

BRIANA ABRAHMS

Assistant Professor and Boersma Endowed Chair in Natural History & Conservation

Center for Ecosystem Sentinels, Department of Biology
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Research interests: behavioral ecology; animal movement ecology; animal-environment interactions; global change biology; large vertebrate ecology; spatial modeling; endangered species conservation; human-wildlife coexistence

Education

- 2016 PhD, Wildlife Ecology, **University of California-Berkley**, Berkeley, CA, USA
Department of Environmental Science, Policy, and Management
“The Ecology and Conservation of Animal Movement in Changing Land- and Seascapes”
advisor: Dr. Justin Brashares
- 2008 BS, Physics (*magna cum laude*), **Brandeis University**, Waltham, Massachusetts

Professional History

Research

- 2020-pres **University of Washington**, Department of Biology, Assistant Professor
2021-pres **University of Washington**, Center for Quantitative Science, Affiliate Faculty
2021-pres **University of Washington**, eScience Institute, Affiliate Faculty
2021-pres **University of Washington**, Program on Climate Change, Affiliate Faculty
2017-2020 **University of California-Santa Cruz Cooperative Institute for Marine Ecosystems and Climate**,
Postdoctoral Researcher & U.S. Presidential Management Fellow
2011-pres **Botswana Predator Conservation**, Affiliate Researcher

Teaching

- 2021-pres **University of Washington**, Assistant Professor
Conservation of Large Vertebrates (BIO 406)
Ecology of Animal Movement (BIO 468/568)
- 2019 **University of Washington**, Instructor
Analyzing Animal Movement Data in R (Workshop)
- 2014 **University of California-Berkeley**, Graduate Instructor
Wildlife Ecology (ESPM 114)

Publications

Mentees: **Postdoc**, **graduate student**, **undergraduate**, **external (non-UW) mentee**

Peer-reviewed

- Clark-Wolf, T.J.**, Boersma, D., Rebstock, G., and **Abrahms, B.** 2024. Increasing environmental variability inhibits evolutionary rescue in a long-lived vertebrate. **Proceedings of the National Academy of Sciences** (*accepted, in press*).
- Ma, D.**, **Abrahms, B.**, Allgeier, J., Newbold, T., Weeks, B., and Carter, N. 2024. Global Expansion of Human-Wildlife Overlap in the 21st Century. **Science Advances** (*accepted, in press*).

3. [Johansson, E.](#), Boersma, P.D., Jones, T., and [Abrahms, B.](#) 2024. Plasticity Syndromes in Wild Vertebrates: Patterns and Consequences of Individual Variation in Plasticity Across Multiple Behaviors. **Ecology Letters** (*accepted, in press*).
4. Picardi, S., [Abrahms, B.](#), and Merkle, J. Scale at the interface of spatial and social ecology. 2024. **Philosophical Transactions of the Royal Society B** (*accepted, in press*).
5. Carroll, G., [Abrahms, B.](#), Cimino, M., and Brodie, S. [Spatial match-mismatch between predators and prey under climate change](#). **Nature Ecology & Evolution**, DOI: 10.1038/s41559-024-02454-0.
6. Dodson, S., Oestreich, W., Savoca, M., Hazen, E.L., Bograd, S., John, R., Fietchter, J., and [Abrahms, B.](#) 2024. [Long-distance communication enables collective migration in a dynamic seascape](#). **Scientific Reports**, 14: 14857 (2024).
7. Hazen, E.L., Savoca, M.S., [Clark-Wolf, T.J.](#), Czapansky, M., Rabinowitz, P.M., and [Abrahms, B.](#) 2024. [Ecosystem Sentinels as Early Warning Indicators in the Anthropocene](#). **Annual Review of Environment and Resources**, DOI: 10.1146/annurev-environ-111522-102317.
8. [Rafiq, K.](#), Jordan, N.R., McNutt, J.W., Neelo, J., Attias, N., Boersma, P.D., Palmer, M., Ruesink, J., and [Abrahms, B.](#) [The value of field research in academia](#). **Science**, 384:6698 (855-856).
9. [Clark-Wolf, T.J.](#), Holt, K., [Johansson, E.](#), [Nisi, A.](#), [Rafiq, K.](#), [West, L.](#), Boersma, P.D., Hazen, E., Moore, S., and [Abrahms, B.](#) [The capacity of sentinel species to detect changes in environmental conditions and ecosystem structure](#). **Journal of Applied Ecology**, 61(7): 1638-1648.
10. Gaynor, K., McInturff, A.M., [Abrahms, B.](#), Smith, A., and Brashares, J. 2024. [Hunting mode and habitat selection mediate the success of human hunters](#). **Movement Ecology**, 12: 29 (2024).
11. [Rafiq, K.](#), Jordan, N., Golabek, K., McNutt, J.W., Wilson, A., and [Abrahms, B.](#) 2023. [Increasing ambient temperatures trigger shifts in activity patterns and temporal partitioning in a large carnivore guild](#). **Proceedings of the Royal Society Biological Sciences**, 290: 20231938. **Journal Cover Article**
12. [Abrahms, B.](#), Carter, N., [Clark, T.J.](#), Gaynor, K., [Johansson, E.](#), McInturff, A., [Nisi, A.](#), [Rafiq, K.](#), and [West, L.](#) 2023. [Climate change as a global amplifier of human-wildlife conflict](#). **Nature Climate Change**, 13:224-234. [Covered by 50+ media outlets, including [NPR](#), [Newsweek](#), and [The Guardian](#)]
13. [Clark, T.J.](#), Boersma, P.D., Rebstock, G.A., and [Abrahms, B.](#) 2023. [Climate presses and pulses mediate the decline of a migratory predator](#). **Proceedings of the National Academy of Sciences**, 120 (3): e2209821120. [2023 PNAS Cozzarelli Prize Finalist; see related coverage on [KUOW](#)]
14. Welch, H., Liu, O., Riekkola, L., [Abrahms, B.](#), Hazen, E., and Samhuri, J. 2023. [Selection of planning unit size in dynamic management strategies to reduce human-wildlife conflict](#). **Conservation Biology**, DOI: 10.1111/cobi.14201.
15. [Rafiq, K.](#), Appleby, R., Davies, A., and [Abrahms, B.](#) 2023. [SensorDrop: a system to remotely detach individual sensors from wildlife tracking collars](#). **Ecology and Evolution**, 13 (7): e10220.
16. Riekkola, L., Liu, O.R., Feist, B.E., Forney, K.A., [Abrahms, B.](#), Hazen, E., and Samhuri, J.F. 2023. [Retrospective analysis of conservation measures to reduce the risk of large whale entanglements in a highly lucrative fishery](#). **Biological Conservation**, 278: 109880.
17. Liu, O.R., Fisher, M., Feist, B.E., [Abrahms, B.](#), Richerson, K., and Samhuri, J.F. 2023. [Mobility and flexibility enable resilience of human harvesters to environmental perturbation](#). **Global Environmental Change**, 78 (2023): 102629.

18. [Abrahms, B., Rafiq, K., Jordan, N.R., and McNutt, J.W. 2022. Long-term, climate-driven phenological shift in a tropical large carnivore. **Proceedings of the National Academy of Sciences**, 119 \(27\) e2121667119. **Journal Cover Article** \[see related coverage in \[Scientific American\]\(#\) and \[New Scientist\]\(#\)\]](#)
19. [Merkle, J.*, Abrahms, B.*, Armstrong, J., Sawyer, H., Costa, D., and Chalfoun, A. 2022. Site fidelity as a maladaptive behavior in the Anthropocene. **Frontiers in Ecology and the Environment**, 20\(3\): 187-194. **co-first authorship *Journal Cover Article**](#)
20. [Oestreich, W.K., Aiu, K.M., Crowder, L.B., McKenna, M.F., Berdahl, A.M., and Abrahms, B. 2022. The influence of social cues on timing of animal migrations. **Nature Ecology & Evolution**, 6: 1617-1625.](#)
21. [Picardi, S., Abrahms, B., Morrison, T.A., Verzuh, T., and Merkle, J.A. 2022. Defining Null Expectations for Animal Site Fidelity. **Ecology Letters**, DOI: 10.1111/ele.14148.](#)
22. [Fahlbusch, J., Czapanskiy, M., Calambokidis, J., Cade, D.E., Abrahms, B., Hazen, E.L., Goldbogen, J.A. 2022. Blue whales increase feeding rates at fine-scale ocean features. **Proceedings of the Royal Society Biological Sciences**, 289: 20221180.](#)
23. [Rebstock, G., Abrahms, B., and Boersma, D. 2022. Site fidelity increases reproductive success by increasing foraging efficiency in a marine predator. **Behavioral Ecology** 33\(4\): 868-875.](#)
24. [Oestreich, W.K., Abrahms, B., McKenna, M.F., Goldbogen, J.A., Crowder, L.B., and Ryan, J.P. 2022. Acoustic signature reveals blue whales tune life history transitions to oceanographic conditions. **Functional Ecology**, 36\(4\): 882-895.](#)
25. [Emmet, R., Augustine, B., Abrahms, B., Rich, L., and Gardner, B. 2022. A spatial capture-recapture model for group-living species. **Ecology**, 103\(10\):e3576.](#)
26. [McClintock, B., Abrahms, B., Chandler, R., Conn, P., Converse, S., Emmet, R., Gardner, B., Hostetter, N., and Johnson, D. 2022. An integrated path for spatial capture-recapture and animal movement modeling. **Ecology**, 103\(10\):e3473.](#)
27. [Abrahms, B. 2021. Human-wildlife conflict under climate change. **Science**, 373\(6554\): 484-485. \[Covered by 50+ media outlets, including *Popular Science*, *The Independent*\]](#)
28. [Abrahms, B., Teitelbaum, C., Mueller, T., and Converse, S. 2021. Ontogenetic shifts from social to experiential learning in avian migration timing. **Nature Communications**, 12:7326: 1-8.](#)
29. [Abrahms, B., Aikens, E.O., Armstrong, J.B., Deacy, W.W., Kauffman, M.J., and Merkle, J.A. 2021. Emerging perspectives on resource tracking and animal movement ecology. **Trends in Ecology and Evolution**, 36\(4\): 308-320. **Journal Cover Article**](#)
30. [Samhuri, J., Feist, B., Fisher, M., Liu, O., Woodman, S., Abrahms, B., Forney, K., Hazen, E., Lawson, D., Redfern, J., and Saez, L. 2021. Marine heatwave challenges solutions to human-wildlife conflict. **Proceedings of the Royal Society Biological Sciences**, 288\(1964\): 20211607.](#)
31. [Hausner, A., Samhuri, J., Hazen, E., \[Delgerjargal, D.\]\(#\), and Abrahms, B. 2021. Dynamic strategies offer potential to reduce lethal ship collisions with large whales under changing climate conditions. **Marine Policy**, 130: 104565.](#)
32. [Esmaili, S., Jesmer, B.R., Albeke, S.E., Aikens, E.O., King, S.R.B., Schoenecker, K.A., Abrahms, B., et al. 2021. Body size and digestive system shape resource selection by ungulates: a cross-taxa test of the Forage Maturation Hypothesis. **Ecology Letters**, 24\(10\): 2178-2191.](#)

33. Hazen, E., Abrahms, B., Brodie, S., Carroll, G., Welch, H., and Bograd, S. 2021. [Where did they not go? Considerations for generating pseudo-absences for telemetry-based habitat models.](#) **Movement Ecology**, 9(5): 1-13.
34. Brodie, S., Abrahms, B., Bograd, S., Carroll, G., Hazen, E., Muhling, B., Pozo Buil, M., Smith, J., Welch, H., and Jacox, M. 2021. [Exploring timescales of predictability in species distributions.](#) **Ecography**, 44 (6): 832-844.
35. Dodson, S., Abrahms, B., Hazen, E.L, Bograd, S.J., Feitcher, J. 2020. [Disentangling the biotic and abiotic drivers of emergent migratory behavior using individual-based models.](#) **Ecological Modeling**, 432: 109225.
36. Blondin, H., Abrahms, B., Crowder, L., Hazen, E.L. 2020. [Combining high temporal resolution whale distribution and vessel tracking data improves estimates of ship strike risk.](#) **Biological Conservation**, 250: 108757.
37. Noonan, M., Fleming, C., Tucker, M., Kays, R., Harrison, A.-L., Crofoot, M., Abrahms, B., et al. 2020. [Effects of body size on estimation of mammalian area requirements.](#) **Conservation Biology**, 34(4): 1017-1028.
38. Abrahms, B., Hazen, E., Aikens, E.O., Savoca, M., Goldbogen, J., Bograd, S.J., Jacox, M., Irvine, L.M., Palacios, D.M., and Mate, B.R. 2019. [Memory and resource tracking drive blue whale migrations.](#) **Proceedings of the National Academy of Sciences**, 116(12): 5582-5587. [Featured Article; Covered by 50+ media outlets, including *The Atlantic*, *Washington Post*]
39. Abrahms, B., Welch, H., Brodie, S., Jacox, M.G., Becker, E., Bograd, S.J., Irvine, L.M., Palacios, D.M., Mate, B.R, and Hazen, E.L. 2019. [Dynamic ensemble models to predict distributions and anthropogenic risk exposure for highly mobile species.](#) **Diversity and Distributions**, 25(8): 1182-1193. [Editor's Choice; Issue cover; Covered by 50+ media outlets, including *LA Times*, *World Economic Forum*]
40. Hazen, E.L., Abrahms, B., Brodie, S., Carrol, G., Jacox, M., Savoca, M., Scales, K., Bograd, S.J. 2019. [Marine top predators as climate and ecosystem sentinels.](#) **Frontiers in Ecology and the Environment**, 17(10): 565-574.
41. Abrahms, B., Hazen, E., Bograd, S.J., Brashares, J.S., Robinson, P.W., Scales, K.L., D. Crocker and Costa, D.P. 2018. [Climate mediates the success of migration strategies in a marine predator.](#) **Ecology Letters**, 21: 63-71.
42. Abrahms, B., Scales, K.L., Hazen, E., Bograd, S.J., Schick, R.S., Robinson, P.W., and Costa, D.P. 2018. [Mesoscale activity facilitates energy gain in a top predator.](#) **Proceedings of the Royal Society Biological Sciences**, 285: 20181101.
43. Schmitz, O.S., Miller, J.R.B., Trainor, A.M., Abrahms, B. 2017. [Toward a community ecology of landscapes: predicting emergent multiple predator-prey interactions across geographic space.](#) **Ecology**, 98(9): 2281-2292.
44. Abrahms, B., Seidel, D.P., Dougherty, E., Hazen, E., Bograd, S.J., Wilson, A.M., McNutt, J.W., Costa, D.P., Blake, S., Brashares, J.S. and Getz, W.M. 2017. [Suite of simple metrics reveals common movement syndromes across vertebrate taxa.](#) **Movement Ecology**, 5(12): 1-11.
45. Abrahms, B., Sawyer, S., Jordan, N., McNutt, J.W., Wilson, A.M., and Brashares, J.S. 2017. [Does wildlife resource selection accurately inform corridor conservation?](#) **Journal of Applied Ecology**, 54(2): 412-422. [Issue cover]

46. Fossette S., Abrahms, B., Hazen E.L., Bograd S.J., Newton K.M., Calambokidis J., Burrows J.A., Goldbogen J., Harvey J., Marinovic B., Tershy B., Croll D.A. 2017. [Resource partitioning facilitates coexistence in sympatric cetaceans in the California Current.](#) **Ecology and Evolution**, 7(21): 9085-9097.
47. Abrahms, B., DiPietro, D., Graffis, A., and Hollander, A. 2017. [Managing biodiversity under climate change: challenges, frameworks, and tools for adaptation.](#) **Biodiversity and Conservation**, 26(10): 2277-2293.
48. Abrahms, B., Jordan, N.R., Golabek, K.A., McNutt, J.W., Wilson, A.M., and Brashares, J.S. 2016. [Lessons from integrating behaviour and resource selection: activity-specific responses of African wild dogs to roads.](#) **Animal Conservation**, 19(3): 247-255.
49. Brashares, J.B., Abrahms, B., Fiorella, K.J., Golden, C.D., Hojnowski, C.E., Marsh, R.A., McCauley, D.J., Nunez, T.A., Seto, K., and Withey, L. 2014. [Wildlife decline and social conflict.](#) **Science**, 345.6195: 376-378. [Covered by 200+ media outlets, including BBC, NPR]

In Review or Revision

50. Oestreich, W.K., Benoit-Bird, K.J., Abrahms, B., Margolina, T., Joseph, J.E., Zhang, Y., Rueda, C.A., and Ryan, J.P. Acoustic evidence for seasonal resource-tracking migration by a top predator of the deep sea. **Movement Ecology** (*in revision*).
51. Gaynor, K.M., Abrahms, B., Manlove, K.R., Oestreich, W.K., Smith, J.A. Anthropogenic impacts at the interface of animal spatial and social behaviour. **Philosophical Transactions of the Royal Society B** (*in revision, Invited Submission*).
52. **Rafiq, K., Nisi, A.**, Jordan, N.R., Golabek, K. McNutt, J.W., Wilson, A., and Abrahms, B. Temperature mediates habitat selection and spatial partitioning within a large carnivore guild. **Oecologia** (*in review*).
53. Abrahms, B., **Rafiq, K., Nisi, A.**, Jordan, N.R., Wilson, A., Loveridge, A., Kotze, R., Sousa, L.L., and McNutt, J.W. Intraguild competition mediates human avoidance in an endangered African large carnivore. **Ecology** (*in review*).
54. **West, L., Rafiq, K.**, Converse, S.J., Wilson, A.M., Jordan, N.R., Golabek, K.A., McNutt, J.W., and Abrahms, B. Droughts reshape apex predator space use and intraguild overlap. **Journal of Animal Ecology** (*in revision*).
55. Fagan, W.F., Krishnan, A., Fleming, C., Sharkey, E., Chia, S., Swain, A., Abrahms, B. et al. Wild canids and felids differ in memory-related use of travel routes. **Proceedings of the National Academy of Sciences** (*in revision*).
56. **Rafiq, K.**, Beery, S., Palmer, M., Harchaoui, Z., and Abrahms, B. Accelerating the field of ecology with generative AI. **Nature Ecology and Evolution** (*in revision*).
57. Beltran, R.S., Kilpatrick, A.M., Picardi, S., Abrahms, B., Barrile, G.M., Oestreich, W.K., Smith, J.A., Czapanskiy, M.F., Favilla, A.B., Reisinger, R.R., Kendall-Bar, J.M., Payne, A.R., Savoca, M.S., Palance, D.G., Andrzejczek, S., Shen, D.M., Adachi, T., Costa, D.P., Storm, N.A., Hale, C.M., Robinson, P.W. Maximizing biological insights from instruments attached to animals. **Trends in Ecology & Evolution** (*in revision*).
58. **Nisi, A.**, Welch, H., Brodie, S., Leiphardt, C., Rhodes, R., Hazen, E., Redfern, J., Branch, T., Baretto, A., Calambokidis, J., Clavelle, T., Dares, L., Devos, A., Gero, S., Jackson, J., Kenney, R., Kroodsma, D., Leaper, R., McCauley, D., Moore, S., Ovsyanikova, E., Panigada, S., Robinson, C., White, T., Wilson, J., and Abrahms, B. Ship collision risk threatens whales across the world's oceans. **Science** (*in revision*).

Book Chapters

Rafiq, K., Pitcher, B.J., Cornelsen, K., Hansen, K.W., King, A.J., Appleby, R.G., Abrahms, B., and Jordan, N.R. 2021. Animal-borne technologies in wildlife research and conservation. pp 105-128 *in* Conservation Technology, eds. Wich, S.A. and Piel, A.K. Oxford University Press.

Hazen, E.L., Abrahms, B., Blondin, H., Scales, K., and Welch, H. Building the scientific and analytical framework for dynamic ocean management. in Navigating our way to solutions in marine conservation, ed. Crowder, L.B., Open Book Publishers, in press.

Non-refereed

Woodroffe, R., Abrahms, B., English, H. Jumbam, K., Linden, J., Ngatia, D., Rabaiotti, D., and McNutt, J.W. 2023. [African wild dogs are hot and hungry: Response to Creel et al. \(2023\)](#). **Biological Conservation**, 284: 110198.

Garland, E.C., Corkeron, P., Noad, M.J., Abrahms, B. et al. 2023. Interface of social learning and culture with conservation in baleen whales. Report to: United Nations Environment Programme, Convention on the Conservation of Migratory Species of Wild Animals, UNEP/CMS/Culture-2-2/Doc.4.6.

Withey, L., Seto, K., McCauley, D.J., Fiorella, K.J., Marsh, R.A., Abrahms, B., Nunez, T.A., Golden, C.D., Brashares, J.B. 2014. Fauna in Decline – Response. **Science**, 346.6211: 819-820.

Badavi, F.F., Wilson, J.W., Abrahms, B., and Hunter, A. 2006. Numerical Study of the Generation of Linear Energy Transfer Spectra for Space Radiation Applications. SAE International, 2006-01-2144, DOI: 10.4271/2006-01-2144.

Badavi, F. F., West, K. J., Nealy, J. E., Wilson, J. W., Abrahms, B., and Luetke, N. J. 2006. A Dynamic/Anisotropic Low Earth Orbit Ionizing Radiation Model. NASA Technical Paper, 2006-214533.

Grants and Fellowships *Abrahms sole PI unless otherwise noted

2024-2028 National Science Foundation IOS/DEB, “Integrating climate variability, behavior, and species Interactions in a large carnivore guild” (PI Abrahms, co-PI Laura Prugh; \$1,375,475 to UW/Abrahms; Grant #2337405).

2023-2028 Packard Fellowship in Science and Engineering, “Uniting Field Ecology, Earth Observation and Eco-Informatics to Accelerate Understanding of Human-Wildlife Interactions in a Changing Climate” (\$875,000)

2023-2024 Discovering AI@UW, “Revealing the Hidden Lives of Cryptic Carnivores with Machine Learning and AI” (PI Abrahms, co-PI Zaid Harchaoui; \$40,000 to Abrahms)

2022 National Science Foundation, “Broadening Participation - GRC Movement Ecology of Animals” (\$20,000)

2022-2026 Alfred P. Sloan Research Fellowship (\$75,000)

2022-2023 Royalty Research Fund, “Elucidating the effects of temperature variation on species interactions in free-ranging carnivores” (\$39,195)

2021-2024 The Nature Conservancy, “A global estimation of intersection between whales and ships” (\$228,587)

2019-2020 Benioff Ocean Initiative, “Operationalization of blue whale distribution models in near-real time” (\$257,046)

2018-2019 Benioff Ocean Initiative, “Downscaling models for blue whales from tracking data” (\$106,750)

- 2012-2014 National Science Foundation Graduate Research Fellowship, “Examining wildlife corridor efficacy for wide-ranging carnivores in southern Africa” (\$136,000)
2012 UC Berkeley Graduate Fellowship (\$154,000)

Pending

- 2024-2028 NSF BioOce, “Collaborative Research: Behavioral and Oceanographic Drivers of Metapopulation Dynamics in a Marine Predator”. (PI T.J. Clark-Wolf, co-PI Abrahms; \$536,937 to Abrahms).

Honors and Awards

- 2023 University of Washington Nominee for Packard Fellowship (*Received*)
2021 International Bio-Logging Society Early Career Award
2019 Gordon Research Conference in Movement Ecology of Animals Best Poster Award
2008 Brandeis University Steinberg Prize for Excellence in Physical Science
2008 Brandeis University Hard Sciences Commencement Speaker (*Faculty nominated*)

Invited Seminars

- 2024 “Whales and scales: towards understanding and conserving the drivers of megafauna migration across scales.” **University of California-Santa Barbara, Bren School of the Environment**. Santa Barbara, CA.
- 2023 “Navigating dynamic environments: interplays between environment, social cues, and memory in megafauna migration.” **University of Washington, School of Aquatic and Fisheries Sciences**. Seattle, WA.
- 2023 “Navigating dynamic environments: interplays between environment, social cues, and memory in megafauna migration.” **Gordon Research Conference in Movement Ecology of Animals**. Barga, Italy.
- 2023 “From physics to predators: Linking behaviorally-mediated effects of climate to predator ecology and conservation.” **University of California-Davis, Department of Ecology & Evolution**. Davis, CA.
- 2023 “Navigating dynamic environments: interplays between environment, social cues, and memory in megafauna migration.” **University of California-Davis, Animal Behavior Graduate Group**. Davis, CA.
- 2023 “How behavioral ecology can inform conservation in an era of rapid global change”. **Stanford University, Department of Biology**, Hopkins Marine Station. Pacific Grove, CA.
- 2023 “Applying dynamic whale distribution models to mitigate ship strike risk.” **European Union OCEAN Workshop**. Azores, Portugal.
- 2023 “From physics to predators: Linking behaviorally-mediated effects of climate to predator ecology and conservation.” **Utah State University, Department of Wildland Resources**. Logan, UT.
- 2023 “Impacts of climate change on human-wildlife interactions”. **Policy Studies Organization, Dupont Summit**. Washington, DC.
- 2022 “Resource tracking in animal migrations.” **Wageningen University, Department of Environmental Sciences**. Wageningen, Netherlands.
- 2022 “The importance of behavioral ecology in understanding top predator responses to global change.” **University of Wyoming, Department of Zoology and Physiology**. Laramie, WY.
- 2022 “Conserving highly mobile species in an era of rapid climate change.” **University of Washington Bevan Series**. Seattle, WA.

- 2021 “The importance of behavioral ecology in understanding top predator responses to global change.” **Yale University, Center for Biodiversity and Global Change**. New Haven, CT.
- 2021 “The importance of behavioral ecology in understanding top predator responses to global change.” **University of California Santa Cruz, Department of Ecology and Evolutionary Biology**. Santa Cruz, CA.
- 2020 “When to move? The interplay of environmental forcing, memory, and learning in long-distance migration.” **University of Washington, School of Aquatic and Fisheries Sciences**. Seattle, WA.
- 2020 “The role of behavioral ecology in understanding and mitigating global change impacts on top predators.” **University of Washington, Department of Biology**. Seattle, WA.
- 2019 “The importance of behavioral and environmental context in evaluating predator responses to global change.” **Yale University, Center for Biodiversity and Global Change**. New Haven, CT.
- 2019 “Environmental forcing, memory, and social learning of migration strategies in marine and terrestrial taxa.” **Stanford University, Department of Biology** Hopkins Marine Station. Pacific Grove, CA.
- 2019 “Environmental forcing, memory, and social learning of migration strategies in marine and terrestrial taxa.” **University of California Santa Cruz, Department of Environmental Studies**. Santa Cruz, CA.
- 2019 “WhaleWatch: developing models to predict blue whale distributions to reduce ship strikes in near-real time.” **Society for Conservation GIS** Online Webinar Series (150+ attendees).
- 2019 “Dynamic ensemble models to predict whale distributions and anthropogenic risk exposure in near-real time.” **University of Washington, School of Aquatic and Fisheries Sciences**. Seattle, WA.
- 2019 “Identifying drivers of migration phenology across terrestrial and aquatic systems.” in The **Joint Wildlife Society-American Fisheries Society Annual Meeting Symposium** “Resource tracking by fish and wildlife: Scientific progress and management implications.” Reno, NV.
- 2019 “Dynamic ensemble models to predict whale distributions and anthropogenic risk exposure in near-real time.” in The **Joint Wildlife Society-American Fisheries Society Annual Meeting Symposium** “Dynamic Ocean Management: Integrating a changing environment in management strategies.” Reno, NV.
- 2018 “From the Savanna to the Sea: linking environmental conditions to wildlife movement, fitness, and conservation.” 2018. **University of Washington, School of Environmental and Forestry Sciences**. Seattle, WA.
- 2016 “Old dogs, new tricks: using novel behavioral data to refine conservation strategies for an endangered African carnivore.” **UC Berkeley Department of Environmental Science, Policy, and Management**. Berkeley, CA.
- 2014 “Tracking Large Carnivores in Africa’s Changing Landscapes.” **UC Berkeley Wildlife, Fisheries, and Conservation Biology Seminar**. Berkeley, CA.

Organized Symposia & Conferences

- 2024 “Global change impacts on wildlife contributions to human well-being.” (Co-Chair) Organized Symposium, **North American Congress on Conservation Biology**. Vancouver, BC, Canada.
- 2024 “Species distribution modeling for equitable and effective conservation.” (Co-Chair) Organized Symposium, **North American Congress on Conservation Biology**. Vancouver, BC, Canada.
- 2023 **Gordon Research Seminar on Movement Ecology of Animals**. (Chair) Barga, Italy.

- 2022 “Climate change impacts on human-wildlife interactions.” (Chair) Organized Symposium, **The Wildlife Society Meeting**. Spokane, WA.
- 2020 “From physics to predators: understanding bottom-up forcing of pelagic ecosystems.” (Chair), **AGU Ocean Sciences Meeting**. San Diego, CA.
- 2018 “From physics to predators: understanding bottom-up forcing of pelagic ecosystems.” (Chair), **AGU Ocean Sciences Meeting**. Portland, OR.

Selected Conference Presentations

- 2023 “Long-term, climate-driven phenological shift in a tropical large carnivore.” *Invited Symposium*. **International Mammology Congress**. Anchorage, AK.
- 2022 “Climate change as a global amplifier of human-wildlife conflict.” *In Organized Symposium (Chair)*: “Climate change and human-wildlife interactions.” **The Wildlife Society Meeting**. Spokane, WA.
- 2022 “Long-term, climate-driven phenological shift in a tropical large carnivore.” **The Wildlife Society Meeting**. Spokane, WA.
- 2021 “Interplay of social and experiential learning in timing long-distance migration.” **International Bio-Logging Science Symposium**. Honolulu, Hawaii. [Featured oral presentation]
- 2019 “Staying in place: site fidelity as a maladaptive behavior in the Anthropocene.” **Species on the Move Conference**. Kruger, South Africa.
- 2019 “Blue whales and green waves: memory and resource tracking drive basin-scale migrations.” **Gordon Research Conference in Movement Ecology**. Lucca, Italy. [Oral and poster, *best poster award*]
- 2018 “Structurally complex ocean regions facilitate energy gain in a foraging top predator.” **Ocean Sciences Annual Meeting**. Portland, OR.
- 2017 “Climate mediates the costs and benefits of site fidelity in a migratory marine predator.” **Ecological Society of America Annual Meeting**. Portland, OR.
- 2017 “Mesoscale ocean complexity facilitates energy gain in a top marine predator.” **International Bio-Logging Conference**. Konstanz, Germany.
- 2017 “Classification of movement syndromes across diverse vertebrate taxa.” **Gordon Research Conference in Movement Ecology**. Ventura, CA.
- 2016 “Movements across taxa, environments, and scales share similar form and characteristics.” **American Association of Geographers Annual Meeting**. San Francisco, CA.
- 2015 “Do estimates of landscape resistance reflect movement behavior?” **International Congress on Conservation Biology**. Montpellier, France.
- 2015 “Bridging Boundaries for Effective Conservation.” **International Congress on Conservation Biology**. Montpellier, France.
- 2014 “Road use by African wild dogs: impacts of tourism infrastructure on large carnivores in Botswana.” **Ecological Society of America Annual Meeting**. Sacramento, CA.

Professional Activities and Service

- 2023-pres Vice Chair, 2025 and Chair-Elect, 2027 **Gordon Research Conference in Animal Movement Ecology**
- 2021-pres Member, **IUCN World Commission on Protected Areas Connectivity Conservation Specialist Group**
- 2018-pres Lead Researcher, [Whale Safe Ship Strike Development Team](#)

2021-2023 Member, **UW Biology Promotion, Merit, Tenure Committee**
2021-2023 Member, **UW Biology Seminar Committee**
2019-2023 Chair, 2023 **Gordon Research Seminar in Animal Movement Ecology**
2014-2020 Member, **Kavango-Zambezi African Wildlife Corridor Conservation Working Group**
2019-2022 Member, **NOAA West Coast Whale Entanglement Working Group**
2018-2020 Member (Founding), **NOAA Diversity and Inclusion Committee**
2014-2016 President, **Society for Conservation Biology Berkeley Chapter**
2012-2014 Member, **UC Berkeley Graduate Diversity Council**

Current Memberships: International Bio-Logging Society, Society for Conservation Biology, Ecological Society of America, The Wildlife Society

Journal Referee for: Science, Proceedings of the National Academy of Sciences, Science Advances, Nature Ecology and Evolution, Trends in Ecology and Evolution, Ecology Letters, Current Biology, BioScience, Conservation Letters, Conservation Biology, Ecology, Methods in Ecology & Evolution, Journal of Animal Ecology, Ecography, Movement Ecology, Oikos, Frontiers in Ecology & the Environment, Biological Conservation, Marine Biology, Basic & Applied Ecology, Endangered Species Research, Journal of Wildlife Management.

Grant Referee for: National Science Foundation (IOS Behavioral Systems Panel 2021; Biological Oceanography ad hoc reviews x2; DEB Population & Community Ecology ad hoc review x1), UW Royalty Research Fund (x1), National Geographic (x1)

Mentoring

University of Washington, Department of Biology, 2020-present

Postdocs: 2 current, 1 graduated

PhD committees: 10 current, 5 graduated

Undergraduate researchers: 2 current, 4 graduated

Undergraduate capstone students: 1

Technicians: 1

UCSC Cooperative Institute for Marine Ecosystems and Climate, 2017-2020: co-supervised 3 graduate interns, supervised 2 undergraduate interns, co-supervised 1 undergraduate senior thesis

UC Berkeley Environmental Science, Policy, & Management: trained and supervised 3 field technicians, 3 undergraduate assistants, co-supervised 2 undergraduate senior theses

Outreach

2020-pres Mentor & Faculty Sponsor, **Sisterhood in Science United**

2011-pres Teacher Trainer, **Coaching for Conservation Botswana**

2011-pres Creator and Author, [Conservation Connections Blog](#)

Media Engagement (ongoing): Numerous interviews with journalists; articles about research reported in media outlets such as [Popular Science](#), [The Independent](#), [The Atlantic](#), [Forbes](#), [Washington Post](#), [BBC](#), [Scientific American](#), [NPR](#), [Los Angeles Times](#), [World Economic Forum](#); TV appearances on [History Channel](#) and BBC documentary series [Animal Einsteins](#); radio and podcast interviews.

Public Science Talks (ongoing): Numerous talks to adult and youth audiences on wildlife research and conservation, including invited [TEDx talk](#), Seattle, WA; Skype a Scientist Program; Cascadia Climate Science on Tap Ask a Scientist (invited), Seattle, WA; and K-12 schools in Botswana and US.

Popular Science Writing (ongoing)

[“Climate change is causing endangered African wild dogs to give birth later – threatening the survival of the pack”](#), The Conversation, 2022

[“This new technology can save whales from ship collisions”](#), World Economic Forum Agenda, 2020

[“Watch out for wild dogs!”](#), Zambezi Traveller, Winter/Spring 2016 Issue 25

[“Protecting Room to Roam”](#), African Wild Blog, 2016

[“How much does animal behavior matter in corridor planning?”](#), Conservation Corridor, 2016

Workshops and Trainings

- 2023 Field Futures: Fieldwork Harassment and Assault Prevention Training, Seattle, WA.
- 2020,2022 EPIC: Empowering Prevention & Inclusive Communities: Prevention of Sexual Harassment & Gender Discrimination, Seattle, WA.
- 2019 Fulbright/Institute of Marine Research Workshop ‘Species Distribution Modeling for Dynamic Ocean Management’ (5 days), Horta, Portugal.
- 2019 NOAA Science Communication and Media Training, Seattle, WA.
- 2017 Ecological Society of America Workshop ‘Promoting Persistence in Science through Enhancing Culturally Relevant Mentoring’, Portland, OR.
- 2015 National Science Foundation Workshop ‘Promoting Synergy in the Innovative Use of Environmental Data’ (3 days), Washington, DC.
- 2014 National Science Foundation Workshop ‘Interdisciplinary Conservation Planning’ (6 days), Yaoundè, Cameroon.
- 2014 UC Berkeley ESPM 375 ‘Principles of Pedagogy in STEM’ (2-unit course), Berkeley, CA.
- 2014 UC Berkeley Graduate Student Teaching Conference, Berkeley, CA.
- 2014 UC Berkeley ‘Skills for Sharing Science Workshop’, Berkeley, CA.