutrient concentrations*

2007 Tutor/Grader, Philosophy, Oberlin College. Courses tutored: Deductive Logic

PROFESSIONAL EXPERIENCE

2008-16 Lieutenant/EMT, Oberlin Fire Department, Oberlin, OH
Promoted in 2013 (hired as Firefighter/EMT)

2014-15 Program Director, Cleveland Water Alliance, Cleveland, OH

2010-14 Assistant Director, The Oberlin Project, Oberlin, OH
Promoted in 2011 (hired as Energy Policy Committee Fellow)

2008-11 Program Coordinator, Providing Oberlin With Efficiency Responsibly (POWER), Oberlin, OH

PUBLICATIONS

Peer Reviewed Publications (In Review/In Press/Published)

Díaz-Yáñez, O., Y. Käber, T. Anders, F. Bohn, **K. H. Braziunas**, J. Brůna, R. Fischer, S. M. Fischer, J. Hetzer, T. Hickler, C. Hochauer, M. J. Lexer, H. Lischke, M. Mahnken, P. Mairota, J. Merganič, K. Merganičová, T. Mette, M. Mina, X. Morin, W. Rammer, C. P. O. Reyer, S. Scheiter, D. Scherrer, and H. Bugmann. In Press. Tree regeneration in models of forest dynamics: a key priority for further research. Ecosphere.

Senf, C., L. Geres, T. Richter, **K. H. Braziunas**, F. Glasmann, R. Seidl, and S. Seibold. In Revision. Spaceborne remote sensing effectively maps species richness across taxonomic groups. Remote Sensing Applications: Society and Environment.

Braziunas, K. H., L. Geres, T. Richter, F. Glasmann, C. Senf, D. Thom, S. Seibold, and R. Seidl. 2024. Projected climate and canopy change lead to thermophilization and homogenization of forest floor vegetation in a hotspot of plant species richness. Global Change Biology 30(1):e17121.

Daniels, M. C., **K. H. Braziunas**, M. G. Turner, T. F. Ma, K. C. Short, and A. R. Rissman. 2024. Multiple social and environmental factors affect wildland fire response of full or less-than-full suppression. Journal of Environmental Management 351:119731.

Braziunas, K. H., N. G. Kiel, and M. G. Turner. 2023. Less fuel for the next fire? Short-interval fire delays forest recovery and interacting drivers amplify effects. Ecology 104(6):e4042.

Kiel, N. G., **K. H. Braziunas**, and M. G. Turner. 2023. Peeking under the canopy: anomalously short fire-return intervals alter subalpine forest understory plant communities. New Phytologist 239:1225-1238.

Braziunas, K. H., D. C. Abendroth, and M. G. Turner. 2022. Young forests and fire: Using lidar-imagery fusion to explore fuels and burn severity in a subalpine forest reburn. Ecosphere 13(5):e4096.

Turner, M. G., **K. H. Braziunas**, W. D. Hansen, T. J. Hoecker, W. Rammer, Z. Ratajczak, A. L. Westerling, and R. Seidl. 2022. The magnitude, direction and tempo of mountain forest change in a warmer world with more fire. Ecological Monographs 92(1):e01485.

Braziunas, K. H., R. Seidl, W. Rammer, and M. G. Turner. 2021. Can we manage a future with more fire? Effectiveness of defensible space treatment depends on housing amount and configuration. Landscape Ecology 36:309-330.

Rammer, W., **K. H. Braziunas**, W. D. Hansen, Z. Ratajczak, A. L. Westerling, M. G. Turner, and R. Seidl. 2021. Widespread regeneration failure in forests of Greater Yellowstone under scenarios of future climate and fire. Global Change Biology 27:4339-4351.

Albrich, K., W. Rammer, M. G. Turner, Z. Ratajczak, **K. H. Braziunas,** W. D. Hansen, and R. Seidl. 2020. Simulating forest resilience: a review. Global Ecology and Biogeography 29(12):2082-2096.

Turner, M. G., **K. H. Braziunas,** W. D. Hansen, and B. J. Harvey. 2019. Short-interval severe fire erodes the resilience of subalpine lodgepole pine forests. Proceedings of the National Academy of Sciences 116(23):11319-11328.

Braziunas, K. H., W. D. Hansen, R. Seidl, W. Rammer, and M. G. Turner. 2018. Looking beyond the mean: Drivers of variability in postfire stand development of conifers in Greater Yellowstone. Forest Ecology and Management 430:460-471.

Hansen, W. D., **K. H. Braziunas**, W. Rammer, R. Seidl, and M. G. Turner. 2018. It takes a few to tango: Changing climate and fire regimes can cause regeneration failure of two subalpine conifers. Ecology 99(4):966-977.

Reports

Braziunas, K. H. and M. G. Turner. 2022. Less fuel for the fire: How will drought amplify effects of short-interval fire? Final Report. Joint Fire Science Project Graduate Research Innovation Award Project ID: 20-1-01-6.

Braziunas, K. H. and M. G. Turner. 2020. Testing LiDAR for mapping canopy and surface fuels in Grand Teton National Park. Final Report. United States Department of the Interior National Park Service Agreement number: P17AC01466.

RESEARCH GRANTS AND FELLOWSHIPS

2020-2022	"Less fuel for the fire: How will drought amplify effects of short-interval fire?" Joint Fire Science Program Graduate Research Innovation Award ($25,000). Student PI.
2019-Present	"Anticipating and Envisioning Future Landscapes of Greater Yellowstone," Camp Monaco Prize 2019, Prince Albert II of Monaco Foundation ($100,000). Graduate student participant.
2020-2021	P.E.O. Ventura Neale Trust Endowed Scholar Award, International Chapter of the P.E.O. Competitive fellowship for women doctoral/medical students. ($15,000)
2018-2020	"Testing LiDAR for mapping canopy and surface fuels in Grand Teton National Park", National Park System Cooperative Research and Training Programs Grant, United States Department of the Interior ($56,400). Student PI.
2016-17	Incoming Student Graduate Research Fellowship, Zoology, University of Wisconsin-Madison ($20,000)
2008	Blank Fellowship, Environmental Studies, Oberlin College ($3,000)

AWARDS AND HONORS

2019	Student Research Grants Competition, Graduate School, University of Wisconsin-Madison ($1,200)
2019	Graduate Summer Research Award, Integrative Biology, University of Wisconsin-Madison ($3,500)
2017	Phi Kappa Phi

2017 Honorable Mention, Graduate Research Fellowship Program, National Science Foundation

2016-18 John Jefferson Davis Travel Award, Zoology, University of Wisconsin-Madison (Received five times: $3,000)

2010 Firefighter of the Year, Oberlin Fire Department

2009 Chill Out: Campus Solutions to Global Warming, National Wildlife Federation. Project: *Oberlin Light Bulb Brigade*

2008 Joyce Gorn Memorial Prize in Environmental Studies, Oberlin College

2008 Phi Beta Kappa

2008 Sigma Xi

INVITED PRESENTATIONS

Academic Seminars

2022 "Anticipating future forests: Resilience, risk, and ecosystem services under changing climate and fire." Ecology and Evolutionary Biology Seminar, Division of Biology, Kansas State University.

2021 "Operationalizing resilience of social-ecological systems to changing climate and fire in US Northern Rocky Mountain forests." PhD Exit Seminar, Integrative Biology, University of Wisconsin-Madison.

Outreach and Public Talks

2023 "Short-interval high-severity reburns change the playing field for forest recovery." Webinar, Co-presenter: Tyler Hoecker, Northern Rockies Fire Science Network. Recording: https://www.nrfirescience.org/event/short-interval-high-severity-reburns-change-playing-field-forest-recovery

2021 "Sources of ignition: Becoming a fire ecologist." 3 invited talks, Philanthropic Educational Organization (P.E.O.) Madison Chapter DH, Madison Chapter DV, and Annual Convention of Wisconsin State Chapter.

2021 "Young forests and fire: Using LiDAR-imagery fusion to explore fuels and fire severity in a subalpine forest reburn." Webinar, Co-presenter: Diane Abendroth, Northern Rockies Fire Science Network. Recording: https://www.nrfirescience.org/event/young-forests-and-fire-using-lidar-imagery-fusion-explore-fuels-and-fire-severity-subalpine

2019 "Western forests in an uncertain future: How will changing climate and increasing fire activity affect forested and human landscapes in the Greater Yellowstone Ecosystem?" Public Talk, Environmental Studies and Biology, Oberlin College.

CONTRIBUTED PRESENTATIONS (presenting author only)

Braziunas, K. H., L. Geres, T. Richter, F. Glasmann, C. Senf, D. Thom, S. Seibold, and R. Seidl. 2023. Climate rather than forest change drives 21st-century declines in forest understory diversity in a protected mountain landscape. (Oral presentation). Annual

Meeting of the Ecological Society of Germany, Austria, and Switzerland (GfÖ), Leipzig, Germany, September 12-16.

Braziunas, K. H., L. Geres, T. Richter, F. Glasmann, C. Senf, D. Thom, S. Seibold, and R. Seidl. 2023. The future forest floor: Coupled 21st-century climate and forest change project thermophilization and homogenization in a mountain landscape. (Oral presentation). IALE World Congress, Nairobi, Kenya, July 10-15.

Braziunas, K. H., D. Abendroth, and M. G. Turner. 2020. Young forests and fire: Using LiDAR to explore relationships between fuels and fire severity in a subalpine forest reburn. (Virtual ePoster presentation*). IALE-North America Annual Meeting, Virtual Remote Conference, May 10-14. *Originally oral presentation, format changed due to COVID19.

Braziunas, K. H., R. Seidl, W. Rammer, and M. G. Turner. 2019. Can we manage a future with more fire? Fuels treatments dampen increasing fire risk in the wildland urban interface. (Oral presentation). US-IALE Annual Meeting, Fort Collins, CO, April 7-11.

Braziunas, K. H., R. Seidl, W. Rammer, A. R. Rissman, and M. G. Turner. 2018. Can we manage a future with more fire? Effects of defensible space and spatial configuration on local and landscape-level fire severity. (Poster). Ecological Society of America Annual Meeting, New Orleans, LA, August 5-10.

Braziunas, K. H., W. D. Hansen, R. Seidl, W. Rammer, and M. G. Turner. 2018. Looking beyond the mean: Drivers of variability in postfire stand development of Rocky Mountain conifers. (Poster). US-IALE Annual Meeting, Chicago, IL, April 8-12.

Braziunas, K. H., W. D. Hansen, R. Seidl, W. Rammer, and M. G. Turner. 2017. Age alone is not enough: Multiple drivers control postfire stand development in Rocky Mountain conifers. (Oral presentation). Ecological Society of America Annual Meeting, Portland, OR, August 6-11.

Braziunas, K. H., W. D. Hansen, R. Seidl, and M. G. Turner. 2017. Adapting the process-based model iLand to simulate subalpine forest dynamics in Greater Yellowstone. (Poster). Wisconsin Ecology 20th Annual Spring Symposium, Madison, WI, April 4-5. (*Winner best content*)

Braziunas, K. H., W. D. Hansen, R. Seidl, and M. G. Turner. 2016. Adapting the process-based model iLand to simulate subalpine forest dynamics in Greater Yellowstone. (Poster). 13th Biennial Scientific Conference on the Greater Yellowstone Ecosystem, Grand Teton National Park, October 4-6.

Braziunas, K., J. E. Petersen, C. Frantz, and R. Shammin. 2008. Compact fluorescent light bulb exchange programs as a potentially cost effective and socially beneficial approach to offsetting carbon emissions locally. (Oral presentation). Association for the Advancement of Sustainability in Higher Education, Raleigh, NC, October 11.

TEACHING EXPERIENCE

Teaching Assistant

2016, 2017 Introductory Biology, University of Wisconsin-Madison (2 semesters)

Guest Lectures

2021 "Subalpine forest ecology and fire dynamics." Wildfire, Erosion, and Hazard. Geology and Geological Engineering, Colorado School of Mines.

2019 "Introduction to landscape ecology." Systems Ecology, Environmental Studies Program, Oberlin College.

2019 "Ecosystem modeling." Principles of Landscape Ecology, Forest and Wildlife Ecology, University of Wisconsin-Madison.

MENTORING

Graduate Student Supervision

2023-Present Isabelle Klein, MSc Forestry and Wood Science (Co-Supervisor), Technical University of Munich

Graduate Student Committees

2024-Present Sofia S. Kurszka, MS Environmental and Forest Sciences, University of Washington

2023-Present Christian Schattenberg, PhD Life Sciences (Mentor), Technical University of Munich

Undergraduate Field and Research Assistant Supervision

2021 Nick Tipper, Ashland University
Julia Warren, University of Wisconsin-Madison

2019-2020 Claire Finucane, University of Wisconsin-Madison

Additional Mentorship

2023-Present Isabella Ostovary, PhD Student, ETH Zürich, and Lisa Merkens, PhD Student, Technical University of Munich. Ongoing mentorship initiated in "Bridging Brilliance: Women Mentoring Women in Science" event at GfÖ Conference.

2019-2020 Katherine Charton, PhD Student, University of Wisconsin-Madison. Graduate student mentor through Zoology Introductions for New Grads (ZING).

PROFESSIONAL CERTIFICATIONS

2019 Remote Pilot Certificate, Part 107 for Unpersonned Aerial Systems (UAS), Federal Aviation Administration

2015 Blue Card Incident Commander

2015 Fire Investigation Technician, International Association of Arson Investigators

2014 Fire Safety Inspector, Ohio Department of Public Safety

2013 Fire Officer I, Cuyahoga Community College

2012 Firefighter II, Ohio Department of Public Safety

2010	Firefighter I, Ohio Department of Public Safety
2010	Emergency Medical Technician-Basic, Ohio Department of Public Safety
2009	Volunteer Firefighter, Ohio Department of Public Safety

SERVICE AND APPOINTMENTS

2020-Present	Member, IALE-North America Equity, Inclusion, and Diversity Committee
2017-Present	Peer Reviewer: Conservation Letters, Ecology, Ecosphere, Flora, Forest Ecology and Management, Forestry, Forests, Geophysical Research Letters, Global Environmental Change, Landscape Ecology, Nature Communications, PLOS One, Proceedings of the National Academy of Sciences, Proceedings of the Royal Society B: Biological Sciences, Science of the Total Environment
2023-2024	Primary Proposal Peer Reviewer, Joint Fire Science Program
2020-2021	Member, Racial Justice Task Force, Integrative Biology Graduate Student Organization, University of Wisconsin-Madison
2014-2021	Steering Committee Member and Fellowship Subcommittee Chair, Oberlin Environmental Education Alumni Association, Oberlin College, Oberlin, OH
2020	Student Representative, IALE-North America Online Conference Organizing Committee, 2020 IALE-North America Annual Meeting
2019-2020	Graduate Student Representative, Polar/Arctic Ecosystems and Ecological Modeling Faculty Search Committee, University of Wisconsin-Madison
2018-2020	Graduate Student Representative, IALE-North America Executive Committee
2018-19	Nominations Committee, Phi Beta Kappa, University of Wisconsin-Madison
2016-17	Treasurer, Zoology Graduate Student Organization, University of Wisconsin-Madison
2009-16	Treasurer, Board of Directors, Bill Long Foundation, Oberlin, OH
2015	Vice Chair, Public Utilities Commission, City of Oberlin, OH
2014-15	Member, Northeast Ohio Regional Sewer District External Advisory Committee, Cleveland, OH
2013-15	Commissioner, Public Utilities Commission, City of Oberlin, OH
2012-15	Board member, Providing Oberlin With Efficiency Responsibly (POWER), Oberlin, OH

OTHER PROFESSIONAL ACTIVITIES AND TRAINING

2020-Present	Invited member, Working Group on "Creating a unified approach to evaluate regime shift detection methods," Funded by Canadian Institute of Ecology and Evolution
2022	Invited participant, "Workshop on Regeneration Modeling of European Tree Species," Funded by PROCLIAS and ETH Zurich, Davos, Switzerland

2020 "A call to action: Striving for racial justice in academic biology," 7-part webinar series, Society for the Advancement of Biology Education Research (SABER)

2020 "LANDIS-II Training," 4-day virtual workshop, The Landis-II Foundation

2020 "Bystander Intervention: Stepping in With Care and Confidence," UW-Madison Office of Human Resources

2020 "Understanding Your Experiences and Identities," Foundational diversity and inclusion training, UW-Madison Office of Human Resources

2019 "Searching for Excellence and Diversity: Faculty Search Workshop," Women in Science & Engineering Leadership Institute (WISELI), UW-Madison

2019 "Geospatial Modeling with NASA Earth Observations using Google Earth Engine and R," Led by NASA DEVELOP, Workshop at US-IALE annual meeting in Fort Collins, CO

2018 "From Drone to Landscape – UAS Data Processing" Workshop, Led by Center for Geospatial Analytics, North Carolina State University, Workshop at US-IALE annual meeting in Chicago, IL

2018 "Basics of LiDAR Data Workshop," 2-day workshop, Wisconsin State Cartographer's Office, Held at UW-Milwaukee

2016 "Graduate Assistants' Equity Workshop," Division of Diversity, Equity, and Educational Achievement, UW-Madison

2016 National Ecological Observatory Network (NEON) Data Institute (6-day training on working with NEON and other spatio-temporal data), Boulder, CO

SELECTED MEDIA COVERAGE AND RESEARCH FEATURES

2022 "GRIN Profile: Kristin Braziunas." 2021 JFSP Progress Report. Joint Fire Science Program Governing Board. (https://www.firescience.gov/Publications/2021_JFSP_Progress_Report.pdf)

2022 "Researcher in the Park." Grand Teton National Park and John D. Rockefeller Memorial Parkway: Vital Signs 2020 by Holly McKinney (https://www.nps.gov/grte/learn/nature/upload/2020-GRTE-Vital-Signs-Web-access-final.pdf)

2019 "Resilience of Yellowstone's forests tested by unprecedented fire." UW-Madison News by Kelly Tyrrell (https://news.wisc.edu/resilience-of-yellowstones-forests-tested-by-unprecedented-fire/)

2018 "Fires in the West may be changing the future of forests." Video produced by UW-Madison. Highlighted on Joint Fire Science Program Friday Flash on 21 Sept 2018. (https://www.youtube.com/watch?v=dD8VLS5F2Xo)

PROFESSIONAL MEMBERSHIPS

Ecological Society of America

Ecological Society of Germany, Austria, and Switzerland (GfÖ)

North American Regional Association of the International Association for Landscape Ecology (IALE-North America)