

Allison K. Shaw*Professor, Ecology, Evolution, & Behavior, University of Minnesota*ashaw@umn.edu

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Web: <https://allisonkshaw.github.io/>**IDENTIFYING INFORMATION****Academic Rank**

Professor in the Department of Ecology, Evolution, and Behavior

Graduate Faculty in Ecology, Evolution, and Behavior

Affiliate Fellow, Minnesota Center for Philosophy of Science

Education

Date	Degree	Institution	
2006	Sc.B.	Brown University	Applied Mathematics – Biology
2009	M.A.	Princeton University	Ecology and Evolutionary Biology
2012	Ph.D.	Princeton University	Ecology and Evolutionary Biology

Certificates

2019	Faculty Success Program (National Center for Faculty Development and Diversity)
2015–2017	University of Minnesota New Faculty Development Professional Program
2014–2015	Basic Equity and Diversity Certificate – Office of Equity and Diversity, University of Minnesota
2015	National Academies Education Fellow in the Life Sciences

Positions/Employment

2026 – present	Professor, University of Minnesota–Twin Cities
2020 – 2026	Associate Professor, University of Minnesota–Twin Cities
2014 – 2020	Assistant Professor, University of Minnesota–Twin Cities

HONORS, AWARDS, FELLOWSHIPS

2026	Stanley Dagley-Samuel Kirkwood Undergraduate Teaching Award (College of Biological Sciences, University of Minnesota)
2025	Provost’s Unit Service Award (University of Minnesota)
2021	Fulbright U.S. Scholar (to Canada)
2018–2022	Early Career Fellow of the Ecological Society of America
2016	Outstanding Postdoctoral Mentor Award from the University of Minnesota Postdoctoral Association
2014	MCED (Modelling Complex Ecological Dynamics) Award for Innovative Contributions to Ecological Modelling
2012–2014	NSF International Research Postdoctoral Fellow (to Australia)
2009–2012	NSF Graduate Research Fellow
2006–2007	Fulbright Research Fellow (to Chile)

RESEARCH AND SCHOLARSHIP

Grants

[2025-2029] National Science Foundation Division of Environmental Biology (NSF DEB). Allison Shaw (PI), Sandra Binning (Senior Personnel). *SG: STAR: Co-infection and animal migration: Novel perspectives from considering multiple parasites.*

[2024-2027] National Science Foundation Division of Environmental Biology (NSF DEB). Allison Shaw (PI). *SG: Migrants as mutualists: impacts on plant spread at stopover sites.*

[2023] University of Minnesota Institute for Diversity, Equity, and Advocacy (IDEA) Faculty Driven. Allison Shaw (PI). *DEIJ Data and Policy Working Group*

[2021-2024] National Science Foundation Division of Environmental Biology (NSF DEB). Allison Shaw (lead PI), William Harcombe (co-PI), Naven Narayanan (graduate student). *SG: The ecological and evolutionary consequences of mutualisms for species range expansion.*

[2021] Fulbright U.S. Scholar Grant Award. Allison K Shaw (PI). *The Interplay Between Movement and Infection.*

[2021-2023] UK Natural Environment Research Council (NERC). Emma Cunningham (PI), Jane Reid (Co-I), Sarah Burthe (Co-I), Ana Payo-Payo (Co-I), Francis Daunt (Co-I), Allison Shaw (Project Partner). *A direct test of the impact of infection on animal migration and subsequent consequences for parasite and host populations.*

[2020–2024] National Science Foundation DEB Bridging Ecology and Evolution. Allison Shaw (PI) *BEE: SG: How host migratory behavior shapes the evolution of parasite virulence.*

[2017–2021] National Science Foundation DEB Evolutionary Ecology. Allison Shaw (lead PI); Meggan Craft (co-PI), Marlene Zuk (co-PI), Sandra Binning (personnel). *SG: Parasitism as a selective pressure on seasonal migration.*

[2016–2019] National Science Foundation IOS Animal Behavior. Allison Shaw (lead PI); Elizabeth Borer (co-PI), Eric Seabloom (co-PI). *Vector movement and disease risk: when do we need to explicitly account for vector behavior and spatial patterns in disease models?*

[2016–2020] Legislative-Citizen Commission on Minnesota Resources (LCCMR). Lauren Sullivan (lead PI); Allison Shaw (co-PI), David Moeller (co-PI). *Measuring prairie fragment connectivity: pollen and seed dispersal/*

[2015–2017] National Institute for Mathematical and Biological Synthesis. Allison Shaw (lead PI); David Crowder (co-PI), Jan Medlock (co-PI). *Working Group: Causes and Consequences of Vector Movement: Implications for the Spread of Plant Pathogens.*

Publications

[* equal contribution, † graduate student author, ‡ undergraduate student author]

Published Peer-Reviewed Journal Articles

69. Schlatter EL[†], **Shaw AK**, Webb C, Buston P (2026) Evolution of interspecific variation in marine larval dispersal kernels: the role of larval navigation ability. *Oikos* 3:e11231.
68. Torstenson M[†], **Shaw AK** (2025) Population response to extreme climate events depends on population spatial distribution. *Ecosphere* 16(8): e70369.

67. **Shaw AK**, Fouda L^{*}, Mezzini S[†], Kim D[†], Chatterjee N^{*}, Wolfson D[†], Abrahms B, Attias N^{*}, Beardsworth CE, Beltran R, Binning SA, Blincow KM^{*}, Chan Y-C^{*}, Fronhofer EA, Hegemann A, Hurme ER^{*}, Iannarilli F^{*}, Kellner JB, McCoy KD, Rafiq K^{*}, Saastamoinen M, Sequeira AMM, Serota MW[†], Sumasgutner P, Tao Y^{*}, Torstenson M[†], Yanco SW^{*}, Beck KB^{*}, Bertram MG, Beumer LT^{*}, Bradarić M^{*}, Clermont J[†], Ellis-Soto D[†], Faltusová M[†], Fieberg J, Hall RJ, Kölzsch A, Lai S^{*}, Lee-Cruz L^{*}, Loretto M-C^{*}, Loveridge A, Michelangeli M^{*}, Mueller T, Riotte-Lambert L, Sapir N, Scacco M^{*}, Teitelbaum CS^{*}, Cagnacci F (2025) "Perceived and observed biases within scientific communities: a case study in movement ecology" *Proceedings of the Royal Society B* 292(2051).
66. Wojan C[†], **Shaw AK**, Craft ME (2025) Parasite spatial distribution shapes parasite aggregation on host populations, but not at high parasite density. *Ecosphere* 16(6):e70324.
65. Shao C[‡], Torstenson M[†], **Shaw AK** (2025) "Effect of resistant compartment on pathogen strategy in partially migratory populations" *PLoS ONE* 20(2): e0316640.
64. Naven Narayanan[†], Lutz P[‡], **Shaw AK** (2025) "Coexistence of coinvasive species with mutualism and competition" *Ecology* 106(2): e70039.
63. Torstenson M[†], **Shaw AK** (2025) "Strength of seasonality and type of migratory cue determine the fitness consequences of changing phenology for migratory animals" *Oikos* 2025(1): e10862.
62. **Shaw AK**, Bisesi AT[†], Wojan C[†], Kim D[†], Torstenson M[†], Naven Narayanan[†], Lutz P[‡], Ales R[‡], Shao C[‡] (2024) Six personas to adopt when framing theoretical research questions in biology. *Proceedings of the Royal Society B* 291:20240803.
61. Baines C, **Shaw AK** (2024) "Parasite prevalence is determined by infection state- and risk-dependent dispersal of the host" *Philosophical Transactions of the Royal Society B*: 379 (1907): 20230130.
60. Torstenson M[†], **Shaw AK** (2024) "Pathogen evolution following spillover from a resident to a migrant host population depends on interactions between host life history speed and cost of infection" *Journal of Animal Ecology* 93(4): 475-487.
59. Naven Narayanan[†], **Shaw AK** (2024) "Mutualisms impact species' range expansion speeds and spatial distributions" *Ecology* 105(1): e4171
58. **Shaw AK**, Levet M[†], Binning SA (2023) A unified evolutionary framework for understanding parasite infection and host migratory behaviour. *Ecology Letters* 26(11): 1987-2002.
57. Sullivan LL, **Shaw AK** (2023) "Take me for a ride: herbivores can facilitate plant re-invasions." *Ecology* 104(10): e4132.
56. **Shaw AK**, Lutscher F, Popovic L (2023) "Pushed to the edge: spatial sorting can slow down invasions." *Ecology Letters* 26(8): 1293-1300.
55. **Shaw AK**, Torstenson M[†], Craft ME, Binning SA (2023) "Gaps in modelling animal migration with evolutionary game theory: infection can favour the loss of migration" *Philosophical Transactions of the Royal Society B* 378: 20210506.
54. Gorton AJ, **Shaw AK** (2023) Using theoretical models to explore dispersal variation and fragmentation in urban environments. *Population Ecology* 65(1):17-24.
53. **Shaw AK** (2022) "How to outrun your parasites (or mutualists): symbiont transmission mode is key." *Oikos* 11: e09374.
52. Lutscher F, Popovic L, **Shaw AK** (2022) "How mutation shapes the rate of population spread in the presence of a mate-finding Allee effect" *Theoretical Ecology*.
51. Weiss-Lehman C, **Shaw AK** (2022) "Understanding the drivers of dispersal evolution in range expansions and their ecological consequences" *Evolutionary Ecology* 36:181-197.
50. **Shaw AK** (2022) Diverse perspectives from diverse scholars are vital for theoretical biology. *Theoretical Ecology* 15: 143–146.
49. Binning SA, Craft ME, Zuk M, **Shaw AK** (2022) "How to study parasites and host migration: A roadmap for empiricists" *Biological Reviews* 97(3):1161-1178.

48. **Shaw AK**, Accolla C, Chacón JM, Mueller TL, Vaugeois M, Yang Y, Sekar N, Stanton DE (2021) Differential retention contributes to racial/ethnic disparity in U.S. academia. *PLoS ONE* 16(12): e0259710.
47. Kim D[†], **Shaw AK** (2021) Migration and tolerance shape host behavior and response to parasites infection. *Journal of Animal Ecology* 90(10): 2315-2324.
46. **Shaw AK**, Naven Narayanan[†], Stanton DE. (2021) "Let's move out together: a framework for the intersections between movement and mutualism" *Ecology* 102(8): e03419.
45. Sullivan LL, Michalska-Smith MJ, Sperry KP[‡], Moeller DA, **Shaw AK** (2021) "Consequences of ignoring dispersal variation in network models for landscape connectivity." *Conservation Biology* 35(3): 944-954.
44. Porath-Krause A, Campbell R, Shoemaker L, Sieben A, Strauss AT, **Shaw AK**, Seabloom EW, Borer ET (2021) "Pliant pathogens: Estimating viral spread when confronted with new vector, host, and environmental conditions." *Ecology and Evolution* 11(4): 1877–1887.
43. Balstad LJ[‡], Binning SA, Craft ME, Zuk M, **Shaw AK** (2021) "Parasite intensity and the evolution of migratory behaviour" *Ecology* 102(2): e03229.
42. **Shaw AK**, White LA, Michalska-Smith M, Borer ET, Craft ME, Seabloom EW, Snell-Rood E, Travisano M (2021) "Lessons from movement ecology for the return to work: modeling contacts and the spread of COVID-19" *PLoS ONE* 16(1): 20190590
41. Strauss AT, Henning JA, Porath-Krause A, Asmus AL, **Shaw AK**, Borer ET, Seabloom EW (2020) "Vector demography, dispersal, and the spatial spread of disease: Experimental epidemics under elevated resource supply." *Functional Ecology* 34: 2560–2570.
40. Peace A, Pattemore D, Broussard M, Fonseka D[†], Tomer N, Bosque-Pérez NA, Crowder D, **Shaw AK**, Jesson L, Howlett B, Jochym M, Li J (in press) Orchard layout and plant traits influence fruit yield more strongly than pollinator behaviour and density in a dioecious crop. *PLoS ONE* 15(10): e0231120.
39. Miller TEX, Angert AL, Brown CD, Lee-Yaw JA, Lewis M, Lutscher F, Marculis NG, Melbourne BA, **Shaw AK**, Szűcs M, Tabares O, Usui T, Weiss-Lehman C, Williams JL (2020) "Eco-evolutionary dynamics of range expansion" *Ecology* 101(10): e03139.
38. Naven Narayanan[†], Binning SA, **Shaw AK** (2020) "Infection state can affect host migratory decisions" *Oikos* 129:1493-1503.
37. **Shaw AK**, Binning SA (2020) "Recovery from infection is more likely to favor the evolution of migration than social escape from infection " *Journal of Animal Ecology* 89(6): 1448-1457.
36. Muthukrishnan R, Sullivan LL, **Shaw AK**, Forester JD (2020) "Plasticity in seed production alters the range of coexistence conditions in a competition-colonization trade-off." *Ecology Letters* 23(5): 791-799.
35. Ashby BA*, **Shaw AK***, Kokko H (2020) "An inordinate fondness for species with intermediate dispersal abilities" *Oikos* 129(3): 311-319.
34. Leach D[‡], **Shaw AK**, Weiss-Lehman C (2020) "Stochasticity in social structure and mating system drive extinction risk" *Ecosphere* 11(2): e03038.
33. Chacón JM, **Shaw AK**, Harcombe WR (2020) "Increasing growth rate slows adaptation when genotypes compete for diffusing resources." *PLOS Computational Biology* 16(1): e1007585.
32. **Shaw AK** (2020) "Causes and consequences of individual variation in animal movement" *Movement Ecology* 8:12.
31. Weiss-Lehman C, **Shaw AK** (2020) "Spatial population structure drives extinction dynamics in climate-induced range shifts" *The American Naturalist* 195(1): 31-42.
30. Leverett LD, **Shaw AK** (2019) "Facilitation and competition interact with seed dormancy to affect population dynamics in annual plants." *Population Ecology* 61(4): 457-468.
29. **Shaw AK**, Craft ME, Zuk M, Binning SA (2019) "Host migration strategy is shaped by forms of parasite transmission and infection cost" *Journal of Animal Ecology* 88(10) 1601–1602.

28. Shoemaker LG, Hayhurst E, Weiss-Lehman C, Strauss AT, Porath-Krause A, Borer E, Seabloom E, **Shaw AK** (2019) "Pathogens manipulate the preference of vectors, slowing disease spread in a multi-host system" *Ecology Letters* 22 (7): 1115-1125.
27. **Shaw AK**, Igoe M[‡], Power AG, Bosque-Pérez NA, Peace A (2019) "Modeling approach influences dynamics of a vector-borne pathogen system" *Bulletin of Mathematical Biology* 81(6): 2011–2028.
26. **Shaw AK**, D'Aloia CC, Buston PA (2019) "The evolution of marine larval dispersal kernels in spatially structured habitats: analytical models, individual-based simulations, and comparisons with empirical estimates." *American Naturalist* 193(3): 424-435.
25. **Shaw AK**, Sherman J[‡], Barker FK, Zuk M (2018) "Metrics matter: the effect of parasite richness, intensity and prevalence on the evolution of host migration." *Proceedings of the Royal Society B* 285: 20182147.
24. Sullivan LL*, Clark AT*, Tilman D, **Shaw AK** (2018) "Mechanistically-derived dispersal kernels explain species-level patterns of recruitment and succession." *Ecology* 99(11): 2415-2420.
23. **Shaw AK**, Kokko H, Neubert MG (2018) "Sex differences and Allee Effects shape the dynamics of sex-structured invasions." *Journal of Animal Ecology* 87:36–46.
22. Binning SA, **Shaw AK**, Roche DG (2017) "Parasites and host performance: incorporating infection into our understanding of animal movement." *Integrative and Comparative Biology* 57(2): 267–280.
21. Gnanadesikan GE[‡], Pearse WD, **Shaw AK** (2017) "Evolution of mammalian migrations for refuge, breeding and food." *Ecology and Evolution* 7(15): 5891–5900.
20. **Shaw AK**, Peace A, Power AG, Bosque-Pérez NA (2017) "Vector population growth and condition-dependent movement drive the spread of plant pathogens." *Ecology* 98(8): 2145–2157. Erratum (2018) *Ecology* 99: 2904.
19. Sullivan LL, Li B, Miller TEX, Neubert MG, **Shaw AK** (2017) "Density dependence in demography and dispersal generates fluctuating invasion speeds." *PNAS* 114(19): 5053–5058.
18. **Shaw AK** (2016) "Drivers of animal migration and implications in changing environments." *Evolutionary Ecology* 30(6): 991–1007.
17. Umbers KDL, Silla AJ, Bailey J, **Shaw AK**, Byrne PG (2016) "Dietary carotenoids change the colour of Southern corroboree frogs." *Biological Journal of the Linnean Society* 119: 436–444.
16. **Shaw AK**, Binning SA (2016) "Migratory recovery from infection as a selective pressure for the evolution of migration" *American Naturalist* 187(4): 491–501.
15. Johns S[‡], **Shaw AK** (2016) "Theoretical insight into three disease-related benefits of migration." *Population Ecology* 58(1): 213–221.
14. Reluga TC, **Shaw AK** (2015) "Resource distribution drives the adoption of migratory, partially migratory, or residential strategies." *Theoretical Ecology* 8(4): 437–447.
13. **Shaw AK**, Kokko H (2015) "Dispersal evolution in the presence of Allee effects can speed up or slow down invasions." *American Naturalist* 185(5): 631–639.
12. Reluga TC, **Shaw AK** (2014) "Optimal migratory behavior in spatially-explicit seasonal environments." *Discrete and Continuous Dynamical Systems – Series B* 19: 3359–3378.
11. **Shaw AK**, Kokko H (2014) "Mate finding, Allee effects, and selection for sex-biased dispersal." *Journal of Animal Ecology* 83(6): 1256–1267.
10. **Shaw AK**, Jalasvuori M, Kokko H (2014) "Population-level consequences of risky dispersal." *Oikos* 123(8): 1003–1013.
9. **Shaw AK**[†], Kelly KA (2013) "Linking El Niño, local rainfall, and migration timing in a tropical migratory species." *Global Change Biology* 19: 3283–3290.
8. **Shaw AK**[†], Levin SA (2013) "The evolution of intermittent breeding." *Journal of Mathematical Biology* 66(4): 685–703.

7. **Shaw AK[†]**, Couzin ID (2013) “Migration or residency? The evolution of movement behavior and information usage in seasonal environments.” *American Naturalist* 181(1): 114–124.
6. **Shaw AK^{†*}**, Stanton DE^{†*} (2012) “Leaks in the pipeline: separating structural inertia from ongoing gender differences in academia.” *Proceedings of the Royal Society B*. 279: 3736–3741.
5. **Shaw AK[‡]**, Galaz JL, Marquet P (2012) “Population dynamics of the vicuña (*Vicugna vicugna*): the influence of density-dependence, rainfall and spatial distribution.” *Journal of Mammalogy* 93(3): 658–666.
4. **Shaw AK[†]**, Levin SA (2011) “To breed or not to breed: a model of partial migration” *Oikos* 120(12): 1871–1879. Erratum (2012) *Oikos* 121: 1713.
3. Miller TEX^{*}, **Shaw AK^{†*}**, Inouye BD, Neubert MG (2011) “Sex-biased dispersal and the speed of two-sex invasions” *American Naturalist* 177(5): 549–561.
2. **Shaw AK[†]**, Tsvetkova M[†], Daneshvar R[†] (2011) “The effect of gossip on social networks.” *Complexity* 16(4): 39–47.
1. **Shaw AK[‡]**, Halpern AL, Beeson K, Tran B, Venter JC, Martiny JBH (2008) “It's all relative: ranking the diversity of aquatic bacterial communities”. *Environmental Microbiology* 10(9): 2200–2210.

Select Presentations

Mar 2024	Biology Department, University of Toronto Scarborough, Canada
Jan 2024	Training Program in Quantitative Ecology, Instituto Serrapilheira, Brazil
May 2023	third Gordon Research Conference on “Movement Ecology of Animals”, Italy
May 2023	St. Olaf Math Bio Symposium Speaker, St. Olaf College, MN (May 2023)
Apr 2022	Centre for Applied Mathematics in Bioscience and Medicine seminar series, Canada
Jan 2022	Department of Ecology, Evolution and Behavior, University of Minnesota, MN
Dec 2021	Organismal Seminar Series, Department of Biology, McGill University, Canada
Nov 2021	Biology Department, University of Ottawa, Canada
Nov 2020	Department of Biological Sciences, Université de Montréal, Montréal, Canada
Dec 2019	Department of Biology, Emory University, GA
Oct 2019	Department of Biology, Boston University, MA
Nov 2018	Department of Ecology & Evolutionary Biology, University of Toronto, Canada
Nov 2018	Biology Department, St. Olaf College, MN
Nov 2018	Entomological Society of America Meeting, Vancouver, BC
Sept 2018	Quantitative Epidemiology Seminar, University of Minnesota-Twin Cities, MN
Mar 2018	Ecology and Evolutionary Biology, University of Colorado Boulder, CO
Feb 2018	Broadening Representation and Equity with Science, University of Minnesota-Twin Cities, St. Paul, MN
Nov 2017	Organismal Biology, Ecology, and Evolution, University of Montana, MT
Oct 2017	Center for the Ecology of Infectious Diseases, University of Georgia, GA
Oct 2017	Odum School of Ecology, University of Georgia, GA
Oct 2017	Evolution, Ecology and Organismal Biology, Iowa State University, IA
Aug 2017	Ecological Society of America Annual Meeting, Portland, OR
Nov 2016	Ecology & Evolutionary Biology and the Center for the Study of Complex Systems, University of Michigan, MI
Sept 2016	Japanese Society of Mathematical Biology, Fukoka, Japan
Aug 2016	Department of Biosciences, University of Helsinki, Finland
Jul 2016	European Conference on Mathematical and Theoretical Biology / Society for Mathematical Biology joint meeting, Nottingham, UK
Mar 2016	Biology Department, University of Minnesota-Duluth, MN
Oct 2015	Biological and Environmental Sciences, University of Tennessee Chattanooga, TN
Aug 2015	Ecological Society of America Annual Meeting, Baltimore, MD
Feb 2015	School of Mathematics, University of Minnesota, MN

Sep 2014	Department of Biological Sciences, Dartmouth College, Hanover, NH
Mar 2014	Institute for Applied Ecology, University of Canberra, Australia
Nov 2013	Gender Institute, the Australian National University, Canberra, Australia
Sep 2013	School of Physical, Environmental and Mathematical Sciences, University of New South Wales – Canberra, Australia
Aug 2013	Ecological Society of America Annual Meeting, Minneapolis, MN
Jan 2013	Department of Ecology, Evolution and Behavior, University of Minnesota, MN
Apr 2012	Mathematical Biosciences Institute, Columbus, OH
Apr 2012	Mathematical Biology Graduate Seminar, Penn State University, PA
Mar 2012	Division of Evolution, Ecology and Genetics, the Australian National University, Canberra, Australia
Aug 2011	Ecological Society of America Annual Meeting, Austin, TX
Mar 2011	Department of Applied Mathematics, University of Washington, WA
Aug 2010	Center for Animal Movement (CAnMove), Lund, Sweden

TEACHING AND MENTORING

University of Minnesota Teaching

2023-present	<i>Ecology [3407]</i> : ~230 student 3-credit undergraduate non-calculus-based lab-based class
2018-2022	<i>Ecology [3408W]</i> : ~160 4-credit undergraduate writing-intensive, calculus-based, lab-based class
2016-2018	<i>Theory Under Construction</i> : graduate seminar
2016	<i>Mathematical Modeling of Biological Systems</i> : developed and taught undergraduate class
2015-2023	<i>Directed Research</i> for individual students: mathematics graduate student (2015), mathematics undergraduate student (2017), statistics undergraduate student (2019), biology undergraduate student (2022), computer science undergraduate student (2023)

Undergraduate Students Advised

Yumna Yassin (Neuroscience and Art, University of Minnesota, 2026)
 Jessica Valiarovski (Biochemistry and Computational Biology, University of Minnesota, 2023–2024) – directed research
 Ruby Ales (University of Minnesota, 2022–2023) – directed reading
 Cynthia Shao (University of Minnesota, 2022–2023) – Research Experience for Undergraduates
 Peter Lutz (University of Minnesota, 2022–2023)
 Elena Holmes (University of Minnesota, 2022)
 Laurie Balstad (St. Olaf College, 2019 & 2020)
 Damon Leach (University of Minnesota, 2018) – UROP project and undergraduate thesis
 Dennis Kim (University of Minnesota-Morris, 2018)
 Julie Sherman (Mathematics, University of Minnesota, 2016–2018)
 Morganne Igoe (Mathematics, University of Minnesota, 2016–2017) – *summa cum laude honors thesis*
 Jinchuan Wei (Computer Science, University of Minnesota, 2015–2016)
 Sophie Johns (Ecology, Evolution & Genetics, Australian National University, 2014)
 Gitanjali Gnanadesikan (Ecology & Evolutionary Biology, Princeton University, 2011)

Graduate Student Advised

Peter Lutz, EEB (2024–present)

Ching-Lin Huang, EEB (2024–present)
Steph Varghese, EEB (2024–2026)
Martha Torstenson, EEB (2020–2025)
Dennis Kim, EEB (2019–2024)
Naven Narayanan, EEB (2018–2024)
Evelyn Strombom, EEB (2015–2017)

Post-doctoral Fellows Supervised

Amanda Gorton (2019–2022)
Christopher Weiss-Lehman (2017–2019)
Lauren Shoemaker (2017–2018)
Lauren Sullivan (2014–2018)

SERVICE AND PUBLIC OUTREACH

Service To The Discipline

Advocacy

(2023 – 2025) Jointly with Fran Cagnacci, I co-organized a discussion on ways to include diversity and inclusion in science at an international conference (the ‘Power Hour’ for the 2023 Movement Ecology of Animals Gordon Research Conference). For this activity, my co-organizer and I (i) developed a survey to quantify perceived bias among conference participants on the degree and sources of bias in the field, (ii) analyzed two metrics of observed bias in the field, and (iii) ran a discussion of our findings (attended by 105 at the conference). I coordinated 7 teams of 47 coauthors in writing a publication to describe our findings (Shaw et al. 2025).

(2020 – 2021) Led a working group within UMN CBS to develop a mathematical model to quantify under-representation by race/ethnicity across all of US academia (Shaw et al 2021 *Plos ONE* Differential retention contributes to racial/ethnic disparity in U.S. academia)

(2020 – 2021) Participated in an EEB working group to use models to help inform UMN policy regarding resuming research after the initial spring COVID shut-down, developing two models to explore this question; the published work informed policy at other universities (Shaw et al. 2021 *PloS ONE* Lessons from movement ecology for the return to work)

(2013 – 2014) Activities to address issues faced by postdocs in ecology: jointly with Daniel Stanton, I developed and conducted a survey, ran a discussion at the 2013 ESA annual meeting (to discuss survey results and brainstorm solutions), and wrote a publication (Shaw et al 2015 *Bulletin of the ESA*)

(2010 – 2012) Developed and published a mathematical model to quantify under-representation by gender and field across all of US academia (Shaw and Stanton 2012 *Proc B*)

Service To The Discipline

Editorship Experience

(2019 – 2026) Editorial Board for *Ecology*
(2019 – 2023) Editorial Board for *Ecological Monographs*

Grant reviews

2011–present Grant Reviewer, ad hoc (10 total): National Geographic, NSF
2014–present Grant Reviewer, panel (3 total): NSF DEB and GRFP

Professional society activities

2023	Judge: best student poster presentation, Movement Ecology of Animals Gordon Research Conference
2018–2020	Secretary, Theoretical Ecology Section, Ecological Society of America
2019, 2020	Judge: best theory paper, Theoretical Ecology Section, ESA
2018	Judge: student talks at The American Naturalist: Stand Alone Conference of the American Society of Naturalists, Asilomar, CA
2013, 2014	Judge: Lotka-Volterra Awards for best Theoretical Ecology Poster and Talk at ESA

Service To The University/College/Department**University of Minnesota, University-wide Service**

2020 – present	University of Minnesota Diversity Community of Practice, member
2025	University of Minnesota Doctoral Dissertation Fellowship proposal review committee
2023 – 2024 & 2019-2020	Facilitated a cross-college faculty writing group
2019	Reviewer for the President’s Postdoctoral Fellowship Program, University of Minnesota
2016	helped establish and serve as Faculty Advisor for a new SEEDS (Strategies for Ecology Education, Diversity and Sustainability) Chapter of the Ecological Society of America, based at the University of Minnesota (went dormant in 2017, revived in 2024)
2015	Co-founded and co-ran the Biological Theory Alliance (BioTA) – an initiative to bring together researchers at UMN who use conceptual and mathematical modeling to understand biology (ended in 2024)

University of Minnesota, Collegiate Service

2022– 2023	CBS Diversity Community of Practice, EEB representative
2022	CBS-EEB President’s Postdoctoral Fellowship Program, committee co-chair
2020	Salary Equity Review Committee, College of Biological Sciences, University of Minnesota

University of Minnesota, Departmental Service

2024–present	EEB Associate Head of Department
2026–present	EEB Executive Committee
2017–2018, 2024–2026	EEB Advisory Committee
2019-2020, 2022-2025	Broadening Representation and Equity With Science (BREWS) Organizing Committee Member
2023 – 2024	Member of the EEB Department Head search committee

2023 – 2025	Ran a working group that developed systematic and quantitative approaches to construct community norms for EEB.
2015, 2017, 2019, 2020 (ad hoc in 2016)	EEB Graduate Preliminary Exam Review Committee
2020	Inclusion, Equity, Diversity Action Task Force, EEB Department, College of Biological Sciences, University of Minnesota
2014-2020	Theory Group: Facilitated a weekly forum to discuss and provide feedback for ongoing modeling and theory research
2015–2016, 2017–2018, & 2019–2020	EEB Seminar Committee [co-chair]
2019	EEB Doctoral Dissertation Fellowship Review Committee
2017	EEB Birney/Anderson/Tilman Fellowship Committee
2014–2015	EEB Graduate Admissions Committee

Public And Other Service

2024 – present	Collaborating with technology teacher Ms. Yang to enrich the technology program at Paul and Sheila Wellstone Elementary School, using simple programmable robots to get kids excited about computer programming through hands-on learning.
2023	My lab developed and ran game to help 4-6th grader kids learn about using math to study migration at Bell Museum of Natural History summer camps.
2021, 2022	Developed and ran a 'Market Science' event on “Nature’s Hidden Patterns” at the Midtown Farmer’s Market. Developed english and spanish language ‘to-go’ handouts detailing the activities (as a COVID adaptation).
2018, 2019	Developed and ran a 'Market Science' event on “Parasites”, in collaboration with Marlene Zuk, Meggan Craft and Sandra Binning.
Aug 2016	helped out with 'Girls Solve It! With Mathematical Biology', a week-long program to introduce local high school girls to current topics and research in the field of mathematical biology.
Apr 2016	coordinated and ran a Saturday with a Scientist on “Migration” at the Bell Museum of Natural History.