

ELLEN O. AIKENS

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EDUCATION

Ph.D. University of Wyoming Dec 2019
Ecology, GPA: 4.0

B.S. Ursinus College May 2011
Biology, Summa Cum Laude, GPA: 3.9

PROFESSIONAL APPOINTMENTS

Assistant Professor Aug 2023 – Present
School of Computing & Haub School of Environment and Natural Resources
University of Wyoming, Laramie, WY USA

Assistant Unit Leader Apr 2022 – June 2023
USGS South Dakota Cooperative Fish & Wildlife Research Unit
Brookings, SD, USA

Assistant Professor Apr 2022 – June 2023
Department of Natural Resource Management
South Dakota State University, Brookings, SD, USA

Postdoctoral Researcher Jul 2020 – Feb 2022
Max-Planck Institute of Animal Behavior &
Center for the Advanced Study of Collective Behavior
University of Konstanz, Konstanz, Germany

Postdoctoral Researcher Jan 2020 – Jul 2020
Wyoming Cooperative Fish and Wildlife Research Unit
University of Wyoming, Laramie WY, USA

Lab Manager May 2013 – Apr 2014
Conservation GIS Lab, Smithsonian Conservation Biology Institute
Front Royal, VA, USA

PEER REVIEWED PUBLICATIONS

23. **Aikens EO**, E Nourani, W Fiedler, M Wikelski and A Flack (2024). Learning shapes the development of migratory behavior. *Proceedings of the National Academy of Sciences* 121 (12), e230638912. <https://doi.org/10.1073/pnas.2306389121> **Media:** Canadian National Radio, [New Scientist](#) and [37 national and international other outlets](#).
22. Mumme S, AD. Middleton, P Ciucci, J De Groeve, A Corradini, **EO Aikens**, et al. (2023) Wherever I may roam – Human activity alters movements of red deer (*Cervus elaphus*) and elk (*Cervus canadensis*) across two continents. *Global Change Biology* 29: 5788–5801. <https://doi.org/10.1111/gcb.16769>
21. Ortega AC, **EO Aikens**, JA Merkle, KL Monteith, and MJ Kauffman (2023). Catching the green wave: Migratory mule deer compensate for phenological mismatches. *Nature Communications* 14(1): art 2008. <https://doi.org/10.1038/s41467-023-37750-z>
20. Flack A, **EO Aikens**, A Kölzsch, E Nourani, K Snell, W Fiedler, N Linek, K Thorup, J Partecke, M Wikelski, and HJ Williams (2022). New frontiers in bird migration research. *Current Biology* 32(20): R1187-R1199. <https://doi.org/10.1016/j.cub.2022.08.028>
19. **Aikens EO**, Wyckoff TB, H Sawyer, and MJ Kauffman (2022). Industrial energy development decouples ungulate migration from the green wave. *Nature Ecology and Evolution* 6(11):1733–1741. <https://doi.org/10.1038/s41559-022-01887-9> (Cover article). **Media:** [WIRED](#), [Politico](#), [Wyoming Public Radio](#), [Field and Stream](#), and [other outlets](#)
18. **Aikens EO**, I Bontekoe, L Blumenstiel, A Schlicksupp, and A Flack (2022). Viewing animal migration through a social lens. *Trends in Ecology and Evolution* 37(11): 985-996. <https://doi.org/10.1016/j.tree.2022.06.008> (Cover article)
17. Esmaeili S, BR Jesmer, SE Albeke, **EO Aikens**, et al. (2021). Digestive system and body size shape resource selection by ungulates: a global test of the Forage Maturation Hypothesis. *Ecology Letters* 24(10): 2178– 2191. <https://doi.org/10.1111/ele.13848>
16. Kauffman MJ, F Cagnacci, S Chamaille-Jammes, M Hebblewhite, JGC Hopcraft, JA Merkle, T Mueller, A Mysterud, W Peters, C Roettger, A Steingisser, JE Meacham, K Abera, J Adamczewski, **EO Aikens**, et al. (2021). Mapping out a future for ungulate migrations. *Science* 372 (6542): 566–569. <https://doi.org/10.1126/science.abf0998>
15. Kauffman MJ, **EO Aikens**, S Esmaeili, P Kaczensky, A Middleton, KL Monteith, T Morrison, T Mueller, H Sawyer, and J Goheen (2021). Causes, consequences and conservation of ungulate migration. *Annual Review of Ecology, Evolution and Systematics*, 52: 453–78. <https://doi.org/10.1146/annurev-ecolsys-012021-011516>

14. **Aikens EO**, SPH Dwinnell, TN LaSharr, RP Jakopak, GL Fralick, J Randall, R Kaiser, M Thonhoff, MJ Kauffman and KL Monteith (2021). Migration tactic and maternal resource allocation shape the timing of reproduction in a large herbivore. *Ecology* 102(6): e03334. <http://dx.doi.org/10.1002/ecy.3334>
Media: [Casper Star Tribune](#), [Wyoming NPR](#)
13. Morrison TA, JA Merkle, GC Hopcraft, **EO Aikens**, JL Beck, RB Boone, A Courtemanch, SP Dwinnell, S Fairbanks, B Griffith, AD Middleton, KL Monteith, BA Oates, L Riotte-Lambert, H Sawyer, KT Smith, JA Stabach, KL Taylor, and MJ Kauffman (2021). Drivers of site fidelity in ungulates. *Journal of Animal Ecology* 90: 955–966. <https://doi.org/10.1111/1365-2656.13425> (Cover article)
12. Abrahms B, **EO Aikens**, JB Armstrong, WW Deacy, MJ Kauffman, JA Merkle (2021). Emerging perspectives on resource tracking and animal movement ecology. *Trends in Ecology and Evolution* 36(4): 308–320. <https://doi.org/10.1016/j.tree.2020.10.018> (Cover article)
11. **Aikens EO**, A Mysterud, JA Merkle, F Cagnacci, IM Rivrud, M Hebblewhite, MA Hurley, W Peters, S Bergen, J De Groeve, SPH Dwinnell, B Gehr, M Heurich, AJM Hewison, A Jarnemo, P Kjellander, M Kröschel, A Licoppe, JDC Linnell, EH Merrill, AD Middleton, N Morellet, L Neufeld, AC Ortega, KL Parker, L Pedrotti, KM Proffitt, S Said, H Sawyer, BM Scurlock, J Signer, P Stent, P Šustr, T Szkorupa, KL Monteith and MJ Kauffman (2020). Wave-like patterns of plant phenology determine ungulate movement tactics. *Current Biology* 30(17): 3444–3449.e4. <https://doi.org/10.1016/j.cub.2020.06.032>
Media: featured in [Current Biology Dispatch](#), [Buckrail](#) and [other outlets](#)
10. Ortega AC, SPH Dwinnell, TN LaSharr, RP Jakopak, K Denryter, K Huggler, M Hayes, **EO Aikens**, T Verzuh, A May, MJ Kauffman, KL Monteith (2020). Effectiveness of Partial Sedation to Reduce Stress in Captured Mule Deer. *Journal of Wildlife Management* 84: 1445–1456. <https://doi.org/10.1002/jwmg.21929>
9. **Aikens EO**, KL Monteith, JA Merkle, SPH Dwinnell, GL Fralick, MJ Kauffman (2020). Drought reshuffles plant phenology and reduces the foraging benefit of green wave surfing for a migratory ungulate. *Global Change Biology* 26: 4215–4225. <https://doi.org/10.1111/gcb.15169>
Media: [Scientific American](#), [TWS](#), [Wyoming NPR](#), and [other news outlets](#)
8. LaCava MF, **EO Aikens**, LC Megna, G Randolph, C Hubbard, CA Buerkle (2020). Accuracy of *de novo* assembly of DNA sequences from double-digest libraries varies substantially among software. *Molecular Ecology Resources* 20: 360–370. <https://doi.org/10.1111/1755-0998.13108>
7. Abrahms B, EL Hazen, **EO Aikens**, MS Savoca, JA Goldbogen, SJ Bograd, MG Jacox, LM Irvine, DM Palacios, BR Mate (2019). Memory and resource tracking drive blue whale

migrations. *Proceedings of the National Academy of Sciences* 116 (12): 5582–5587.

<https://doi.org/10.1073/pnas.1819031116>

Media: [the Atlantic](#) and [28 other outlets](#)

6. Jesmer BR, JA Merkle, JR Goheen, **EO Aikens**, JL Beck, AB Courtemanch, MA Hurley, DE McWhirter, HM Miyasaki, KL Monteith, MJ Kauffman (2018). Is ungulate migration culturally transmitted? Evidence of social learning from translocated animals. *Science* 361 (6406): 1023–1025. <https://doi.org/10.1126/science.aat0985>
Media: [the Atlantic](#), [NPR](#), [Nature](#), and [76 other outlets](#) (Cover article)
5. **Aikens EO**, MJ Kauffman, JA Merkle, SPH Dwinell, GL Fralick, KL Monteith (2017). The greenscape shapes surfing of resource waves in a large migratory herbivore. *Ecology Letters* 20(6): 741–750. <https://doi.org/10.1111/ele.12772>
Media: [NSF](#), [University of Wyoming](#), and [other outlets](#)
4. Merkle JA, KL Monteith, **EO Aikens**, MM Hayes, KR Hersey, AD Middleton, BA Oates, H Sawyer, BM Scurlock, MJ Kauffman (2016). Large herbivores surf waves of green-up in spring. *Proceedings of the Royal Society B* 283:20160456. <https://doi.org/10.1098/rspb.2016.0456>
Media: [phys.org](#), [EurekAlert.org](#), [University of Wyoming](#), [USGS](#), and [The Wildlife Society](#)
3. Jenks KE, **EO Aikens**, N Songsasen, J Calabrese, C Fleming, N Bhumpakphan, S Wanghongsa, B Kanchanasaka, M Songer, P Leimgruber (2015). Tools for comparative movement analysis: a case study of sympatric dholes and jackals in a human-dominated landscape. *Raffles Bulletin of Zoology* 63: 546–554.
2. Straub CS, NP Simasek, R Dohm, MR Gapinski, **EO Aikens**, C Nagy (2014). Plant diversity increases herbivore movement and vulnerability to predation. *Basic and Applied Ecology* 15(1): 50–58. <https://doi.org/10.1016/j.baec.2013.12.004>
1. Straub CS, NP Simasek, MR Gapinski, R Dohm, **EO Aikens**, S Muscella (2013). Influence of nonhost plant diversity and natural enemies on the potato leafhopper, *Empoasca fabae*, and pea aphid, *Acyrtosiphon pisum*, in alfalfa. *International Journal of Pest Management* 86(2): 235–244. <https://doi.org/10.1007/s10340-012-0465-7>

Manuscripts in review

Aikens EO, J Speiser, K Choki, M Lovara, A Weesies, J Tillery, S Ryder, E Lafferty, A Cheeseman, W Severud, and H Sawyer (In Revision). Challenging conventional views on the elevational limits of pronghorn habitat. *Ecology*

McKee J, J Fattebert, **EO Aikens**, J Berge, EK Cole, A Cpirtemanch, S Dewey, B Lowrey, TA Nuñez, M Hurley, H Sawyer, HE Copeland, S Bergen, JA Merkle, AD Middleton, and MJ Kauffman (Under review). Estimating ungulate migration corridors from sparse movement data. *Ecosphere*

Graves TA, EE Berman, **EO Aikens**, SR Dewey, TC Fieseler, KS Huggler, AN Johnston, M Kauffman, JA Merkle, KL Monteith, J Randall, I Rangwala, D Wood (In Revision). Altered plant phenology under climate change projected to reduce foraging benefit of migration for mule deer. *Movement Ecology*

Manuscripts in preparation

Bontekoe I, **EO Aikens**, L Blumenstiel, A Schlicksupp, I Jorzik, R Honorato, C Menne and A Flack (In Prep). Trends and gaps in the study of social animal migrations: A systematic review of the literature. For *Ecography*

Aikens EO, M Balabanoff, S Jech, J Seeley, CN Boggs and RM Watson (In Prep). Evaluating approaches to facilitate dialogue and build inclusive spaces during lab meetings. For *Frontiers in Ecology and the Environment*

Fugate J, **EO Aikens**, B Jesmer, C Wallace, MJ Kauffman (In Prep). Origin stories: How does learned migratory behavior arise in populations? For *Biological Reviews*

Hansen CW, J Brand, T Avgar, M Bertram, I Bontekoe, C Aimon, B Koger, JFS. Menezes, E Lourie, A Hegemann, M Serota, N Attias, **EO Aikens** (In Prep). The role of experimental manipulation in movement ecology: from the lab into the wild. For *Proc. B*

GRANTS AND FELLOWSHIPS

Summary – A total of **\$954,885** awarded

2024 - **Jackson Fork Ranch** (\$140,000)

Gift from private donor to support golden eagle research in Wyoming

Role: PI

2024 - **University of Wyoming – Cardiff University Seed Grant** (\$20,000)

Title: AI-driven multiscale remote sensing: from the individual to the ecosystem and back again

Role: co-PI with Benjamin Koger, Paul Rosin, and Oktay Karakus

2024 – 2027 **USGS Climate Action Science Center** (\$397,885)

Title: Do intact migration corridors enable climate resilience? - Evaluating corridor conservation as a drought resilience strategy for mule deer across a gradient in anthropogenic development.

Role: co-PI with Matthew Kauffman

2023 **USGS, Wyoming Landscape Conservation Initiative** (\$67,000)

Title: Big game migration mapping – developing methods for atypical migrants

Role: PI

2019 **L Floyd Clarke Fund in Zoology and Physiology** (\$6,000)

2018 – 2019 **Wyoming NASA Space Grant Graduate Research Fellowship** (\$28,000)

Title: Surfing the green wave in a changing environment: investigating the impact of drought on the foraging benefit of migration

2017 – 2018 **NSF Graduate Research Opportunities Worldwide** (\$15,000)

Title: Comparing the strength and determinants of green-wave surfing across diverse ecosystems and multiple taxa of migratory ungulates

2014 – 2019 **NSF Graduate Research Fellowship** (\$132,000) Grant #: 2137426

2014 **University of Wyoming Berry Fellowship** (\$29,000)

I served as senior personal on the following grants that I helped to develop:

2018 **Wyoming NASA Space Grant Faculty Research Grants** (\$20,000)

Title: Comparing the strength and determinants of green-wave surfing across diverse ecosystems and multiple taxa of migratory ungulates

2014 – 2018 **USGS, Wyoming Landscape Conservation Initiative** (\$100,000)

Title: Phenology tracking in migratory mule deer: connecting remotely sensed metrics of greenness with movement, forage quality, nutrition and demography

Pending Grants – A total of **\$4,594,489** pending

2024 – 2029 **NSF ARCSS** (\$396,871)

Title: Combining data streams across scales to investigate threats to caribou in a rapidly changing Arctic

Role: PI

2024 – 2028 **USGS, SO 3362 Implementation** (\$197,618)

Title: Big game migration mapping – developing methods for atypical migrants

Role: PI; Funds awarded annually with the first year's funding successfully secured, four additional years of support is expected

2024 – 2027 **NSF MRI Track 2** (\$4,000,000)

Title: Acquisition of an Advanced Infrastructure to Accelerate Impact of AI Through Applications and Innovation for Wyoming (AI4WY)

Role: Senior personnel

AWARDS

- 2022 **FY2022 Performance Award**, USGS
- 2020 **Outstanding Dissertation Award**, University of Wyoming
- 2019 **Fellow of the Month**, Learning Actively Mentorship Program, in recognition of research related to fostering an inclusive learning environment during lab meetings
- 2019 **George Mercer Award**, Ecological Society of America, award for an outstanding research paper published by early-career researchers, co-recipient with Brett Jesmer (lead author), Jerod Merkle, Alyson Courtemanch and Kevin Monteith.
- 2018 **Travel Award**, Scientific Conference on the Greater Yellowstone Ecosystem
- 2017 **Best Student Poster**, Gordon Research Conference on Movement Ecology
- 2015 **Wyoming Women in Science and Engineering Travel Grant**, Wyoming EPSCoR
- 2015 **Research Award for Quantitative Analysis in Wildlife Ecology**, WEST
- 2011 **Outstanding Student Research in Biology**, Ursinus College
- 2008 **Phi Beta Kappa National Honor's Society**, Ursinus College
- 2008 – 2011 **Kemper Scholar**, Kemper Foundation
- 2007 – 2011 **Dean's list**, Ursinus College, every semester
- 2007 **Ursinus College Achievement Award**, Ursinus College

INVITED TALKS

Aikens EO, Surfing the green wave: the ecology and conservation of animal movement. San Diego State University. 5 February 2024.

Aikens EO, Industrial energy development decouples ungulate migration from the green wave. Corridors, Connectivity and Crossing Conference, Tucson AZ, USA, 10 May 2023.

Aikens EO, The ecology and conservation of animal movement. University of Wyoming, Laramie, WY, USA, 4 April 2023.

Aikens EO, Surfing the green wave: the ecology and conservation of animal movement. Special lecture series on Animal Migration and Resource Tracking, Royal Netherlands Institute for Sea Research, Texel, Netherlands, 16 November 2022.

Aikens EO, Surfing the green wave: the ecology and conservation of animal movement. Invited seminar presented at, Senckenberg Biodiversity & Climate Research Centre, Frankfurt, Germany, 25 November 2021.

Aikens EO, Surfing the green wave: the ecology and conservation of animal movement. Invited seminar presented remotely at South Dakota State University, 27 August 2021.

Aikens EO, Surfing the green wave: the ecology and conservation of animal movement. Invited seminar presented remotely to the US Forest Service, Rocky Mountain Research Station, 1 April 2021.

Aikens EO, Surfing the green wave: the ecology and conservation of animal movement. Invited seminar presented remotely at Utah State University, Logan, UT, 5 October 2020.

Invited Panelist: Applying for and Receiving the NSF GRFP: Telling Your Story and Refining Your Personal Statement. Hosted by the University of Wyoming Science Communication Initiative, University of Wyoming, Laramie, WY. 11 October 2019

Aikens EO, A Mysterud, JA Merkle, F Cagnacci, IM Rivrud, M Hebblewhite, MA Hurley, W Peters, S Bergen, EuroDeer working group, North American Data Contributors, KL Monteith and MJ Kauffman. Continental-level forcing of large herbivore movements by resource phenology. Annual Conference of The Wildlife Society, as part of the special session on Resource tracking by fish and wildlife: scientific progress and management implications, Reno, NV, 3 October 2019

Aikens EO, A Mysterud, JA Merkle, F Cagnacci, IM Rivrud, M Hebblewhite, MA Hurley, W Peters, S Bergen, EuroDeer working group, North American Data Contributors, KL Monteith and MJ Kauffman. Comparing the strength and determinants of green-wave surfing across diverse ecosystems and multiple taxa of migratory ungulates. Fondazione Edmund Mach Seminar, San Michele All'Adige, Italy, 12 July 2018.

Aikens EO, A Mysterud, JA Merkle, F Cagnacci, IM Rivrud, M Hebblewhite, MA Hurley, W Peters, S Bergen, EuroDeer working group, North American Data Contributors, KL Monteith and MJ Kauffman. Comparing the strength and determinants of green-wave surfing across diverse ecosystems and multiple taxa of migratory ungulates. The 10th EuroDeer meeting, Stelvio National Park, Italy, 26 June 2018.

Aikens EO, A Mysterud, JA Merkle, F Cagnacci, IM Rivrud, M Hebblewhite, MA Hurley, W Peters, S Bergen, EuroDeer working group, North American Data Contributors, KL Monteith and MJ Kauffman. Comparing the strength and determinants of green-wave surfing across diverse ecosystems and multiple taxa of migratory ungulates. University of Oslo, Norway, 23 April 2018.

Aikens EO, MJ Kauffman, JA Merkle, SPH Dwinell, GL Fralick, and KL Monteith. Quantifying green spaces: spatiotemporal patterns of phenology shape green wave surfing in migratory mule deer. Large Herbivore Migrations in the Era of the Anthropocene, Oslo, Norway, 18 April 2016.

PRESENTATIONS

Aikens EO, Industrial energy development decouples ungulate migration from the green wave. Gordon Research Conference on the Movement Ecology of Animals, Lucca, Italy, 29 May 2023.

Aikens EO. The ontogeny of migration in white storks, Center for the Advanced Study of Collective Behavior Virtual Retreat, University of Konstanz, Konstanz, Germany, 24 March 2021.

Aikens EO. Understanding the drivers and development of migration, Max Planck Institute of Animal Behavior Seminar Series, Konstanz, Germany, 2 February 2021.

Aikens EO. Surfing green waves of forage: evaluating the causes and consequences of ungulate migration. PhD Defense, University of Wyoming, Laramie WY, 2 December 2019.

Aikens EO, SPH Dwinell, TN LaSharr, RP Jakopak, GL Fralick, J Randall, R Kaiser, M Thonhoff, MJ Kauffman and KL Monteith. Migration tactic and maternal resource allocation shape the timing of reproduction in a large herbivore. Wyoming Wildlife Society Conference, Sheridan, WY, 20 November 2019.

Aikens EO, A Mysterud, JA Merkle, F Cagnacci, IM Rivrud, M Hebblewhite, MA Hurley, W Peters, S Bergen, EuroDeer working group, North American Data Contributors, KL Monteith and MJ Kauffman. Continental-level forcing of large herbivore movements by resource phenology. Gordon Research Conference, Lucca, Italy, 6-7 March 2019 (poster).

Aikens EO, A Mysterud, JA Merkle, F Cagnacci, IM Rivrud, M Hebblewhite, MA Hurley, W Peters, S Bergen, EuroDeer working group, North American Data Contributors, KL Monteith and MJ Kauffman. Continental-level forcing of large herbivore movements by resource phenology. Wyoming Wildlife Society Conference, Laramie, WY, 7 November 2018.

Aikens EO, KL Monteith, JA Merkle, SPH Dwinell, GL Fralick, and MJ Kauffman. Drought shortens spring, impedes resource tracking and mediates a trade-off between resource quality and stability for migratory mule deer. The 14th Biennial Scientific Conference on the Greater Yellowstone Ecosystem, Big Sky, MT, 13 September 2018.

Aikens EO, KL Monteith, JA Merkle, SPH Dwinell, GL Fralick, and MJ Kauffman. Surfing the green wave in a variable environment: not all migration routes are affected equally by drought. Wyoming Wildlife Society Conference, Jackson, WY, December 2017.

Aikens EO. Evaluating green wave surfing in migratory mule deer: moving from ecology to management. WY Coop Unit Annual Cooperators Meeting, Laramie, WY, 4 April 2017.

Aikens EO, MJ Kauffman, JA Merkle, SPH Dwinell, GL Fralick, and KL Monteith.

Spatiotemporal patterns of phenology shape green wave surfing in migratory mule deer. The Gordon Research Conference on the Movement Ecology of Animals, Ventura, CA, 23 March 2017 (poster).

Aikens EO, MJ Kauffman, JA Merkle, SPH Dwinell, GL Fralick, and KL Monteith. Quantifying greenscapes: spatiotemporal patterns of phenology shape green wave surfing in migratory mule deer. Presented at:

1. Wyoming Chapter of the Wildlife Society Conference, Cody, WY, 16 November 2016.
2. Annual Conference of The Wildlife Society, Raleigh, NC, 19 October 2016.
3. 13th Biennial Conference on the Greater Yellowstone Ecosystem, Grand Teton National Park, WY, 6 October 2016.

Aikens EO. Surfing green waves of forage: evaluating the influence of climate change on mule deer movements and the fitness consequences of migration. Department of Zoology and Physiology Brown Bag Seminar Series, Laramie, WY, 28 March 2017.

Aikens EO, KL Monteith, JA Merkle, G Chong, MM Hayes, SPH Dwinell and Kauffman MJ.

Does drought affect the ability of migratory mule deer to surf the green wave? Presented at:

1. Wyoming Chapter of the Wildlife Society Conference, Lander WY, 3 December 2015.
2. 22nd Annual Conference of The Wildlife Society, Winnipeg, Manitoba, 2015, 18 October 2015.

Aikens EO, KL Monteith, GW Chong, MJ Kauffman. Evaluating the influence of drought on plant phenology and forage quality for migratory mule deer. USGS Regional Directors, Pinedale WY, 20 August 2015.

Aikens EO, KL Monteith, GW Chong, MJ Kauffman. Evaluating the influence of drought on plant phenology and forage quality for migratory mule deer. Wyoming Landscape Conservation Initiative Steering Committee Meeting, Big Piney WY, 7 August 2015.

Aikens EO, Phenology tracking by migratory mule deer. Wyoming Cooperative Fish and Wildlife Research Unit Annual Cooperators Meeting, Cheyenne WY, 20 April 2015.

Aikens EO, KE Jenks, N Songasen, P Leimgruber. People and wild canids: lessons learned from comparative studies of dhole and jackal movements. Congress for Conservation Biology, Baltimore MD, 26-27 July 2013 (ignite talk and poster).

Aikens EO, KE Jenks, N Songasen, P Leimgruber. Movement behaviors of three canid species in Thailand. GIS@SI Conference, Washington DC, 16 January 2013.

TEACHING EXPERIENCE AND TRAINING

Courses and Workshops Taught

Instructor, Data-driven storytelling, Spring 2024

- Developed a graduate-level course, including lesson planning, lecturing, office hours, creation of homework assignments and grading.
- Ten graduate students enrolled from 5 different department.

Co-instructor, GIS in R workshop, South Dakota meeting of The Wildlife Society, Oacoma, SD, 10 March, 2023

- Co-taught a 4-hour workshop developed for both graduate students and wildlife professionals.
- Taught vector and raster analysis using modern packages (sf and terra).

Co-instructor, Introduction to R for Wildlife Ecologists (2 credits), University of Wyoming, Laramie, WY, Fall 2018

- Developed a graduate-level course with Dr. Jerod A. Merkle.
- Shared 50% of teaching duties, including lesson planning, lecturing, office hours, creating homework assignments, and grading.

Pedagogical training

LAMP Fellow, University of Wyoming, Laramie, WY, 2019-2020

- Participated in a year-long training program focused on active learning and pedagogy.

Guest Lectures

Invited Guest Lecture on Migration Ecology, for Large Mammal Ecology and Management (3 credits), South Dakota State University, Brookings, SD, Spring 2023

- Developed and taught a one-hour lesson plan focusing on the ecological drivers of migration, threats to migration and conservation strategies.

Invited Panelist, Principles of Wildlife Management (3 credits), Career Panel, South Dakota State University, Brookings SD, Fall 2022

- Discussed career options and advice for undergraduate students.

Invited Panelist, Graduate School and Beyond (1 credit), Career Panel, South Dakota State University, Brookings SD, Fall 2022

- Discussed career options and advice for graduate students.

Invited Guest Lecture on Data Visualization, for Visualizing Science (3 credits), University of Wyoming, Laramie, WY, Fall 2018

- Developed and taught a two-hour lesson plan on data visualization techniques in R.

Additional relevant teaching experiences

Coordinator, Wildlife Lab Meeting, South Dakota State University, Brookings, SD, Spring 2023

- Organized a joint wildlife lab meeting with members of the Cheeseman and Severud labs.

- Taught and discussed key skills for graduate school, including citation management, literature review, authorship, scientific writing, data management, data visualization, and peer review.

Discussion Facilitator, Lab Meeting Seminar, University of Wyoming, Laramie, WY, Spring 2019

- Organized and facilitated lab meeting discussions.
- Taught techniques in scientific dialogue and constructive feedback.

Teaching Assistant, Smithsonian-Mason School of Conservation, Front Royal, VA

1. AniMove: Animal Movement Analysis for Conservation, March 31–April 11th, 2014
2. Spatial Ecology, Geospatial Analysis and Remote Sensing for Conservation, several courses taught between 2013–2014
3. Statistics for Ecology and Conservation Biology, March 4–15th, 2013

Supplementary Instructor, Cell Biology, Ursinus College, Collegeville, PA, Spring 2009

- Developed two, one-hour lesson plans per week that applied concepts in cellular biology.
- Taught classes of up to 30 undergraduate students at a time.

Biology Lab Teaching Assistant, Ecology and Evolution, Ursinus College, Collegeville, PA, Fall 2008

- Assisted with facilitation of labs and grading of notebooks (two classes of 25 students).
- Taught laboratory and field techniques.

STUDENT MENTORSHIP

Graduate Students

2023 – Present Kevin Blecha, PhD student at University of Wyoming
Project title: The ecology and conservation of atypical ungulate migrations

Graduate Students Committees

2023 - Present Karma Choki, MS student at SDSU
2023 - Present Cody Wallace, PhD student at University of Wyoming
2023 – Present Rebekah Rafferty, PhD student at University of Wyoming
2023 – Present Emily Leonhardt, PhD student at UC Davis
2024 – Present Emily Davis, PhD student at University of Wyoming

NSF GRFP – Provided feedback on 14 GRFP applications (50% success rate)

OUTREACH

Public talks

- Invited Panelist: *Wildlife Migration in the West*, a forum series organized by the Pew Charitable Trusts, 8 December 2020 (400+ registered participants), [link](#)
- Invited Guest Lecture: *First Tuesdays*, lecture series organized by the Methow Conservancy, 1 September 2020

Podcasts and radio

- **The Artemis Podcast**, Chasing Ungulate Tales: Mule deer migration with Ellen Aikens, [link](#)
- **Scientific American's 60 Second Science**, Animal Migrations Track Climate Change, [link](#)
- **Wyoming Public Media**
 1. New study finds global warming induced droughts deprive deer of nutrition, [link](#)
 2. Shed antlers were more scattered opening day of shed hunting season, likely due to a mild winter, [link](#)

SERVICE

Peer Reviewer for: American Naturalist (1), Animal Behavior (2), Behavioral Ecology (1), Ecological Applications (1), Ecology and Evolution (1), Ecology Letters (1), Frontiers in Ecology and Evolution (1), Global Change Biology (3), International Journal of Biometeorology (1), Journal of Animal Ecology (4), Journal of Mammalogy (2), Journal of Zoology (1), Movement Ecology (3), Nature Communications (1), Nature Ecology and Evolution (3), Oecologia (1), Remote Sensing of the Environment (1), Science (1), Trends in Ecology and Evolution (1), Wildlife Biology (1), **n=29**

Grant Reviewer for:

- 2023 School of Computing Graduate Computing Scholars Program
- 2023 School of Computing Faculty Fellows Program
- 2022 America the Beautiful Challenge Act
- 2022 NSF Graduate Research Fellowship Program

Chair, Graduate Curriculum Committee, Natural Resource Management Department, South Dakota State University, 2022 – 2023

- Developed student-centered survey to assess curriculum gaps.
- Used survey results to plan and develop future course offerings in a rapidly growing department.

Co-chair, Gordon Research Seminar on Movement Ecology, 2017 – 2019

- Organized a two-day meeting, for junior investigators (i.e., students and post-docs) working in the field of Movement Ecology, which takes place prior to the Gordon Research Conference (open to both junior and senior investigators).
- Recruited a diverse array of presenters and attendees.
- Planned and executed “science sessions” which integrated research across disciplines in the field of Movement Ecology.
- Reviewed and selected abstract submissions.
- Fundraised and managed finances.

Curriculum Committee for The Program in Ecology, University of Wyoming, 2015 – 2019

- Developed learning objectives for students in the Program in Ecology (PiE).
- Wrote rubrics to assess student performance for each learning objective.
- Provided input to PiE faculty about student needs and issues related to PiE curriculum.
- Brainstormed approaches to remedy issues related to PiE curriculum.
- Conducted surveys to assess curriculum related needs and issues for PiE students.