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Allison K. Shaw

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IDENTIFYING INFORMATION

Academic Rank

Associate 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 [Advisers: Simon Levin and Iain Couzin]

Certificates

2021	completed Indigenous Canada (Coursera Course, University of Alberta)
2019	completed the 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

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

Additional Training

2022	Addressing Implicit Bias in Search and Selection Processes, OED, UMN
2020-2021	Working Group: Mathematical models for eco-evolutionary processes during range expansion (Fields Institute, Toronto, Canada) *[monthly virtual meetings from Jun 2020 to present]*
Oct 2019	Workshop: Advancing ecological theory (Pennsylvania State University, State College, PA)

Sep 2018	4-day working group: Data and theory synthesis to resolve the effects of evolution on the predictability of range expansion, Canadian Institute of Ecology & Evolution (CIEE, Vancouver, Canada)
Aug 2018	3 day workshop Spatio-Temporal Patterning in Ecology: Insights from Statistical Physics and Nonlinear Dynamics, Santa Fe Institute (Santa Fe, NM)
May 2018	2-hour workshop “Building and Leading a Diverse Team: Lessons from Business" (University of Minnesota)
May 2017	1 day Women's Faculty Retreat: Creating a Work Environment Where All Women Thrive (University of Minnesota)
Jan 2016	½ day Professional Development Workshop: Building Cultural Proficiency in Climate Change Education & Research (University of Minnesota)
Mar 2015, Oct 2015, & Mar 2016	5-day meetings: Vector Movement and Disease Working Group, National Institute for Mathematical and Biological Synthesis (NIMBioS) (Knoxville TN)
Mar 2014	3-day Workshop: Vectored Plant Viruses, National Institute for Mathematical and Biological Synthesis (NIMBioS) (Knoxville TN)
Nov 2013	3-day Workshop: Movement and Dispersal, University of Aberdeen (Aberdeen, Scotland)

Current Membership in Professional Organizations

Ecological Society of America (ESA) – Sections: Theoretical Ecology, International Affairs, Early Career (founding member)

American Society of Naturalists

Society for Mathematical Biology

HONORS, AWARDS, FELLOWSHIPS

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

2021-2024	National Science Foundation Division of Environmental Biology (NSF DEB), Bridging Ecology and Evolution

	Allison Shaw (lead PI), William Harcombe (co-PI), Naven Narayanan (graduate student) Title: *BEE: SG: The ecological and evolutionary consequences of mutualisms for species range expansion*
2021	Fulbright U.S. Scholar Grant Award Allison K Shaw (PI) Title: *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) Title: *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) Title: *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) Title: SG: *Parasitism as a selective pressure on seasonal migration*
2016–2020	National Science Foundation IOS Animal Behavior Allison Shaw (lead PI); Elizabeth Borer (co-PI), Eric Seabloom (co-PI) Title: *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) Title: *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) Title: *Working Group: Causes and Consequences of Vector Movement: Implications for the Spread of Plant Pathogens*

Publications [* authors contributed equally, † graduate student author, ‡ undergraduate student author]

Refereed Journal Articles (Published)

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[†], DE Stanton. (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.

Non-refereed Publications

2. Sperry KP[‡], **Shaw AK,** Sullivan LL (2019) “Apps can help bridge restoration science and restoration practice.” *Restoration Ecology* 27:934-937.

1. **Shaw AK**, Stanton DE, Supp SR, Budden A, Eby S, Reynolds PL, Salguero-Gómez R, Scholes DR, Zimmerman NB (2015) “Ecology postdocs in academia: primary concerns and possible solutions.” *Bulletin of the Ecological Society of America* 96: 140–152.

Published Model code

17. Kim D[‡†], **Shaw AK** (2021) Migration and tolerance shape host behavior and response to parasites infection. Dryad, Dataset, https://datadryad.org/stash/dataset/doi:10.5061/dryad.nzs7h44rg

16. **Shaw AK**, Accolla C, Chacón JM, Mueller TL, Vaugeois M, Yang Y, Sekar N, Stanton DE (2021) Code and data from: Differential retention contributes to racial/ethnic disparity in U.S. academia. Zenodo. https://doi.org/10.5281/zenodo.5348184

15. 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." Dryad, Dataset, https://datadryad.org/stash/dataset/doi:10.5061/dryad.6djh9w10j

14. Sullivan LL, Michalska-Smith MJ, Sperry KP[‡], Moeller DA, **Shaw AK** (2020). Consequences of ignoring dispersal variation in network models for landscape connectivity. Zenodo, https://zenodo.org/record/4441116

13. Balstad LJ, Binning SA, Craft ME, Zuk M, **Shaw AK** (2020), Parasite intensity and the evolution of migratory behavior, Dryad, Dataset, https://doi.org/10.5061/dryad.37pvmcvhg

12. **Shaw AK**, White LA, Michalska-Smith M, Borer ET, Craft ME, Seabloom EW, Snell-Rood E, Travisano M. (2020), Data from: Lessons from movement ecology for the return to work: modeling contacts and the spread of COVID-19, Dryad, Dataset, https://doi.org/10.5061/dryad.pg4f4qrmj

11. **Shaw AK**, Binning SA. 2020. Data from: Recovery from infection is more likely to favor the evolution of migration than social escape from infection. Dryad Digital Repository. doi: 10.5061/dryad.000000014

11. **Shaw AK**, Binning SA. 2020. Data from: Recovery from infection is more likely to favor the evolution of migration than social escape from infection. Dryad Digital Repository. doi: 10.5061/dryad.000000014

10. **Shaw AK**, Craft M, Zuk M, Binning SA. 2019. Data from: Host migration strategy is shaped by forms of parasite transmission and infection cost. Dryad Digital Repository. doi: 10.5061/dryad.nc0f501

9. Shoemaker LG, Hayhurst E, Weiss-Lehman CP, Strauss AT, Porath-Krause A, Borer ET, Seabloom EW, **Shaw AK**. 2019. Data from: Pathogens manipulate the preference of vectors, slowing disease spread in a multi-host system. Dryad Digital Repository. doi: 10.5061/dryad.1nv0351

8. **Shaw AK**, D'Aloia CC, Buston PM. 2018. Data from: The evolution of marine larval dispersal kernels in spatially structured habitats: analytical models, individual-based simulations, and comparisons with empirical estimates. *Dryad Digital Repository*. doi: 10.5061/dryad.s3j9074.

7. **Shaw AK**, Sherman J[‡], Barker FK, Zuk M. 2018 Data from: Metrics matter: the effect of parasite richness, intensity and prevalence on the evolution of host migration. *Dryad Digital Repository*. doi: 10.5061/dryad.47t0b41.

6. Gnanadesikan GE, Pearse WD, **Shaw AK** (2017) Data from: Evolution of mammalian migrations for refuge, breeding, and food. *Dryad Digital Repository*, doi: 10.5061/dryad.78v5j.

5. Sullivan LL, Li B, Miller TEX, Neubert MG, **Shaw AK** (2017) Data from: Density dependence in demography and dispersal generates fluctuating invasion speeds. *Dryad Digital Repository*, doi: 10.5061/dryad.69sq3

4. **Shaw AK**, Kokko H, Neubert M (2017) "Data from: Sex Differences and Allee Effects Shape the Dynamics of Sex-Structured Invasions." *Dryad Digital Repository*, doi: 10.5061/dryad.39n4g

3. **Shaw AK**, Kokko H (2014b) "Data from: Dispersal evolution in the presence of Allee effects can speed up or slow down invasions." *Dryad Digital Repository*, doi: 10.5061/dryad.t59t0.

2. **Shaw AK**, Kokko H (2014a) "Data from: Mate finding, Allee effects, and selection for sex-biased dispersal." *Dryad Digital Repository* doi: 10.5061/dryad.ph40n

1. **Shaw AK**, Jalasvuori M, Kokko H (2014) "Data from: Population-level consequences of risky dispersal" *Dryad Digital Repository* doi: 10.5061/dryad.j7581

Presentations and Posters

Invited Seminars, and Presentations at Professional Meetings

Jan 2022 Welcome Week Seminar, 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
Sept 2019	Department of Ecology, Evolution and Behavior, University of Minnesota, MN
Mar 2019	second Gordon Research Conference on “Movement Ecology of Animals”
Nov 2018	Department of Ecology & Evolutionary Biology, University of Toronto, Canada
Nov 2018	Biology Department, St. Olaf College, MN
Nov 2018	Symposium entitled “What we can learn about vector-borne diseases of plants, animals and humans from talking to each other?” Entomological Society of America Meeting, Vancouver, BC
Sept 2018	Quantitative Epidemiology Seminar Series, University of Minnesota-Twin Cities
Mar 2018	Ecology and Evolutionary Biology, University of Colorado Boulder
Feb 2018	Broadening Representation and Equity with Science, University of Minnesota-Twin Cities, St. Paul, MN
Nov 2017	Special Seminar, University of Montana
Nov 2017	Organismal Biology, Ecology, and Evolution, University of Montana
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
Aug 2017	Organized oral session “Spread dynamics in an era of global change.” *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
Sept 2016	Symposium “Wanders will never cease: the current and future studies of the evolutionary ecology of dispersal" *Japanese Society of Mathematical Biology*, Fukoka, Japan
Aug 2016	Department of Biosciences, University of Helsinki, Finland
Jul 2016	Mini-symposium “Mathematical modeling of biological movement: from nonlinear dynamics to spatial patterns ” European Conference on Mathematical and Theoretical Biology / Society for Mathematical Biology joint meeting, Nottingham, UK
Jun 2016	Symposium “Thirty-five Years after the Double Bind.” *American Society for Microbiology Mictobe Annual Meeting*, Boston, MA
Apr 2016	The Mathematics of Climate Seminar Series, Mathematics Department, University of Minnesota, MN
Mar 2016	Biology Department, University of Minnesota-Duluth
Oct 2015	Biological and Environmental Sciences, University of Tennessee Chattanooga, TN

Oct 2015	Developmental Biology Center Seminar, Dept. of Genetics, Cell Biology and Development, University of Minnesota, MN
Aug 2015	Organized oral session "A century of structured population models in ecology," *Ecological Society of America Annual Meeting*, Baltimore, MD
Feb 2015	Mathematical Biology Seminar, School of Mathematics, University of Minnesota, MN
Dec 2014	Department of Ecology, Evolution and Behavior, University of Minnesota, MN
Sep 2014	Department of Biological Sciences, Dartmouth College, Hanover, NH
May 2014	Division of Evolution, Ecology and Genetics, the Australian National University, Canberra, Australia
Apr 2014	Division of Evolution, Ecology and Genetics, the Australian National University, Canberra, Australia
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	Organized oral session "Sex-Structured Population Dynamics: Theoretical and Empirical Approaches". *Ecological Society of America Annual Meeting*, Minneapolis, MN
Jan 2013	Department of Ecology, Evolution and Behavior, University of Minnesota, MN
Apr 2012	*Workshop: Spatial Models of Micro and Macro System*s, 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	Organized oral session "Spatial spread of invasive species and infectious diseases: theoretical and empirical advances." *Ecological Society of America Annual Meeting*, Austin, TX
Mar 2011	Department of Applied Mathematics, University of Washington, WA
Aug 2010	*Symposium on The Ecology and Evolution of Partial Migration*, Center for Animal Movement (CAnMove), Lund, Sweden

Contributed Presentations and Posters at Professional Meetings

Nov 2021	*Société Québécoise pour l'Étude Biologique du Comportement* Meeting, Sherbrooke, Canada
Jun 2019	*Ecology and Evolution of Infectious Diseases Meeting*, Princeton, NJ
Jan 2018	*Stand Alone Conference of the American Society of Naturalists*, Asilomar, CA
May 2016	*Midwest Mathematical Biology Conference,* La Cross, WI
May 2015	*Ecology and Evolution of Infectious Diseases Meeting,* Athens, GA. Poster.
Aug 2014	*Ecological Society of America*, Sacramento, CA
Nov 2013	*Movement and Dispersal Conference*, University of Aberdeen, Scotland

Aug 2013	*European Society for Evolutionary Biology*, Lisbon, Portugal
Aug 2012	*Ecological Society of America*, Portland, OR
Aug 2011	*Ecological Society of America*, Austin, TX

TEACHING AND CURRICULUM DEVELOPMENT

University of Minnesota

Teaching

Spr 2018, Spr, 2019 Spr 2020, Spr 2022	*Ecology*: undergraduate writing-intensive, lab-based class
Spr 2019	*Directed Research*: advised statistics undergraduate senior thesis
Fall 2016, Fall 2017, Spr 2018, Fall 2018	*Theory Under Construction*: graduate seminar
Spr 2017	*Directed Study*: advised mathematics undergraduate senior thesis
Spr 2016	*Mathematical Modeling of Biological Systems*: developed and taught undergraduate class
Fall 2015	*Ecology: Theory and Concepts: g*uest lecture
Spr 2015	*Independent Study:* advised mathematics second year graduate student

Curriculum Development

2015	Co-developed a new course: MATH 2241 “Mathematical Modeling of Biological Systems” with Duane Nykamp (Mathematics)

Faculty Development Activities regarding teaching

2015	Participated in the National Academies Northstar Summer Institute (NANSI) on Undergraduate Education in Biology

ADVISING AND MENTORING

Undergraduate Students Advised

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

Martha Torstenson, EEB (2020–present)

Dennis Kim, EEB (2019–present)

Naven Narayanan, EEB (2018–present)

Evelyn Strombom, EEB (2015–2017)

Post-doctoral Fellows Supervised

Amanda Gorton (2019–present)

Christopher Weiss-Lehman (2017–2019)

Lauren Shoemaker (2017–2018)

Lauren Sullivan (2014–2018)

Other Mentoring Activities

Mentor: SEEDS (Strategies for Ecology Education, Diversity and Sustainability) program, as part of the Ecological Society of America (2020, 2015)

Mentor, Mentoring Lunch, 2018 International Society for Behavioral Ecology annual meeting

Participant, Mentoring Chain, Theoretical Ecology Section of ESA (2017)

Mentor for Peer-to-Peer Exchange Session on “Navigating Work-life Balance” American Society for Microbiology Mictobe Annual Meeting, Boston, MA (Jun 2016)

Gave invited seminars on the under-representation of women in academia (ASM - June 2016; ANU - May 2014; Gender Institute, ANU - Nov 2013)

Speaker: Postdoc to Professor Workshop, organized by the Postdoctoral Association at the University of Minnesota (2015)

Representative of the Theoretical Ecology Section at ESA's mentoring program during the 2015 annual meeting

SERVICE AND PUBLIC OUTREACH

Service To The Discipline

Editorship Experience

(2019 – present) Editorial Board for *Ecology* and *Ecological Monographs*

Reviewer Experience

2010–present	Manuscript Reviewer: 52 total
2011–present	Grant Reviewer, ad hoc (3 total): National Geographic, NSF
2014–present	Grant Reviewer, panel (2 total): NSF DEB and GRFP

Professional society activities

2018-2020	Secretary, Theoretical Ecology Section, Ecological Society of America

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

Organization of conferences, workshops, panels, symposia

Jul 2016	Co-organizer for mini-symposium: "Mathematical modeling of biological movement: from nonlinear dynamics to spatial patterns " European Conference on Mathematical and Theoretical Biology / Society for Mathematical Biology joint meeting
2015–2017	Co-organizer for NIMBioS working group: "Causes and Consequences of Vector Movement: Implications for the Spread of Plant Pathogens"
2014	Co-organizer for symposium: "Integrating Dispersal into Life Histories: Empirical and Theoretical Approaches in Aquatic and Terrestrial System" ESA annual meeting
2013	Co-organizer for organized oral session: "Sex-Structured Population Dynamics: Theoretical and Empirical Approaches" ESA annual meeting
2013	Co-organizer for workshop: "Getting though the Postdoctoral Phase to an Academic Job" ESA annual meeting – this led to the foundation of the Early Career Section of ESA in 2014

Service To The University/College/Department

University of Minnesota, University-wide Service

2019-2020	Founded a faculty writing group in summer 2019 and currently co-facilitate weekly meetings on the University of Minnesota St. Paul campus, attended by faculty across 4 colleges/units: CBS (EEB, PMB), CFANS (SWC, Entomology), Humphrey School, and CVM (VPM)
2019	Reviewer for the President's Postdoctoral Fellowship Program, University of Minnesota
2016	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
2015	Co-founded and co-run the Biological Theory Alliance (BioTA) – an initiative to bring together researchers at UMN who use conceptual and mathematical modeling to understand biology (https://www.cbs.umn.edu/research/resources/biota)

University of Minnesota, Collegiate Service

2020	Salary Equity Review Committee, College of Biological Sciences, University of Minnesota

University of Minnesota, Departmental Service

Fall 2015, Fall 2017, Fall 2019 & Fall 2020	EEB Graduate Preliminary Exam Review Committee

2020	Inclusion, Equity, Diversity Action Task Force, EEB Department, College of Biological Sciences, University of Minnesota
2019	Panelist for Peer Review Ethics Seminar, EEB
Fall 2014, Spr 2015, Fall 2015, Spr 2016, Fall 2019, & Spr 2020	Theory Group: Facilitated a weekly forum to discuss and provide feedback for ongoing modeling and theory research, primarily attended by EEB and PBM graduate students and postdocs, also attended by MATH and CFANS researchers
2019-2020, 2022-present	Broadening Representation and Equity With Science (BREWS) Organizing Committee Member
2015–2016, 2017–2018, & 2019–2020	EEB Seminar Committee [co-chair]
2019	EEB Doctoral Dissertation Fellowship Review Committee
2017–2018	EEB Advisory Committee
2017	EEB Birney/Anderson/Tilman Fellowship Committee
Fall 2016	Ad Hoc reviewer for EEB Graduate Preliminary Exam
2014–2015	EEB Graduate Admissions Committee

Public And Other Service

Aug 2021	Developed and ran a 'Market Science' event on “Nature’s Hidden Patterns” at the Midtown Farmer’s Market. Coordinated a booth with activities for 4 hours on a Saturday morning with 4 volunteers (Amanda Gorton, Pamela Rueda-Cediel, Marthan Torstenson), and ~40 visitors (11 kids + 28 adults, of which 23 had substantial interactions with the material). Developed english and spanish language ‘to-go’ handouts detailing the activities (as a COVID adaptation).
May 2018	Coordinated and ran a 'Market Science' event on “Parasites” at the Midtown Farmer's Market, in collaboration with Marlene Zuk, Meggan Craft and Sandra Binning. We ran a booth with activities for 5 hours on a Saturday morning and had ~200 visitors (61 kids + 156 adults, of which 85 had substantial interactions with the material).
Sep 2017	Led discussion with the UMN Ecology Club about theoretical ecology and the importance of basic science as part of the “Basic Science in the 21st Century” series. Attended by ~20 undergraduate students.
Aug 2016	helped out with 'Girls Solve It! With Mathematical Biology', a week-long program to introduce local high school girls (~30) 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, in collaboration with EEB graduate students Josie Griffin, Tyler Imfeld, Marta Lyons, Evelyn Strombom. We created 5 tables with hands-on activities for kids and families, and had ~100 visitors.