



NOELLE GABRIELE BECKMAN

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RESEARCH INTERESTS: SCALING FROM SEEDSCAPES TO ECOSYSTEMS

- *Theoretical, spatial, & empirical ecology of plants, particularly tropical trees*
- *Integrating empirical and quantitative approaches to investigate multi-scale processes*
- *Seed dispersal ecology under global change*
- *Plant-animal/plant-microbe interactions, functional trait variation, and life history strategies*

EDUCATION

- 2010 **Ph.D.** Ecology, Evolution, and Behavior, **Minor** Statistics
University of Minnesota–Twin Cities
Co-advisors: Dr. Helene C. Muller-Landau, Dr. Claudia Neuhauser
Committee: Dr. Linda L. Kinkel, Dr. David Tilman, Dr. Sanford Weisberg
Smithsonian Tropical Research Institute advisor: Dr. S. Joseph Wright
- 2002 **B.S.** Biology with Honors, *cum laude*
Washington and Lee University
Academic advisor: Dr. John S. Knox, *Honors advisor:* Dr. Lawrence E. Hurd

ACADEMIC APPOINTMENTS

- 2017–*present* **Assistant Professor**, Biology Department and Ecology Center, College of Science
Affiliations: Climate Adaptation Science, Mathematical Biology Program
Utah State University
- 2017–*present* **Graduate Faculty Scholar**, Biological Sciences, College of Science
University of Central Florida
- 2015–2017 **Postdoctoral Fellow**, National Socio-Environmental Synthesis Center (SESYNC)
University of Maryland
- 2012–2015 **Postdoctoral Fellow**, Mathematical Biosciences Institute (MBI)
The Ohio State University
- 2010–2012 **Postdoctoral Fellow**, Population Biology Program of Excellence
School of Biological Sciences, University of Nebraska–Lincoln
- Su 2010 **Graduate Research Associate**, Dialogue Earth, Institute on the Environment
- 2008–2009 **Doctoral Dissertation Fellow**, University of Minnesota–Twin Cities
- 2005–2008 **Graduate Research Fellow**, National Science Foundation
- Sp 2006 **Teaching Assistant**, Biology Program, University of Minnesota–Twin Cities
- 2004–2005 **Graduate Fellow**, University of Minnesota–Twin Cities

2003–2004 **Lab manager**, Department of Biology, University of Washington, Seattle, WA

AWARDS AND FELLOWSHIPS

N. G. BECKMAN

2020 **Short-Term Visitor**, National Institute for Mathematical and Biological Synthesis
2019 **Visiting Scholar Fellow**, Smithsonian Tropical Research Institute
2019 **DC Faculty Fellow**, College of Science, Utah State University
2015–2017 **Postdoctoral Fellowship**, National Science Foundation National Socio-Environmental Synthesis Center
2016 **Short-Term Visitor**, National Institute for Mathematical and Biological Synthesis
2012–2015 **Postdoctoral Fellowship**, National Science Foundation Mathematical Biosciences Institute
2010–2012 **Postdoctoral Fellowship**, Program of Excellence in Population Biology, University of Nebraska–Lincoln
2010 **Philip C. Hamm Memorial Scholarship**, University of Minnesota–Twin Cities
2008–2009 **Doctoral Dissertation Fellowship**, University of Minnesota–Twin Cities
2005–2008 **Graduate Research Fellowship**, National Science Foundation
2004–2005 **Graduate Fellowship**, University of Minnesota–Twin Cities
2004 **Graduate Research Fellowship Honorable Mention**, National Science Foundation
2002 **Biology Research Award**, Washington and Lee University
2000, 2001 **Christian A. Johnson Scholar**, Washington and Lee University
1999–2000 **All-Conference Academic Award**, Old Dominion Athletic Conference
Fall 1999 **Scholar-Athlete Academic Honor Roll**, Washington and Lee University
1998–1999 **All-Conference Academic Award**, Old Dominion Athletic Conference
1998–2002 **Robert E. Lee Scholarship**, Washington and Lee University
1998–2002 **UNCA Fellows Award**, University of North Carolina–Asheville (declined)
1998–2002 **Academic Scholarship**, University of North Carolina–Chapel Hill (declined)
1998–2002 **Marquis Scholar**, Lafayette College (declined)

MEMBERS OF THE BECKMAN RESEARCH GROUP

Beckman research group members: [^]undergraduate, [~]graduate student, [†]postdoc.

2021 **Graduate Research Fellowship**, National Science Foundation ([~]R. Hopson)
2019–2020 **Climate Adaptation Science Fellowship**, USU ([~]S. Bogen)
2020 **Undergraduate Research Scholar Transcript Designation**, USU ([^]C. Carlson)
2020 **Undergraduate Research Scholar Transcript Designation**, USU ([^]J. Tirrell)
2018 **Lloyd Noble Scholarship**, Noble Research Institute, ([^]K. Ashby)
2018 **Scholar of the Year**, College of Agriculture & Applied Sciences Scholarships, USU ([^]K. Ashby)
2018 **Academic Excellence Scholarship**, National Society of Leadership and Success ([^]K. Ashby)

RESEARCH GRANTS & OTHER FUNDING

Total extramural funding: \$1.18 million awarded to Beckman since 2015.

EXTRAMURAL TO N. G. BECKMAN

Pending

National Science Foundation (DEB): Collaborative Research: Seed-fungal interactions: uncovering functional specificity and primary symbionts as key drivers of tropical tree recruitment. PI: **N. G. Beckman**. \$344,199. 03/1/2023—02/28/2027.

National Science Foundation Supplemental Award: Collaborative Research: Diverse selective pressure on fruit chemical traits from mutualists and antagonists as a major driver of chemical evolution at the whole plant level. PI: **N. G. Beckman**, co-PI: S. J. Wright (STRI). \$20,682. 8/15/2022 – 10/31/2024

International Human Frontier Science Program: Fruits, frugivores and forests; predicting secondary forest recovery from animal movement and diet. PI: D. Dent (Eidgenössische Technische Hochschule Zürich, ETH Zürich, Switzerland), Co-PIs: **N.G. Beckman**, J.M. Morales (INIBIOMA CONICET, Universidad Nacional del Comahue, Argentina), M. Wikelski (Max Planck Institute of Animal Behavior, Germany)

Active

National Science Foundation Supplemental Award (IOS-2114795): Collaborative Research: Diverse selective pressure on fruit chemical traits from mutualists and antagonists as a major driver of chemical evolution at the whole plant level. PI: **N. G. Beckman**, co-PI: S. J. Wright (STRI). \$9,677. 2/16/2021–10/31/2024.

National Science Foundation (IOS-1953934): Collaborative Research: Diverse selective pressure on fruit chemical traits from mutualists and antagonists as a major driver of chemical evolution at the whole plant level. PI: **N. G. Beckman**, co-PI: S. J. Wright (STRI). \$1,077,773. 11/1/2020–10/31/2024.

Smithsonian ForestGEO: Adaptive Significance of Secondary Metabolites in Ripe, Fleshy Fruits. PI: **N. G. Beckman**. \$8,000. 2/2019–11/2022.

Completed

National Institute for Mathematical and Biological Synthesis (NIMBioS): Biodiversity Loss in the Face of Global Change: Models & Data. Funded Short-term Visit. Organizer Y. Zhou (Lafayette U.), Co-organizer: **N. G. Beckman**. \$6,000. 3/2020.

Banff International Research Station for Mathematical Innovation and Discovery: Novel mathematical and statistical approaches to predicting species' movement under climate change. Funded Focused Research Group. PI: **N. G. Beckman**. Funding covered full accommodation for 6 participants. 7/14/2019–7/21/2019.

National Science Foundation (DEB-1548194): Seed Dispersal Workshop. PI: **N. G. Beckman**. \$49,939. 9/1/2015–8/31/2019.

National Socio-Environmental Synthesis Center: Cross Disciplinary Statistical Applications in the Anthropocene. PIs: C. Trisos, **N. G. Beckman**, J. Maher. \$30,000. 9/26/2017–9/29/2017

2013 **Society for Industrial and Applied Mathematics: Early Career Travel Award \$650**

- 2012 **Mathematical Biosciences Institute:** Workshop for Young Researchers in Mathematical Biology Travel Award \$600
- 2009 **Smithsonian Tropical Research Institute:** Supplementary Research Award \$4,117
- 2008 **Ecological Society of America:** Student Section Travel Award \$195
- 2006 **National Science Foundation:** International Travel Award \$1,000

In revision

NSF DEB: *Collaborative Research: Quantifying the resilience of Amazon forests to defaunation-induced biomass collapse using data-driven models.* PI: **N. G. Beckman.** \$276,124. To be submitted September 2022.

NSF Macrosystems Biology: *Collaborative Research: Seed dispersal across a rainfall-fragmentation gradient in the tropics: predicting movement and future biodiversity using UAV- and satellite-borne remote sensing fusion.* PI: **N.G. Beckman.** \$645,821.

INTRAMURAL TO N. G. BECKMAN

Completed

- 2009 **UMN Ecology, Evolution, and Behavior:** Block Grant \$2,763.21
UMN Graduate and Professional Student Assembly: Travel Grant \$165
UMN Ecology, Evolution, and Behavior Graduate Program: Travel Grant \$700
- 2008 **UMN Ecology, Evolution, and Behavior:** Block Grant \$3,718
Bell Museum of Natural History: Wilkie Research Fellowship Award \$1,200
University of Minnesota: Thesis Research Grant \$5,000
- 2006 **Bell Museum of Natural History:** Wilkie Research Fellowship Award \$1,200
- 2005 **UMN Graduate and Professional Student Assembly:** Travel Grant \$250
Bell Museum of Natural History: Wilkie Research Fellowship Award \$900
UMN Ecology, Evolution, and Behavior: Sigerfoos Fellowship \$3,128

FUNDING TO MEMBERS OF THE BECKMAN RESEARCH GROUP

Beckman research group members: ^undergraduate, ~graduate student, †postdoc.

- 2022 **USU Department of Math & Statistics:** Graduate Travel Grant (~S. Bogen, \$250)
USU Department of Biology: Ivan G. Palmblad (~B. Harshbarger, \$1000)
- 2019 **USU Department of Math & Statistics:** Graduate Travel Grant (~S. Bogen, \$556)
USU Department of Biology: MacMahon Research Award (~B. Borah, \$1000)
USU: Undergraduate Research & Creative Opportunities Grant (^C. Carlson, \$2000)
USU Department of Biology: Gene and Ruth Miller Scholarship (^C. Carlson, \$1000)
USU: Elaine Alder Service Scholarship (^C. Carlson, \$1000)
USU: Honors Study Abroad Fund (^C. Carlson, \$500)
- 2018: **USU:** Graduate Research and Creative Opportunities Grant (~E. Sodja, \$986.50)
USU: Research Graduate Studies Travel Award (~E. Sodja, \$300)
USU Department of Biology: Richard J. and Marion A. Shaw Scholarship (^C. Carlson, \$1000)

PUBLICATIONS

Publication Impact: [Impact Story](#), [Google Scholar](#) (>2500 citations, h-index=19 as of July 2022)

Beckman research group members: [^undergraduate](#), [~graduate student](#), [†postdoc](#).

Article accessibility: OA = open access, FA = free access

Metric of journal impact (values provided for publication year): IF = Impact Factor, CS = CiteScore

PREPRINTS (MANUSCRIPTS ALSO SUBMITTED FOR PEER-REVIEW)

[†Schneider, G. F.](#), [^C. A. Carlson](#), [~E. M. Jos](#), and **N. G. Beckman**. Compartmentalization of specialized metabolites across vegetative and reproductive tissues in two sympatric *Psychotria* (Rubiaceae). *bioRxiv*. doi: <https://doi.org/10.1101/2022.07.22.501147> ***Last author denotes senior author**

PEER-REVIEWED BOOK CHAPTERS

In press

38. **Beckman, N. G.**, [†G. F. Schneider](#), [~B. Borah](#), and [~B. Harshbarger](#). *in press*. Seed dispersal by frugivores on Barro Colorado Island, Panama. *in* H. C. Muller-Landau and S. J. Wright, editors. The First 100 Years of Research at Barro Colorado – Plant and Ecosystem Biology. *Smithsonian Institution Scholarly Press*, Washington, D.C. (*Invited*) [OA]

37. [†Schneider, G. F.](#), [~E. M. Jos](#), and **N. G. Beckman***. *in press*. The phytochemistry of tropical zoochorous fruit: mediating plant-frugivore interactions within biodiverse communities. *in* H. C. Muller-Landau and S. J. Wright, editors. The First 100 Years of Research at Barro Colorado – Plant and Ecosystem Biology. *Smithsonian Institution Scholarly Press*, Washington, D.C. (*Invited*) ***Last author denotes senior author** [OA]

2020

36. **Beckman, N. G.** and P. Tiansawat. 2020. [Trait-Based Approach For Selecting Species for Aerial Seeding](#). Chapter 6, pp 84–101 in Elliott S., G. Gale & M. Robertson (Eds), *Automated Forest Restoration: Could Robots Revive Rain Forests? Proceedings of a brain-storming workshop*, Chiang Mai University, Thailand. 254 pp. [OA]

PEER-REVIEWED JOURNAL ARTICLES

2022—Family leave

35. [~Draper, J. P.](#), J. K. Young, E. W. Schupp, **N. G. Beckman**, and T. B. Atwood. 2022. Frugivory and Seed Dispersal by Carnivorans. *Frontiers in Ecology and Evolution*. <https://doi.org/10.3389/fevo.2022.864864> [OA, IF = 4.171, CS = 3.6]

34. [~Borah, B.](#), and **N. G. Beckman***. 2022. Studying seed dispersal through the lens of movement ecology. *Oikos* DOI: <https://doi.org/10.1111/oik.08310> ***Last author denotes senior author** [IF = 3.903, CS = 6.3]

33. Whitehead, S., [†G. F. Schneider](#), R. Dybzinski, [†A. Nelson](#), [~M. Gelambi](#), [~E. M. Jos](#), **N. G. Beckman***. 2022. Fruits, frugivores, and the evolution of phytochemical diversity. 2021. *Oikos*. DOI: <https://doi.org/10.1111/oik.08332>. ***Last author denotes co-lead** [OA, IF = 3.903, CS = 6.3]

2021—Family leave

32. Freeman, J., J. M. Anderies, **N. G. Beckman**, E. Robinson, J. A. Baggio, D. Bird, C. Nicholson, J.B. Finley, J. Capriles, A.F. Gil, D. Byers, E. Gayo, C. Latorre. 2021. Landscape engineering impacts the long-term stability of agricultural populations. *Human Ecology* 49(4). DOI: [10.1007/s10745-021-00242-z](https://doi.org/10.1007/s10745-021-00242-z) [IF = 1.993, CS = 2.8]

31. ~Draper, J. P., T. B. Atwood, **N. G. Beckman**, K. M. Kettenring, J. K. Young. 2021. Mesopredator frugivory has no effect on seed viability and emergence under experimental conditions. *Ecosphere* 12(8): e03702. DOI: [10.1002/ecs2.3702](https://doi.org/10.1002/ecs2.3702). [OA, IF = 3.171, CS = 5.0]

2020

30. Stump, S., J. H. Marden, **N. G. Beckman**, S. Mangan, L. Comita. Resistance-genes affect how pathogens maintain plant abundance and diversity. 2020. *The American Naturalist* 196(4): 472–486. DOI: <https://doi.org/10.1086/710486> [IF = 4.010, CS = 6.3]

29. Zambrano, J., N. J. Cordeiro, C. Garzon-Lopez, L. Yeager, C. Fortunel, and **N. G. Beckman***. 2020. Investigating the direct and indirect effects of forest fragmentation on plant functional diversity. *PLOS ONE* 15(7): e0235210. DOI: <https://doi.org/10.1371/journal.pone.0235210>. [OA, IF = 2.87, CS = 5.02] ***Last author denotes co-lead**

28. Schreiber, S. J. and **N. G. Beckman**. 2020. Individual variation in dispersal and fecundity increases rates of spatial spread. *AoB Plants* 12(3): plaa001. DOI: <https://doi.org/10.1093/aobpla/plaa001>. [OA, IF = 2.24, CS = 3.8]

27. Freeman, J., E. Robinson, **N. G. Beckman**, D. Bird, J. A. Baggio, J. M. Anderies. 2020. The global ecology of human population density and interpreting changes in paleo-population density. *Journal of Archaeological Science* 120: 105168. DOI: <https://doi.org/10.1016/j.jas.2020.105168> [IF = 3.03, CS = 5.3]

26. Zambrano, J., **N. G. Beckman**, J. Thompson, M. Uriate, Jess K. Zimmerman and N. G. Swenson. 2020. The scale dependency of trait-based tree neighborhood models. *Journal of Vegetation Science* 31: 581–593. DOI: <https://doi.org/10.1111/jvs.12880> [IF = 2.94, CS = 5.3]

25. **Beckman, N.G.**, C. Aslan, H. Rogers. 2020. Introduction to Special Issue: The role of seed dispersal in plant populations: perspectives and advances in a changing world. *AoB Plants* 12(2): plaa010. DOI: <https://doi.org/10.1093/aobpla/plaa010>. [OA, IF = 2.24, CS = 3.8]

➤ **Editors' Choice** in *AoB Plants*

24. Marchand, P., L. S. Comita, S. J. Wright, R. Condit, S. P. Hubbell, **N. G. Beckman***. 2020. Seed-to-seedling transitions exhibit distance-dependent mortality but no strong spacing effects for common tree species in a Neotropical forest. *Ecology* 101(2): e02926. DOI: <https://doi.org/10.1002/ecy.2926> [Code, IF = 4.285, CS = 7.4] ***Last author denotes senior author**

23. **Beckman, N. G.**, C. E. Aslan, H. S. Rogers, O. Kogan, J. L. Bronstein, J. M. Bullock, F. Hartig, J. HilleRisLambers, Y. Zhou, D. Zurell, J. F. Brodie, E. M. Bruna, R. S. Cantrell, ~R. Decker, E. O. Effiom, E. C. Fricke, K. Gurski, A. Hastings, J. Johnson, B. A. Loiselle, M. N. Miriti, M. G. Neubert, L. Pejchar, J. R. Poulsen, G. Pufal, O. H. Razafindratsima, ~M. Sandor, K. Shea, S. J. Schreiber, E. W. Schupp, R. S. Snell, C. Strickland, and J. Zambrano. 2020. Advancing an interdisciplinary framework to study seed dispersal ecology. *AoB Plants* 12(2): plz048. DOI: <https://doi.org/10.1093/aobpla/plz048> [OA, IF = 2.24, CS = 3.8]

➤ **Editors' Choice** in *AoB Plants*

2019

22. Schupp, E. W., R. Zwolak, L. R. Jones, R. S. Snell, **N. G. Beckman**, C. Aslan, B. R. Cavazos, E. Effiom, E. C. Fricke, F. Montañó-Centellas, J. Poulsen, O. H. Razafindratsima, M. E. Sandor, K. Shea. 2019. Intrinsic and Extrinsic Drivers of Intraspecific Variation in Seed Dispersal Are Diverse and Pervasive. *AoB Plants* 11(6): plz067. DOI: <https://doi.org/10.1093/aobpla/plz067> [OA, IF = 2.24, CS = 3.8]

➤ **Editors' Choice** in *AoB Plants*

21. Zambrano, J., C. Garzon-Lopez, L. Yeager, C. Fortunel, N. J. Cordeiro, and **N. G. Beckman***. 2019. The effects of habitat loss and fragmentation on plant functional traits and functional diversity: what do we know so far? *Oecologia* 191: 505–518. DOI:

<https://doi.org/10.1007/s00442-019-04505-x> [IF = 2.91, CS = 5.3] ***Last author denotes co-lead**

20. Rogers, H. C., **N. G. Beckman**, F. Hartig, J.S. Johnson, G. Pufal, K. Shea, D. Zurell, J.M. Bullock, S. Cantrell, B. Loiselle, L. Pejchar, O. Razafindratsima, M. Sandor, E.W. Schupp, C. Strickland, J. Zambrano. 2019. The total dispersal kernel: a review and future directions. *AoB Plants* 11(5): plz042. DOI: <https://doi.org/10.1093/aobpla/plz042> [OA, IF = 2.24, CS = 3.8]

➤ **Editors' Choice** in *AoB Plants*

19. Snell, R. S.*, **N. G. Beckman***, E. Fricke, B. A. Loiselle, C. S. Carvalho, L. R. Jones, N. I. Lichti, N. Lustenhouwer, S. Schreiber, C. Strickland, L. L. Sullivan, ~B. R. Cavazos, I. Giladi, A. Hastings, K. Holbrook, E. Jongejans, O. Kogan, F. Montañó-Centellas, J. Rudolph, H. S. Rogers, R. Zwolak, E. Schupp. 2019. The consequences of individual variation in seed dispersal for recruitment, populations and communities. *AoB Plants* 11 (4): plz016. DOI:

<https://doi.org/10.1093/aobpla/plz016> [OA, IF = 2.24, CS = 3.8] ***Authors contributed equally**

➤ **Editors' Choice** in *AoB Plants*

18. Aslan, C. E., **N. G. Beckman**, H. S. Rogers, J. L. Bronstein, D. Zurell, F. Hartig, K. Shea, L. Pejchar, M. G. Neubert, J. R. Poulsen, J. HillRisLambers, M. N. Miriti, B. A. Loiselle, E. O. Effiom, J. Zambrano, E. W. Schupp, G. Pufal, J. Johnson, J. M. Bullock, J. F. Brodie, E. M. Bruna, R. S. Cantrell, R. Decker, E. C. Fricke, K. Gurski, A. Hastings, O. Kogan, O. H. Razafindratsima, M. Sandor, S. J. Schreiber, R. S. Snell, C. Strickland, and Y. Zhou. 2019. Employing plant functional groups to advance seed dispersal ecology and conservation. *AoB Plants* 11 (2): plz006. DOI: <https://doi.org/10.1093/aobpla/plz006> [OA, IF = 2.24, CS = 3.8]

2018

17. Krishnadas, M., **N. G. Beckman**, J. C. Penagos Zuluaga, Y. Zhu, J. Whitacre, J. Wenzel, S. Queenborough, L. S. Comita. 2018. Environment and past land-use together predict functional diversity in a temperate forest. *Ecological Applications* 28: 2142–2152. DOI: [10.1002/eap.1802](https://doi.org/10.1002/eap.1802) [IF = 4.39, CS = 7.6]

16. **Beckman, N. G.**, J. Bullock, R. Salguero-Gómez. 2018. High dispersal ability is related to fast life history strategies. *Journal of Ecology* 106 (4): 1349–1362. DOI: [10.1111/1365-2745.12989](https://doi.org/10.1111/1365-2745.12989) [OA, IF = 5.17, CS = 9.3]

➤ **Top-downloaded paper in *Journal of Ecology* 2018-2019.**

2017 – **Started as an Assistant Professor at Utah State University**

15. Tiansawat, P., **N. G. Beckman**, and J.W. Dalling. 2017. Pre-dispersal seed predators and fungi differ in their effect on *Luehea seemannii* capsule development, seed germination, and dormancy across two Panamanian forests. *Biotropica* 49: 871–880. DOI: [10.1111/btp.12473](https://doi.org/10.1111/btp.12473) [Data, IF = 2.28, CS = 3.7]

2014

14. Comita, L. S., S. A. Queenborough, S. Murphy, J. L. Eck, K. Xu, M. Krishnadas, **N. G. Beckman**, and Y. Zhu. 2014. Testing predictions of the Janzen-Connell hypothesis: A meta-analysis of experimental evidence for distance- and density-dependent seed and seedling survival. *Journal of Ecology* 102 (4): 845–856. DOI: [10.1111/1365-2745.12232](https://doi.org/10.1111/1365-2745.12232) [OA, IF = 5.17, CS = 9.4]

13. Stephenson, N. L., A. J. Das, R. Condit, S. E. Russo, P. Baker, **N. G. Beckman**, et al. 2014. Rate of tree carbon accumulation increases continuously with tree size. *Nature* 507: 90-93. DOI: [10.1038/nature12914](https://doi.org/10.1038/nature12914) [IF = 41.6, CS = 49.9]

➤ **Recommended** by *Faculty of 1000*

12. **Beckman, N. G.**, R. Dybzinski, and D. Tilman. 2014. Neighborhoods have little effect on fungal attack or insect predation of developing seeds in a grassland biodiversity experiment. *Oecologia* 174 (2): 521-532. DOI: [10.1007/s00442-013-2788-3](https://doi.org/10.1007/s00442-013-2788-3) [IF = 3.13, CS = 5.4]

2013

11. **Beckman, N. G.** and H. S. Rogers. 2013. Consequences of seed dispersal for plant recruitment in tropical forests: Interactions within the seedscape. *Biotropica* 45 (6): 666–681. DOI: [10.1111/btp.12071](https://doi.org/10.1111/btp.12071) [IF = 2.28, CS = 4.1]

➤ Invited review for the 50th anniversary of *Biotropica*

10. **Beckman, N. G.** 2013. The distribution of fruit and seed toxicity during development for eleven Neotropical trees and vines. *PLoS ONE* 8 (7): e66764. DOI: <https://doi.org/10.1371/JOURNAL.PONE.0066764> [OA, Data, IF = 2.77, CS = 4.4]

2012

9. **Beckman, N. G.**, C. Neuhauser, and H. C. Muller-Landau. 2012. The interacting effects of clumped seed dispersal and distance- and density-dependent mortality on seedling recruitment patterns. *Journal of Ecology* 100 (4): 862–873. DOI: [10.1111/j.1365-2745.2012.01978.x](https://doi.org/10.1111/j.1365-2745.2012.01978.x) [FA, IF = 5.17, CS = 8.8]

2011

8. **Beckman, N. G.** and H.C. Muller-Landau. 2011. Linking fruit traits to variation in pre-dispersal vertebrate seed predation, insect seed predation, and pathogen attack. *Ecology* 92: 2131–2140. DOI: [10.1890/10-2378.1](https://doi.org/10.1890/10-2378.1) [FA, IF = 4.62, CS = 8.8]

2007

7. **Beckman, N. G.** and H. C. Muller-Landau. 2007. Differential effects of hunting on pre-dispersal seed predation and primary and secondary seed removal of two Neotropical tree species. *Biotropica* 39 (3): 328–339. DOI: [10.1111/j.1744-7429.2007.00273.x](https://doi.org/10.1111/j.1744-7429.2007.00273.x) [FA, IF = 2.28]

➤ **Editors' Choice** in *Science* 316: 955

6. Wright, S. J., K. E. Stoner, **N. Beckman**, R. T. Corlett, R. Dirzo, H. C. Muller-Landau, G. Nuñez-Iturri, C. A. Peres, B. C. Wang. 2007. The plight of large animals in tropical forests and the

consequences for plant regeneration. *Biotropica* 39 (3): 289–291. DOI: [10.1111/j.1744-7429.2007.00293.x](https://doi.org/10.1111/j.1744-7429.2007.00293.x) [FA, IF = 2.28]

5. Mollov, D. S., M. C. Hayslett, K. A. Eichstaedt, **N. G. Beckman**, M. L. Daughtrey, B. E. Lockhart. 2007. Identification and characterization of a Carlavirus causing veinal necrosis of *Coleus*. *Plant Disease* 91 (6): 754–757. DOI: <https://doi.org/10.1094/PDIS-91-6-0754> [OA, IF = 2.94]

4. Marsh, D.M., R.B. Page, T.J. Hanlon, H. Bareke, R. Corritone, N. Jetter, **N. G. Beckman**, K.J. Gardner, D.E. Seifert and P.R. Cabe. 2007. Ecological and genetic evidence that low-order streams inhibit dispersal by red-backed salamanders (*Plethodon cinereus*). *Canadian Journal of Zoology* 85 (3): 319–327. DOI: <https://doi.org/10.1139/Z07-008> [FA, IF = 1.18]

2005

3. Marsh, D.M., G.S. Milam, N.P. Gorham and **N. G. Beckman**. 2005. Forest roads as partial barriers to terrestrial salamander movement. *Conservation Biology* 19 (6):2004–2008. DOI: [10.1111/j.1523-1739.2005.00238.x](https://doi.org/10.1111/j.1523-1739.2005.00238.x) [FA, IF = 5.89]

2004

2. Marsh, D. M. and **N. G. Beckman**. 2004. Effects of forest roads on the abundance and activity of terrestrial salamanders. *Ecological Applications* 14 (6): 1882–1891. DOI: [10.1890/03-5179](https://doi.org/10.1890/03-5179) [FA, IF = 4.39]

2003

1. **Beckman, N. G.** and L. E. Hurd. 2003. Pollen feeding and fitness in a praying mantis: the vegetarian side of a tritrophic carnivore. *Environmental Entomology* 32 (4): 881–885. DOI: <https://doi.org/10.1603/0046-225X-32.4.881> [OA, IF = 1.66]

➤ cover story

OTHER PUBLICATIONS

2018 **Beckman, N. G.** 2018. Seedscapades in Seedscapes: The Arising Researcher. *Bulletin Ecological Society of America*. 99 (3): 311–312. DOI: [10.1002/bes2.1412](https://doi.org/10.1002/bes2.1412) [OA]

2017 Penner, J., P. Gess, and **N. G. Beckman**. 2017. [The Three-Wattled Bellbird: Corridor, Conservation, and Costa Rica \(2016-11\)](#). SESYNC Case Study Collection

2016 Burnside, W. R., H. Randell, **N. G. Beckman**, J. Zambrano, A. Howard. 25 July 2016. [RE: A socio-environmental perspective on international migration](#). *Science eLetter*.

2012 **Beckman, N. G.** 2012. [Modelling effects of seed dispersal patterns and natural enemy attack on seedling spatial patterns](#). *Journal of Ecology Blog*

2010 **Beckman, N. G.** 2010. Effects of vertebrates, insects, and pathogens on patterns of early plant recruitment in tropical forests. PhD Dissertation. University of Minnesota–Twin Cities

2002 **Beckman, N. G.** 2002. Pollen feeding and its effect on a generalist predator, the Chinese Praying Mantid, *Tenodera sinensis*. Honors thesis. Washington and Lee University

DATA PRODUCTS

- 2017 Pimonrat Tiansawat, James Dalling, and **Noelle Beckman**. 2017. Capsule development, seed germination and dormancy of *Luehea seemannii* (Tiliaceae) in two forests in Panama 2008. *Knowledge Network for Biocomplexity*. DOI:10.5063/F16D5QZK [OA]
- 2013 **Beckman, N.G.** 2013. Data from: The distribution of fruit and seed toxicity during development for eleven Neotropical trees and vines in Central Panama. *Dryad Digital Repository*. DOI: <http://dx.doi.org/10.5061/dryad.b2c80> [OA]

SEMINARS

- 2022 **Beckman, N. G.** 2022. Mechanisms underlying seed dispersal and consequences for the seedscape. Smithsonian Tropical Research Institute (*Invited*).
- Beckman, N. G.** 2022. Advancing an Interdisciplinary Framework for Seed Dispersal Ecology. Department of Ecology and Evolution, Stony Brook University (*Invited*).
- Beckman, N. G.** 2022. Advancing an Interdisciplinary Framework for Seed Dispersal Ecology. Department of Ecology and Evolutionary Biology, University of Connecticut (*Invited*).
- 2021 **Beckman, N. G.** 2021. Department of Ecology, Evolution, and Organismal Biology, Ohio State University (*Invited*). POSTPONED DUE TO COVID
- Beckman, N. G.** 2021. Department of Biology, University of Louisville (*Invited*). POSTPONED DUE TO COVID
- 2020 **Beckman, N. G.** February 2020. Seed Dispersal Ecology Under Global Change. Biodiversity Research Seminar Series, University of British Columbia. (*Invited*)
- 2019 **Beckman, N. G.** October 2019. Advancing an Interdisciplinary Framework for Seed Dispersal Ecology. Department of Biology Seminar, Utah State University.
- 2018 **Beckman, N. G.** Nov 2018. Seed Dispersal Ecology Under Global Change. Applied Mathematics Seminar, Utah State University. (*Invited*)
- Beckman, N. G.** Oct 2018. Seed Dispersal Ecology Under Global Change. Women in Ecology and Natural Resources Seminar Series, School of Natural Resources and Environment, University of Arizona (*Invited*)
- Beckman, N. G.** Feb 2018. Extinction Risk of Plant Species under Global Change. WILD Seminar, Utah State University (*Invited*)
- 2017 **Beckman, N. G.** Dec 2017. Extinction Risk of Plant Species under Global Change. Biological Engineering Seminar, Utah State University (*Invited*)
- Beckman, N. G.** Nov 2017. Extinction Risk of Plant Species under Global Change. Department of Ecology and Evolutionary Biology Seminar, University of Connecticut (*Invited*)
- Beckman, N. G.** Feb 2017. Seed Dispersal under Global Change. National Socio-Environmental Synthesis Center (SESYNC)
- 2016 **Beckman, N. G.** Nov 2016. Seed Dispersal Ecology Under Global Change. Biology Department Seminar, University of Central Florida (*Invited*)

- Beckman, N. G.** Oct 2016. Seed Dispersal Ecology Under Global Change. Behavior, Ecology, Evolution, and Systematics Seminar, University of Maryland (*Invited*)
- Beckman, N. G.** March 2016. Understanding the effects of seed dispersal strategies on life history of plants. Casual Seminar, National Institute for Mathematical and Biological Synthesis. (*Invited*)
- 2015 **Beckman, N. G.** December 2015. The consequences of disrupting seed dispersal for plant spatial patterns and survivorship. Applied Mathematics Colloquium, University of Maryland, Baltimore County. (*Invited*)
- Beckman, N. G.** November 2015. Scaling from Seedscapes to Ecosystems. Department of Biology, Washington and Lee University. (*Invited*)
- Beckman, N. G.** October 2015. Scaling from Seedscapes to Ecosystems. Environmental Sciences Seminar, Chiang Mai University. (*Invited*)
- Beckman, N. G.** March 2015. Scaling from Seedscapes to Ecosystems. Department of Biology and Ecology Center, Utah State University. (*Invited*)
- Beckman, N. G.** March 2015. Scaling from Seedscapes to Ecosystems. School of Life Sciences, Arizona State University. (*Invited*)
- Beckman, N. G.** February 2015. Scaling from Seedscapes to Ecosystems. Postdoctoral Seminar, Mathematical Biosciences Institute.
- Beckman, N. G.** February 2015. Dispersal Ecology Under Global Change, SESYNC. (*Invited*)
- Beckman, N. G.** February 2015. The Influence of Vertebrates, Insects, and Pathogens on Plant Survival. Department of Biological Sciences, SUNY College at Old Westbury. (*Invited*)
- Beckman, N. G.** January 2015. Scaling from Seedscapes to Ecosystems. Department of Environmental and Plant Biology, Ohio University. (*Invited*)
- 2014 **Beckman, N. G.** December 2014. Scaling from Seedscapes to Ecosystems: The Influence of Vertebrates, Insects, and Pathogens on Plant Recruitment. Biology Department, Bates College. (*Invited*)
- Beckman, N. G.** November 2014. Movement: The Disruption of Seed Dispersal. STEAM Exchange, STEAM Factory, The Ohio State University.
- Beckman, N. G.** March 2014. Dispersal disruption alters plant spatial patterns and decreases plant survivorship. Postdoctoral Seminar, Mathematical Biosciences Institute.
- Beckman, N. G.** January 2014. Dispersal disruption alters plant spatial patterns and decreases plant survivorship. Mathematical Biology Seminar, The University of Utah. (*Invited*)
- 2013 **Beckman, N. G.** April 2013. The influence of vertebrates, insects, and pathogens on patterns of early plant recruitment in a Neotropical forest. Plant Ecology Seminar, The Ohio State University. (*Invited*)
- Beckman, N. G.** March 2013. The influence of vertebrates, insects, and pathogens on patterns of early plant recruitment in a Neotropical forest. Postdoctoral Seminar, Mathematical Biosciences Institute.
- 2011 **Beckman, N. G.** April 2011. Effects of vertebrates, insects, and pathogens on patterns of early

plant recruitment in tropical forests. Forest Ecology Seminar, National University of Singapore. *(Invited)*

- 2010 **Beckman, N. G.**, C. Neuhauser, and H. C. Muller-Landau. November 2010. The effect of insect seed predators, soil-borne pathogens, and clumped seed dispersal on seedling recruitment patterns in a simulated community. Mathematical Biology Seminar, UNL. *(Invited)*
- Beckman, N. G.** September 2010. Effects of vertebrates, insects, and pathogens on patterns of early plant recruitment in tropical forests. Ecology, Evolution, and Behavior Seminar, School of Biological Sciences, UNL.
- Beckman, N. G.** July 2010. Effects of vertebrates, insects, and pathogens on patterns of early plant recruitment in tropical forests. Defense seminar. Department of Ecology, Evolution, and Behavior, UMN.
- Beckman, N. G.** March 2010. Part I: Linking interspecific variation in vertebrate seed predation, insect seed predation, and pathogen attack to fruit traits in tropical woody plants; Part II: Are tropical fruits toxic? Quantifying variation in fruit toxicity of eleven tropical canopy plants. Center for Tropical Forest Science at STRI.
- 2009 **Beckman, N. G.** and H. C. Muller-Landau. November 2009. Linking interspecific variation in vertebrate seed predation, insect seed predation, and pathogen attack to fruit traits in tropical woody plants. Friday Noon Seminar, Department of Ecology Evolution, and Behavior, UMN.
- 2007 **Beckman, N. G.**, H. C. Muller-Landau, and C. Neuhauser. December 2007. The influence of seed dispersal and natural enemies on seedling recruitment patterns: A theoretical perspective. Friday Noon Seminar, Department of Ecology Evolution, and Behavior, UMN.
- Beckman, N. G.** and H. C. Muller-Landau. March 2007. Differential effects of hunting on pre-dispersal seed predation and primary and secondary seed removal of two Neotropical tree species. Augsburg College. *(Invited)*
- Beckman, N. G.** June 2007. How do mammals, insects, and pathogens affect patterns of early plant recruitment? Pre-thesis seminar, Department of Ecology, Evolution, and Behavior, UMN.
- 2005 **Beckman, N. G.** and H. C. Muller-Landau. August 2005. Implications of hunting for tropical plant community composition: Differential effects on seed removal. Bambi: Barro Colorado Research Symposium, Panama.

CONFERENCE PRESENTATIONS

Beckman research group members: ^undergraduate, ~graduate student, †postdoc.

INVITED CONFERENCE PRESENTATIONS

- 2022 **Beckman, N. G.** September 2022. Mini-symposium: Disease Models: Modeling, Analysis, and Simulation. Mini-symposium Organizers: Xi Huo, Rongsong Liu, Ryosuke Omori. Society for Mathematical Biology in Heidelberg, Germany. (DECLINED)
- Beckman, N.G.** July 2022. Interdisciplinary approaches to studying seed dispersal for restoration. Symposium: Implications and drivers of seed dispersal during tropical restoration

- across different landscapes. Symposium Organizers: Cristina Barber Alvarez-Buylla and Sandra Velazco. Association of Tropical Biology and Conservation in Cartagena, Colombia. (DECLINED)
- 2021 **Beckman, N. G.** July 2021. Population persistence of plants under global change. [iFast Theoretical Ecology Series to Celebrate Dr. Simon Levin's 80th Anniversary](#). Organizers: Alan Hastings (Chair), Fred Adler, Marissa Baskett, Yoh Iwasa, Carla Staver.
- Beckman, N. G.** July 2021. Population persistence of plants under global change. Mini-symposium: The study of diffusive dispersal in population dynamics. Mini-symposium Organizers: Chiu-Yen Kao and Bo Zhang. Society of Mathematical Biology.
- 2020 **Beckman, N. G.** August 2020. [Population persistence of plants under global change](#). Workshop: [Life on Plant Earth: Above and Below](#). [Mathematical Biosciences Institute](#). [Video]
- [~Bogen, S.](#), J. M. Bullock, [~E. Sodja](#), R. Salguero-Gómez, S. M. White, and **N. G. Beckman**. August 2020. Novel approaches to predicting plant species' movement under climate change. Ecological Society of America Meeting. (*oral presentation by SB)
- Beckman, N.G.** Y. Zhou, [~S. Bogen](#), M. G. Neubert, J. M. Bullock, M. A. Lewis. August 2020. [Persistence under climate change and habitat loss: distributions of spreading speeds and critical patch size](#). Ecological Society of America Meeting.
- Beckman, N. G.** March 2020. Advancing an interdisciplinary framework to study seed dispersal ecology. 7th Frugivores and Seed Dispersal Symposium in Corbett Landscape, India.
- 2019 **Beckman, N. G.** September 2019. Novel Approaches to Predicting Plant Species' Movement under Climate Change. 1st Annual Meeting for the Northern States Section of the Society of Industrial and Applied Mathematics in Laramie, Wyoming.
- 2018 **Beckman, Noelle G.**, [~E. Sodja](#), R. Salguero-Gómez, S. White, T. Cornulier, and J. M. Bullock. Extinction Risk of Plant Species in a Warming Climate. June 2018. Boundary Spanning: Advances in in Socio-Environmental Systems Research. An International Symposium at SESYNC in Annapolis, Maryland. *SESYNC Symposium Distinguished Presenter*.
- 2017 **Beckman, Noelle G.**, J. M. Bullock, M. A. Lewis, and M. G. Neubert. August 2017. Variation in dispersal, demography, and functional traits related to population spread. Ecological Society of America Annual Meeting in Portland, Oregon.
- Beckman, Noelle G.**, R. Salguero-Gómez, T. Cornulier, and J. Bullock. Assessing species' risk under climate change. July 2017. Society for Mathematical Biology in Salt Lake City, Utah.
- 2016 **Beckman, N. G.** November 2016. Assessing species' risk under climate change. Mathematical Biosciences Institute.
- 2013 **Beckman, N. G.** and F. R. Adler. November 2013. Dispersal disruption alters plant spatial patterns and decreases plant survivorship. Field of Dreams Conference. The National Alliance for Doctoral Studies in the Mathematical Sciences. Mesa, Arizona.
- Beckman, N. G.** and F. R. Adler. August 2013. Theory: impact of dispersal disruption on plant spatial patterns and implications for plant diversity. Ecological Society of America meeting in Minneapolis, Minnesota.
- Beckman, N. G.** and F. R. Adler. May 2013. The interacting effects of clumped seed deposition and insect seed predators on the spatial patterns of seedlings. The Society for Industrial and

Applied Mathematics Conference on Dynamical Systems and its Application in Snowbird, Utah.

CONTRIBUTED CONFERENCE PRESENTATIONS

- 2022 Bagchi, R.* , V. Swamy, E. Kuprewicz, ~B. Borah and **N. G. Beckman**. July 2022. Impacts of defaunation on seed dispersal and tree recruitment: implications for biomass collapse in tropical forests. (*oral presentation by RB)
- †Schneider, G.* , ^C. Carlson, ~E. Jos and **N. G. Beckman**. July 2022. Compartmentalization of specialized metabolites across vegetative and reproductive tissues in two sympatric *Psychotria* (Rubiaceae) (*oral presentation by GS)
- 2021 ~Borah, B.* and **N. G. Beckman**. August 2021. Frugivore foraging decisions influence seed dispersal patterns. Ecology Society of America (*oral presentation by BB)
- ~Draper, J. P.* , T. B. Atwood, **N. G. Beckman**, K. M. Kettenring, J. K. Young. 2021. Coyotes as effective seed dispersers: an experimental evaluation of gut passage time and seed viability of 3 fruits commonly consumed by coyotes. August 2021. Ecology Society of America (*oral presentation by JPD)
- 2020 ~Sodja, E.* and **N. G. Beckman**. August 2020. Effect of soil-borne pathogens on seedling establishment patterns in forest systems. Ecology Society of America (*poster presentation by ES)
- 2019 **Beckman, N. G.** September 2019. Novel Approaches to Predicting Plant Species' Movement under Climate Change. MacArthur Academy in Logan, UT.
- Stump, S.* , J.H.Marden, **N.G. Beckman**, S.A. Mangan, L.S. Comita. Susceptibility to specialist natural enemies may be both the cause and consequence of rarity. Ecology Society of America in Louisville, KY (*oral presentation by SS)
- 2018 J. Zambrano, J., N. J. Cordeiro, C. Garzon-Lopez, L. Yeager, C. Fortunel, and **N. G. Beckman**. Multi-scale investigation on the effects of landscape fragmentation on plant functional diversity in an African forest. Ecological Society of America Meeting in New Orleans, LA (oral presentation)
- Beckman, N. G.**, ~E. P. Sodja*, R. Salguero-Gómez, S.M. White, T. Cornulier, and J. Bullock. August 2018. Novel approaches to predicting plant species' movement under climate change. Ecological Society of America Meeting in New Orleans, LA (*poster presentation by EPS~)
- P. Marchand*, L. S. Comita, S. J. Wright, R. Condit, S. P. Hubbell, and **N. G. Beckman**. Seed to seedling transition shows distance-based mortality effects but no strong Janzen-Connell patterns for tree species at Barro Colorado Island (Panama). Ecological Society of America Meeting in New Orleans, LA (*oral presentation by PM)
- 2017 **Beckman, N. G.**, R. Salguero-Gómez, T. Cornulier, and J. Bullock*. December 2017. Novel approaches to predicting plant species' movement under climate change. Annual Meeting British Ecological Society in Ghent, Belgium (*oral presentation by JB)
- Garcia-Barrios, L.* , **N. G. Beckman**, and E. Lazos-Chavero. July 2017. Deforestation-reforestation in Mesoamerican Mountains as rural livelihood response to Neoliberalism. Annual Meeting of the Association for Tropical Biology and Conservation in Merida, Yucatan,

Mexico (*oral presentation by LGB)

- 2016 **Beckman, N. G.** and J. Bullock. August 2016. Seed dispersal helps explain variation in life history strategies. SACNAS conference in Long Beach, CA (oral presentation)
- Beckman, N. G.** and J. Bullock. August 2016. Seed dispersal helps explain variation in life history strategies. Ecological Society of America Meeting in Ft. Lauderdale, FL (oral presentation)
- Beckman, N. G.**, C. X. Garzon-Lopez, H. Muller-Landau, P. Jansen, S. J. Wright. June 2016. Spatial patterns of seed predation by a specialized invertebrate. Annual Meeting of the Association for Tropical Biology and Conservation in Montpellier, France (oral presentation)
- 2015 Dybzinski, R. **Beckman, N. G.** and D. Tilman. December 2015. Predictions of coexistence from short-term plant-soil feedback experiments fail to predict long-term observations from a controlled competition experiment. Annual Meeting British Ecological Society in Edinburgh, Scotland. (poster presentation)
- 2014 **Beckman, N. G.** and F. R. Adler. December 2015. Dispersal disruption alters plant spatial patterns and decreases plant survivorship. Annual Meeting British Ecological Society and Société Française d'Ecologie in Lille, France. (oral presentation)
- Beckman, N. G.** and F. R. Adler. August 2014. Dispersal disruption alters plant spatial patterns and decreases plant survivorship: Analytical approximations to individual-based models. Ecological Society of America Meeting in Sacramento, CA. (oral presentation)
- 2012 Tiansawat, P. *, **N. G. Beckman**, and J. W. Dalling. 2012. The effect of pre-dispersal seed predation and fungal infection on seed production and seed survival of *Luehea seemannii* in Panama. Ecological Society of America Meeting in Portland, OR. (*poster presentation by PT)
- 2010 **Beckman, N. G.** August 2010. Chemical defenses in tropical fruits: Quantifying variation in toxicity across fruit development and within fruit of vertebrate- and wind-dispersed canopy plants. Ecological Society of America Meeting in Pittsburgh, PA. (oral presentation)
- 2009 **Beckman, N. G.** and H. C. Muller-Landau. August 2009. Linking interspecific variation in vertebrate seed predation, insect seed predation, and pathogen attack to fruit traits in tropical woody plants. Ecological Society of America Meeting in Albuquerque, New Mexico. (oral presentation)
- Beckman, N. G.** and H. C. Muller-Landau. July 2009. Linking interspecific variation in vertebrate seed predation, insect seed predation, and pathogen attack to fruit traits in tropical woody plants. Association for Tropical Biology and Conservation Annual Meeting in Marburg, Germany. (oral presentation)
- 2008 **Beckman, N. G.** and H. C. Muller-Landau. August 2008. Effects of vertebrate seed dispersers, insect seed predators, and pathogens in seed survival at the pre-dispersal stage of several tropical woody plants. Ecological Society of America Meeting in Milwaukee, WI. (oral presentation)
- 2007 **Beckman, N. G.**, H. C. Muller-Landau, and C. Neuhauser. August 2007. How do different empirically derived patterns of natural enemy attack and seed dispersal affect patterns of seedling recruitment? Ecological Society of America Meeting in San Jose, CA. (oral presentation)

- 2005 **Beckman, N. G.** and H. C. Muller-Landau. July 2005. Implications of hunting for tropical plant community composition: Differential effects on seed removal. Association for Tropical Biology and Conservation Annual Meeting in Überlandia, Brazil. (oral presentation)
- 2004 **Beckman, N. G.**, G. S. Milam, N. P. Gorham and D. M. Marsh. August 2004. Forest roads are partial barriers to dispersal of terrestrial salamanders. Ecological Society of America meeting in Portland, OR. (poster presentation)
- 2003 **Beckman, N. G.** and D. M. Marsh. June 2003. Detectability of *Plethodon cinereus* in disturbed and undisturbed habitats. Joint American Society of Ichthyologists and Herpetologists meeting in Manaus, Amazonia, Brazil. (poster presentation)
- 2002 Marsh, D. ^, **N. Beckman**, and B. Clarke. August 2002. Effects of forest roads on terrestrial salamanders in the Southern Appalachians. Ecological Society of America Meeting. (^poster presentation by DM)
- 2000 **Beckman, N. G.** and L. E. Hurd. December 2000. Fitness benefits of pollen-feeding in the Chinese Praying Mantid. Entomological Society of America Meeting in Montreal, Canada. (poster presentation)

ORGANIZED SYMPOSIA AND ORAL SESSIONS

- 2020 **Beckman, Noelle G.** and Y. Zhou. August 2020. Biodiversity Loss in the Face of Global Change: Models & Data. Ecological Society of America Meeting in Salt Lake City, Utah.
- M.N. Umaña, C. Garzon-Lopez, J. Zambrano, **N.G. Beckman**. July 2020. Plant eco-physiological strategies to cope with stress. Association of Tropical Biology and Conservation in Cartagena, Colombia. CANCELLED DUE TO COVID.
- Beckman, Noelle G.**, H. Rogers, C. Aslan. March 2020. Perspectives and Advances: The Role of Seed Dispersal in Plant Populations. 7th Frugivores and Seed Dispersal Symposium in Corbett Landscape, India.
- 2017 **Beckman, Noelle G.**, A. Warwick, & F. R. Adler. October 2017. The Long Journey Home: Ecology and Evolution in the City. SACNAS National Conference in Salt Lake City, Utah.
- Beckman, Noelle G.**, R. Snell, B. Loiselle, E. Fricke, & G. Schupp. August 2017. OOS: Consequences of individual variation in dispersal for recruitment, populations, and communities. Ecological Society of America Meeting in Portland, Oregon.
- Schugart, R. and **Noelle G. Beckman**. July 2017. Minisymposium: Confronting Biological Models with Data: Dealing with Complexity and Sparsity I. Society for Mathematical Biology in Salt Lake City, Utah.
- Beckman, Noelle G.** and R. Schugart. July 2017. Minisymposium: Confronting Biological Models with Data: Dealing with Complexity and Sparsity II. Society for Mathematical Biology in Salt Lake City, Utah.
- 2016 Zambrano, J., **N. G. Beckman**, C. Garzon, and C. Fortunel. June 2016. Symposium: Is habitat fragmentation driving tropical forests towards functional homogenization? Annual Meeting of the Association of Tropical Biology and Conservation in Montpellier, France

WORKSHOPS AND WORKING GROUPS

- June 2022 **Invited Participant**, [New mathematical theory to understand the effects of evolution on range expansion](#), Fields Institute in Toronto. Organizers: Frithjof Lutscher, Jennifer Williams, Tom Miller, Christina Cobbold (funded)
- August 2020 **Co-organizer**, [Life on Plant Earth: Above and Below. Mathematical Biosciences Institute](#), Mathematical Biosciences Institute(funded)
- May 2020 **Invited Participant**, [Mathematical and Computational Methods in Biology](#), Mathematical Biosciences Institute. Organizers: Chuan Xue, Jaekyoung Kim (funded)
- March 2020 **Co-Organizer**, Biodiversity Loss in the Face of Global Change: Models & Data. National Institute for Mathematical and Biological Synthesis, National Science Foundation. (funded)
- July 2019 **Organizer**, [Novel mathematical and statistical approaches to predicting species' movement under climate change](#), Banff International Research Station, BIRS. (funded)
- June 2019 **Invited Participant**, Cocha Cashu Vision 2050: Charting a 21st century agenda for a Premier Tropical Research Station, Cocha Cashu Biological Station, Manu Natural Park, Peru. Organizer: Ronald Swaisgood (funded)
- Sept 2017 **Organizer**, [Cross-Disciplinary Statistical Applications in the Anthropocene](#), National Socio-Environmental Synthesis Center, SESYNC. (funded)
- Nov 2016 **Invited Participant**, [Population Models in the 21st Century](#), Mathematical Biosciences Institute, National Science Foundation. Organizers: Marisa Eisenberg, Mark Lewis, Lauren Meyers. (funded)
- Sept 2016 **Invited Participant**, [Integrodifference Equations in Ecology: 30 years and counting](#), Banff International Research Station for Mathematical Innovation and Discovery, BIRS. Organizers: Frithjof Lutscher, Christina Cobbold, Mark Kot, Mark Lewis (funded)
- May 2016 **Organizer**, [Seed Dispersal Workshop](#), National Science Foundation (funded)
- April 2016 **Participant**, [Tropical Reforestation Pursuit](#), SESYNC
- Nov 2015 **Participant**, [Automated Forest Restoration Workshop](#), Forest Restoration Research Unit, Chiang Mai University
- 2014 **Participant**, *Workshop for Young Researchers in Mathematical Biology*. Mathematical Biosciences Institute, Ohio State University (poster presentation)
- 2013 **Participant**, *Workshop 3: Sustainable Management of Living Natural Resources*. Mathematical Biosciences Institute, Ohio State University.
- Participant**, *Workshop 2: Rapid Evolution and Sustainability*. Mathematical Biosciences Institute, The Ohio State University.
- Participant**, *Workshop 1: Sustainability and Complex Systems*. Mathematical Biosciences Institute, The Ohio State University.
- Participant**, *The Keyfitz Centennial Symposium on Mathematical Demography*. Mathematical Biosciences Institute, The Ohio State University.
- Participant**, *Workshop for Young Researchers in Mathematical Biology*. Mathematical Biosciences Institute, The Ohio State University. (poster presentation)
- 2012 **Participant**, *Workshop for Young Researchers in Mathematical Biology*. Mathematical Biosciences Institute, The Ohio State University (poster presentation)

ACADEMIC ADVISING AND TRAINING

POSTDOCTORAL RESEARCHERS

F 2019–*pres.* Gerald Schneider

GRADUATE STUDENTS (MAJOR ADVISOR, UTAH STATE UNIVERSITY)

F 2021–*pres.* Brynn Harshbarger (PhD, College of Science, Ecology, USU)

F 2018–*pres.* Sarah Bogen (MS, Statistics, Department of Mathematics & Statistics;
PhD, Mathematics with specializations in Climate Adaptation Science
and Interdisciplinary Studies, Department of Mathematics &
Statistics)

- ❖ **MS Thesis** (Su 2022): A Bayesian GLMM Approach for Modeling Virtual Species With Realistic Functional Trait Relationships

F 2018–*pres.* Binod Borah (PhD candidate, Ecology, Department of Biology)

Su 2018–*pres.* Elsa Jos (PhD, Ecology, Department of Biology)

F 2020–Su 2022 Rosemary Hopson (MS, Ecology, Department of Biology)

- ❖ **MS Thesis:** Rainfall increases alpha diversity and has no effect on beta diversity of animal-dispersed shrubs in Panama

F 2017–F 2019 Eric Sodja (MS, Ecology, Department of Biology)

- ❖ **MS Thesis:** Effects of soil-borne pathogens on seedling establishment patterns in forest systems

- ❖ **Current Position** (F 2019–*pres.*): *PhD student in Biology at University of Utah*

GRADUATE STUDENT COMMITTEES

Utah State University

Sp 2022–*pres.* Jake McClure (MS, Mathematics, Department of Mathematics & Statistics)

Sp 2022–*pres.* Menna Gouda (MS, Mathematics, Department of Mathematics & Statistics)

Fa 2019–*pres.* Michael Stemkovski (PhD, Ecology, Department of Biology)

Fa 2019–*pres.* Tim DeLory (PhD, Ecology, Department of Biology)

Sp 2018–*pres.* Jessica Murray (PhD, Ecology, Department of Biology)

Fa 2019–Su 2022 Ashley Dederich (PhD, Biology, Department of Biology)

Sp 2018–Su 2022 Emily Martin (PhD, Ecology, Department of Watershed Sciences)

Fa 2018–Sp 2021 John Draper (PhD, Ecology, Department of Watershed Sciences)

Sp 2018–Sp 2021 Elaine Brice (PhD, Ecology, Department of Wildland Resources)

Sp 2018–Su 2021 Guen Grosklos (PhD, Mathematics, Department of Mathematics & Statistics)

F 2016–Sp 2020 Gunbharpur Singh Gill (PhD, Biology, Department of Biology)

F 2017–F 2019 Kaitlin Rim (MS, Ecology, Department of Biology)

Sp 2018–Su 2019 Lauren Merchant (MS, Department of Environment & Society)

Elsewhere

F 2017–*pres.* Federico Borghesi (PhD, Department of Biology, University of Central Florida)

Su 2018–Sp 2020 Samantha Hill (PhD, Department of Mathematics, University of Utah)

- ❖ 2018–2019: *Life Sciences Advisor on Hill's NSF Training Grant Fellowship*

UNDERGRADUATE STUDENTS SUPERVISED

Sp 2022–*pres.* Anna Billings, Departments of Biology and Music, Utah State University

- Fa 2022: *University Honors Program, Undergraduate Researcher in Ecology Undergraduate Research (BIOL 5800, 2 cr. total) Undergraduate Lab Technician*
- Su 2022: *NSF Research Experience for Undergraduates*
- Sp 2022: *University Honors Program, Undergraduate Researcher in Ecology*
- Sp 2022–pres Kilia Brawand, Department of Biology, Utah State University
Sp 2022–present: *Undergraduate Research Fellow in Ecology*
- Sp 2022–pres Seth Corbridge, Department of Mathematics and Statistics, Utah State University
Sp 2022–present: *Undergraduate Researcher Mathematical Biology*
- Fa 2020–pres. Jennifer Bryan, Department of Biology, Utah State University
Su 2022–present: *Lab Manager*
Fa 2020–Sp 2022: *Undergraduate Lab Technician*
Fa 2020, 2021: *Undergraduate Teaching Fellow in General Ecology*
- Su 2022 Mikayla Ballard, School of Environmental Sustainability, Loyola University Chicago
Su 2022: *NSF Research Experience for Undergraduates*
- Fa 2021 Spencer Havens, Department of Biology, Utah State University
Fa 2021: *Undergraduate Teaching Fellow in General Ecology*
- Su 2021 Alynne Cutler, Department of Mathematics and Statistics, Utah State University
Su 2021: *Undergraduate Researcher Mathematical Biology*
- Sp 2018–Su 2021 Cole Carlson, Department of Biology, Utah State University
Honors Thesis: *Intra- and interspecific secondary metabolite variation between fruit and leaf tissues in the hyperdiverse Psychotria genus*
Fa 2020–Su 2021: *Lab technician*
2018–2020: *USU Honors Program*
Fa 2019: *Undergraduate Teaching Fellow in General Ecology*
Su 2019: *Honors Research & Research Assistant in Panama*
Sp 2018–Sp 2019: *Undergraduate Research (BIOL 5800, 3 cr. total)*
Su 2018: *Research Assistant in Panama*
Current Position (Fa 2021–present): MD student, School of Medicine, California University of Science and Medicine
- Sp 2021 Lyndey Higham, Department of Biochemistry, Utah State University
Sp 2021: *Undergraduate Research (BIOL 5800, 2 cr.)*
- Fall 2020–Sp 2021 Marcus Hayden, Department of Biochemistry, Utah State University
Fa 2020–Sp 2021: *Undergraduate Research*
- Sp 2020–Sp 2021 McKenna Peel, Departments of Biochemistry & Spanish, Utah State University
Sp 2021: *Undergraduate Research (BIOL 5800, 1 cr.)*
Sp 2020: *Undergraduate Research (BIOL 5800, 1 cr.)*
- Fall 2020 Andy Anderson, Department of Biology, Utah State University
Fa 2020: *Undergraduate Research*
- Rylee Dalton, Department of Biology, Utah State University
Fa 2020: *Undergraduate Teaching Fellow in General Ecology*

Brais Marchena, Department of Biology, Utah State University
Fa 2020: *Undergraduate Research and Science Communication*

Camilla Moses, Department of Biology, Utah State University
Fa 2020: *Undergraduate Research (BIOL 5800, 3 cr.)*

Sp 2018–Sp 2020 Justin Tirrell, Department of Biology, Utah State University
Honors thesis: *Emergent seedling spatial patterns following insect seed predation in a simulated population*
2018–2020: *USU Honors Program*
Su 2018–Sp 2020: *Lab Manager*
Fa 2019: *Undergraduate Teaching Fellow in General Ecology*
Sp 2018: *Undergraduate Research (BIOL 5800, 2 cr.)*
Current Position (2021): *Jr. LIMS Admin, Sera Prognostics*

Su 2018 Daniela Cala, Department of Biology, Universidad del Rosario, Bogotá, Colombia
Volunteer, Smithsonian Tropical Research Institute
Current Position (2021): *PhD student, Indiana University*

Sp 2018 Kaylynn Ashby, Department of Biology, Utah State University
Undergraduate Teaching Fellow for BIOL 2220/WATS 2220: General Ecology
Current Position (2021): *Microbiologist, Nelson Labs*

Su 2014 Nathan Moos, University of Utah
Current Position (2021): *Software Engineer, Cisco Meraki*

F 2013 I mentored undergraduate students in a group project on the mathematics of disease spread in the course Math 1156: *Calculus for Biological Sciences*

Sp 2009 Rebeca Acosta, University of Panama
Volunteer, Smithsonian Tropical Research Institute, Panama
Current Position (2021): *Tesorera, Fundacion Centro de Conservación de Anfibios de El Valle*

F 2008 Julio Batista, University of Panama
Volunteer, Smithsonian Tropical Research Institute, Panama

Sophia Christoforides, University of Minnesota
Intern, Smithsonian Tropical Research Institute, Panama

Su 2008 Reina Heinz, University of California Santa Cruz
Volunteer, Smithsonian Tropical Research Institute, Panama
Current Position (2021): *Technical Consultant, WildAid*

Su 2006 Sonja Riddle-Ford, Science Education Partnership for Greater Minnesota, University of Minnesota
Directed Research: Insect seed predation in Central Panama

VOLUNTEERS & INTERNS

Su 2008 Matt Certo, M.S. student, Western Washington University
Intern, Smithsonian Tropical Research Institute, Panama

Christopher Moore, M.S. Student, California State University–Fullerton

| | |
|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | <i>Intern</i> , Smithsonian Tropical Research Institute, Panama |
| Sp 2008 | Amy Dickson, <i>Volunteer</i> , Smithsonian Tropical Research Institute, Panama Serica Zwack, <i>Volunteer</i> , Smithsonian Tropical Research Institute, Panama |
| F 2007 | Bernardo Lopez, <i>Volunteer</i> , Smithsonian Tropical Research Institute, Panama |
| Su 2005 | Michelle Stein, M.A. Student, University of Minnesota <i>Intern</i> , Smithsonian Tropical Research Institute, Panama |

TEACHING EXPERIENCE

UNIVERSITY-LEVEL

| | |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Fa 2019–2021 | Instructor , BIOL 2220 / WATS 2220: <i>General Ecology</i> (3 cr.) Biology, Utah State University <ul style="list-style-type: none"> Designed and taught ecology course for 80+ undergraduates. The course involved lectures, problem sets, exams, primary literature summaries, reflective notebooks, informal video presentations, and a collaborative poster presentation. The poster presentation was the final, summative assessment of a series of scaffolded assignments I designed in which students collaborate in teams to link ecological concepts to societal issues that relate to their academic or career interests (e.g., management, conservation, public health, etc.). Converted from face-to-face to Blended Web Broadcast (virtual) course in 2020 and 2021 |
| Fa 2018 2019, 2021 | Instructor , BIOL 4270/BIOL 6270/CAS 6270: <i>Theoretical Ecology</i> (3 cr.) Biology, Utah State University <ul style="list-style-type: none"> Designed and taught theoretical ecology course for 5–11 graduate and advanced undergraduate students that introduces students to seminal theoretical concepts in ecology and diverse techniques to develop and analyze models. The course involved lectures, problem sets, student-led presentations, and the development of a research proposal and research project focused on theory through a series of scaffolded assignments. |
| Nov. 2017, 2018 2021 | Guest Lecturer , BIOL 1050: <i>Biology Professions</i> (1 cr.) Instructor: Dennis Welker (2017, 2018) Instructor: Samuel Rivera (2021) Biology, Utah State University <ul style="list-style-type: none"> Discussed my career path and current research to ~20–40 biology undergraduates. Recruited several undergraduates to pursue independent research |
| Oct. 2020, 2021 | Guest Lecturer , BIOL 6750: <i>Intro to Grad Studies</i> (1 cr.) Instructors: Kim Sullivan, Carol Von Dohlen Biology, Utah State University <ul style="list-style-type: none"> Discussed mentoring and mentorship in STEM to ~20 biology graduate students. Shared mentoring resources I've developed. |
| Sp 2019 | Instructor , BIOL 3200: <i>Advanced Ecology</i> (3 cr.) Biology, Utah State University |

- Designed and taught ecology course for 4 undergraduates.
 - The course involved lectures, problem sets, exams, primary literature summaries, weekly reflective notebooks, and the development of a research proposal and presentation through a series of scaffolded assignments.
- Nov. 2018 **Virtual Guest Lecturer**, CBIO 4122_01: *Spatial Ecology* (4 cr.)
Instructor: Carol Garzon-Lopez
Biology, Universidad de los Andes, Bogotá, Colombia
- Discussed spatial techniques to studying seed dispersal ecology to 19 graduate and 7 undergraduate students.
- Nov. 2018 **Guest Lecturer**, BIOL 6750: *Intro to Grad Studies* (1 cr.)
Instructors: Kim Sullivan, Paul Wolf
Biology, Utah State University
- Discussed preparing for the academic job market to ~20 biology graduate students.
- Nov. 2018 **Guest Lecturer**, CAS 6750 *Climate Adaptation Sciences Interdisciplinary Research Colloquium* (1 cr.)
Instructor: Luis Gordillo
Climate Adaptation Sciences, Utah State University
- Discussed quantitative approaches to examining seed dispersal ecology under global change to 11 graduate students.
- July 2018 **Virtual Seminar**, [Summer Undergraduate Research Program](#)
Mathematical Biosciences Institute, The Ohio State University
- The Mathematical Biosciences Institute (MBI) hosted a multi-institution REU program in the mathematical biosciences (NSF-funded Research Experience for Undergraduates)
 - I was invited to give a virtual research/expository talk to discuss my career path and research program
- Sp 2018 **Instructor**, BIOL 2220 / WATS 2220: *General Ecology* (3 cr.)
Biology, Utah State University
- Designed and taught ecology course for 24 undergraduates.
 - The course involved lectures, problem sets, exams, weekly reflective notebooks, and the development of a research proposal and presentation
- Oct. 2017 **Guest Lecturer**, Math 6910: *Math Bio Lab* (1 cr.)
Instructors: Michael Cortez, Luis Gordillo
Mathematics & Statistics, Utah State University
- Discussed quantitative approaches to examining consequences of disrupting seed dispersal for plant spatial patterns and survivorship.
- April 2016 **Guest Lecturer**, [Socio-Environmental Synthesis & Sustainability Research](#)
Instructors: David Hawthorne, Jampel Dell'Angelo, Matthew LaFavor
SESYNC, University of Maryland, College Park;
- I taught a class on dispersal ecology and conservation including an overview of mathematical models to address spatial questions in dispersal ecology in this graduate-level course.

- June 2015 **Resource Faculty**, *Tropical Biology: An Ecological Approach*
 Organization of Tropical Studies
- I led a group research project on the influence of light microenvironments on functional traits related to defense and herbivory of seedlings in Cabo Blanco Absolute Reserve, Costa Rica in this graduate-level course.
- F 2014 **Instructor**, EEOB 5450: *Quantitative Population Ecology* (3 cr.)
 Ecology, Evolution, and Organismal Behavior, Ohio State University
- This course covered modeling approaches in population ecology, including demography, competition, predation, epidemiology, and metapopulation models. Students developed independent projects related to population demography. I co-taught with Drs. Maria Miriti and Elizabeth Marschall and taught the final segment of the course covering interactions among species.
- May 2014 **Resident Director**, *EEOB 4420H: Tropical Ecology in Panama* (3 cr.)
 Ecology, Evolution, and Organismal Behavior, The Ohio State University
- I co-designed a study-abroad undergraduate course, in which students gained first-hand knowledge of tropical biology and conservation. Students explored the diversity of forest types in Panama, interacted with scientists at internationally renowned research stations, and gained experience conducting independent field research. Students communicated their learning experiences to the public through the maintenance of a student blog and brief video summaries of their projects.
- Oct. 2013 **Guest Lecturer**. EEOB 4990/MATH 4990: *Undergraduate Seminar in Mathematical Biology Research*
 Ecology, Evolution, and Organismal Behavior, Mathematics, The Ohio State University
- Discussed theoretical implications of seed dispersal and natural enemies for forest spatial patterns and diversity
- Sp 2012 **Guest Instructor**, BIOS 454/854: *Ecological Interactions*, Instructor: S.E. Russo
 School of Biological Sciences, UNL
- I taught a weeklong section on the influence of herbivory on plant communities, with a focus on population regulation, species coexistence, and evolution of plant defenses in this undergraduate- and graduate-level course.
- F 2011 **Instructor**, BIOS 497/897: *The Ecological Role of Secondary Compounds in Plant Communities* (2 cr.), School of Biological Sciences, UNL
- I designed a 2-credit seminar for advanced undergraduate and graduate students. To provide a historical context, the course reviewed seminal papers on coevolution between plants and herbivores, the controversy regarding the adaptive value of secondary metabolites in plants, hypotheses of their allocation in plants, and support for alternative hypotheses. The course included a discussion of the more recent controversy of the function of secondary compounds in ripe fruit and how this differs from their function in vegetative plant parts.
- F 2010 **Guest Instructor**, BIOS 109: *Introductory Botany*, Instructor: S.E. Russo
 School of Biological Sciences, UNL
- I taught a class on plant population dynamics with an overview of population growth models in this undergraduate course.

- Sp 2007 **Guest Instructor**, Science 111: *Introductory Science*, Instructor: R. Butkowski
Biology Department, Augsburg College
- Science 111 is an undergraduate course for primary and secondary educators
 - I designed the ecology section of this course.
- Su 2006 **Guest Instructor**, *Introduction to Field Biology*
Smithsonian Tropical Research Institute/ University of Panama
- This is a field course for Panamanian undergraduate students to gain experience conducting biological research.
 - I co-taught a two-day session, leading students through the development of a hypothesis-driven question, as well as collecting and analyzing data.
- Sp 2006 **Teaching Assistant**, BIOL 1001: *Introductory Biology I: Evolutionary & Ecological Perspectives*, Biology Program, University of Minnesota
- I taught two laboratory sections of approximately twenty students each in which students were introduced to fundamental principles of ecology and evolution.
 - My responsibilities included grading quizzes, homework, and written assignments as well as strengthening students' problem solving, critical thinking, and writing skills.

K–12

- Su 2011 **Instructor**, *Ecology*
Northeast Upward Bound (NEUB), Lincoln, Nebraska
- I co-organized and co-taught a three-hour lab session introducing ecological concepts to high school students in the NEUB program.
 - NEUB's mission is to retain students of families with low income or no post-secondary education in secondary education and increase enrollment in post-secondary education (<http://www.unl.edu/trioprog/neub>).
- Su 2002 **Instructor**, *Ornithology*
Nature Camp, Vesuvius, VA; Directed by Dr. Paul Cabe
- I designed and taught four two-week field courses in ornithology for middle and high school students. In my courses, I encouraged students to enjoy nature and practice conservation techniques, such as recycling and composting.
- 2000–2002 **Instructor**, *Ornithology & Ecology*
Boxerwood Gardens, Lexington, VA
- Boxerwood Gardens is an arboretum, nature center and non-profit educational organization.
 - During the fall and spring, I led outdoor ornithology and ecology classes of visiting elementary and middle school students.

PEDAGOGICAL DEVELOPMENT TO IMPROVE TEACHING EFFECTIVENESS

- 2020 *Teaching Scholar Certificate*, Empowering Teaching Excellence, USU
- 2020 *TEACH Training on Cultural Competence*, USU
- 2018–2020 *Inclusive Excellence Symposium*; Think, Care, Act; USU
- 2017–2019 *ETE Conference*, Empowering Teaching Excellence, USU
- 2019 *Upstander Training*, SAAVI, USU

- 2018 *Revamp Your Research Assignment: An Interdisciplinary Faculty Workshop*, USU Libraries, USU
- 2018 *Active Learning Workshop*, Teaching & Learning Technologies, USU
- 2018 *Inclusive Communication to Promote Diversity, Excellence, and Equity*, Ecological Society of America in New Orleans, LA
- 2017 *Foundations of USU Teaching Workshop*, Empowering Teaching Excellence, USU
- 2016 *Instructor Training Workshop*, Software Carpentry Foundation
- 2016 *Teaching Socio-Environmental Synthesis with Case Studies*, SESYNC
- 2006–2007 *Preparing Future Faculty Sequence*, University of Minnesota–Twin Cities
- Practicum for Future Faculty* (2007)
- Explored faculty roles in academia
- Teaching in Higher Education* (2006)
- Learned a variety of teaching and learning strategies
 - Designed a course syllabus, several assignments, and active learning activities
- 2007 *Teaching with Writing in the Biological Sciences Seminar*
University of Minnesota–Twin Cities
- Learned how to effectively teach writing in the sciences to diverse students

PROFESSIONAL DEVELOPMENT

- 2019 *Wilderness First Aid Certificate*
- 2015–2017 *Socio-Environmental Immersion Program*, SESYNC, University of Maryland
- 2016–2017 Environmental History, Environmental Policy, Behavioral Economics, Network Science and Ecology
 - 2015–2016 Ecology, Anthropology, Economics, Sociology, Change in Socio-Environmental Systems
- 2017 *Phylogenetic and Functional Trait Analyses for Ecology in R*, Instructor: Dr. Nathan Swenson, SESYNC, University of Maryland
- 2015 *Bayesian Modeling for Socio-Environmental Data*, Instructors: Drs. Tom Hobbs, Mary Collins, Christian Che-Castaldo, SESYNC, University of Maryland
- Computational Summer Institute*, SESYNC, University of Maryland
- Spatially-varying Stochastic Differential Equations with Applications to the Biological Sciences*, Organizers: Drs. Radu Herbei & Peter Craigmile, Mathematical Biosciences Institute, The Ohio State University
- 2014 *Software Carpentry Workshop*
Statistical Learning, Instructor: Dr. Greg Rempala, Mathematical Biosciences Institute, The Ohio State University
- 2012 *Transitioning to Faculty Life: A Conference for Postdocs Underrepresented in STEM* Committee on Institutional Cooperation at The Ohio State University
- 2010–2012 *Workshops provided by ADVANCE-Nebraska and the Postdoctoral Advisory Council*
University of Nebraska, Lincoln
- ‘Making a Successful Transition to an Academic Career’ led by Dr. Kamau Siwatu

- ‘Teamwork and Leadership Skills for Postdocs’ led by Dr. Sharon Milgram
 - ‘Interrupting Bias in the Faculty Search Process’ led by Dr. Joyce Yen
- 2009 *Likelihood Methods in Ecology*, Cary Institute of Ecosystem Studies & Columbia University
- 2005 *Tropical Biology: An Ecological Approach*, Organization of Tropical Studies
- A 6-week field course in Costa Rica with a focus on hypothesis-driven questions
 - I was involved in five faculty-led projects and two independent research projects. Each project consisted of developing a hypothesis, designing an experiment, and presenting results and conclusions through an oral presentation and a written research article.
- 2004 *A Workshop on Seed Ecology: Dormancy and Germination*, Instructors: Drs. Carol and Jerry Baskin (University of Kentucky), University of Minnesota

PROFESSIONAL EXPERIENCE

- Summer 2010 **Graduate Research Associate**, Dialogue Earth, Institute on the Environment
Supervisor: Dr. Kent Cavender-Bares
Project description: Quantifying environment-related assertions made in the social media that will help direct the development of new content aimed to increase communication and understanding of climate change
- Using generalized linear mixed models and information criteria for model selection, I analyzed how local weather influences the frequency of dialogue on climate change in the social media using available data
 - I helped develop criteria for characterizing assertions made in on-line news media
- 2003–2004 **Lab manager**, University of Washington, Seattle, WA
Supervisors: Dr. Josh Tewksbury and Dr. Doug Levey
Project description: Evolution and function of secondary metabolites that mediate many plant-animal interactions, specifically studying capsaicin, a secondary metabolite renown for its pungency, in chilies (*Capsicum chacoense*, *C. annuum*).
- In lab: I set-up and organized Dr. Tewksbury’s new lab, prepared for field seasons, and ran experiments in the greenhouse and growth chambers
 - In field (Patagonia, AZ): I helped construct a research hut, used mist-nets to catch curve-billed thrashers (*Toxostoma curvirostre*), measured gut retention time of thrashers in a controlled environment, and manipulated capsaicin concentrations in non-pungent *C. chacoense*.
- 2001–2004 Washington and Lee University, Mountain Lake Biological Station, VA
Advisor: Dr. David Marsh
- **Head technician** (Summer 2003, 2004): I supervised two undergraduates on Dr. Marsh’s research projects focused on homing behavior of red-backed salamanders (*Plethodon cinereus*) across clearings, roads and streams as well as dispersal into forest patches.
 - **Field assistant** (Summer 2002)
 - **Christian A. Johnson Scholar** (Summer 2001): I designed an experiment testing differences in detectability of *P. cinereus* at road edges and forest interior.
- March 2003 **Intern**, Baños, Ecuador

Advisor: Lou Jost

- I collected orchids in the genus *Teagueia* thought to be climatically isolated in Ecuador.
- I found one rare *Teagueia* species and one species new to this area of the Llanganates mountain range.

Fall 2002

Research Assistant, Wallaby Creek, NSW, Australia

Supervisor: Dr. Gerald Borgia, University of Maryland

Project description: Sexual selection in satin bowerbirds (*Ptilonorhynchus violaceus*).

- I banded birds, recorded morphological and physiological measurements, and observed mating behavior of satin bowerbirds
 - I searched for bowers and assembled and set up microphones, infrared sensors, and video cameras at each bower.

Summer
2000

Christian A. Johnson Scholar, Washington and Lee University, Lexington, VA

Advisor: Dr. Lawrence E. Hurd

- I designed several laboratory experiments testing the significance of pollen feeding for the fitness of a food-limited generalist predator, the praying mantid *Tenodera sinensis*.

Summer
1998,1999

Field Assistant, United States Forest Service, Asheville, NC

Supervisor: Dr. David Danley

- I was involved in a project to restore roadsides along the Blue Ridge Parkway with native plants. I collected seeds from native grasses and flowers that were later planted along the Parkway in place of introduced species.

MENTORING, SERVICE, & OUTREACH

MENTORING

2017–present Math Alliance Mentor

Oct. 2020 [The National Diversity in STEM Conference](#) organized by the [Society of Advancement of Chicanos/Hispanics and Native Americans in Science \(SACNAS\)](#) (virtual conference):

- Booth Exhibitor
- 1-on-1 Mentoring Workshop (1 undergraduate student; 1 graduate student)
- “Conversations with a Scientist” Mentor in Ecology

May 2020 Native American Summer Mentorship Program (NASMP) Faculty Mentor (1 student).

Oct. 2017 [The National Diversity in STEM Conference](#) organized by the [Society of Advancement of Chicanos/Hispanics and Native Americans in Science \(SACNAS\)](#) in Salt Lake City, UT:

- 1-on-1 Mentoring Workshop (2 undergraduate students)
- “Conversations with a Scientist” Mentor in Ecology

July 2017 Graduate Student Mentor at the Society for Mathematical Biology conference in Salt Lake City, UT (Shahzad Gholami, Ph.D. Student in Computer Science)

April 2017 [Make for the Planet](#), Earth Optimism Summit, Washington, D.C.

- Mentor to 18 teams participating in a competition/hackathon to create hardware and/or software solutions to specific conservation challenges organized by Conservation X Labs
- Oct. 2016 [The National Diversity in STEM Conference](#) organized by the [Society of Advancement of Chicanos/Hispanics and Native Americans in Science \(SACNAS\)](#) in Long Beach, CA:
- Undergraduate Student Mentor (3 students)
 - “Conversations with a Scientist” Mentor in Ecology
 - Mentor Judge for undergraduate and graduate presentations
- July 2016 [SEEDS](#) (Strategies for Ecology Education, Diversity and Sustainability: Diverse People for a Diverse Science) Undergraduate Student Mentor (1 student) at Ecological Society of America meeting in Fort Lauderdale, FL
- June 2016 Graduate Student Mentor (2 students) at the Annual Meeting of the Association of Tropical Biology and Conservation in Montpellier, France

PUBLIC SERVICE

- 2012–present **Editor, [Verde Elemental](#)**
- Verde Elemental is a digital publication dedicated to promoting and disseminating knowledge in ecology and conservation in Latin America.
 - I report on relevant events and research in Latin America.
 - In collaboration with SESYNC, I began a new education initiative and am co-coordinating translating relevant [case studies in SESYNC’s collection](#) to Spanish.
- June 2018 **Ask-a-Scientist**, Pollinator’s Day, Cache Valley Gardener’s Market, Logan, Utah
- April 2017 **Speaker**, The Journey of a Seed in a Changing World, Café Scientifique, Annapolis, MD
- Oct. 2016 **SESYNC Representative**, The National Diversity in STEM Conference
- Organized by [SACNAS—Society of Advancement of Chicanos/Hispanics & Native Americans in Science](#)
- 2012–2015 **Core Member, [STEAM Factory](#)**, The Ohio State University
- STEAM Factory promotes interdisciplinary collaboration and research dissemination to the public
 - I presented my research at 400 West Rich Street’s Market, a gathering of farmers, artists, and entrepreneurs that share their products with the local community.
- Nov. 2013 **MBI Representative**, Seventh Annual Mathematical Field of Dreams Conference
- Organized by the [National Alliance for Doctoral Studies in the Mathematical Sciences](#)
 - I discussed opportunities in mathematical biology with underrepresented minority students in the mathematical sciences.
- July 2007 **Scientist on the Spot**, MN Science Museum’s online community ‘Science Buzz’
- I discussed the fate of tropical rain forests and the implications of hunting for forest communities by answering online questions from the community.
- 2007 **Guest Speaker** for 2 Honors Biology classrooms, A.C. Reynolds High School, Asheville, NC
- I discussed the consequences of hunting for plant communities and my experiences leading up to and in graduate school.
- 2007 **Moderator/ Judge**, 14th Annual Regional Science Bowl, MN Academy of Science

- 2006 **Moderator/ Judge**, 13th Annual Regional Science Bowl, MN Academy of Science
 2006 **Grand Awards Judge**, Annual Minnesota Academy of Science State Fair
 2005 **Judge**, Science Fair at the School for Environmental Studies, MN
 2004 **Guest speaker**, Flora & Fauna of Wallaby Creek, Australia, Nature Camp (6th–8th grade), Vesuvius, VA
 2002 **Guest speaker**, Conducting Ecological Research: Pollen feeding and fitness in a Praying Mantis, Nature Camp (6th–8th grade), Vesuvius, VA
Animal Department Volunteer, Nature Center, Asheville, NC

UNIVERSITY SERVICE

- 2022–*pres.* **Co-Chair**, Diversity, Equity, and Inclusion Committee, Department of Biology, USU
 2020–*pres.* **Faculty Rep**, Curriculum Committee Bio Math Working Group, Department of Biology, USU
 2019–*pres.* **Chapter Co-Advisor**, [Society of Advancement of Chicanos/Hispanics and Native Americans in Science \(SACNAS\)](#), USU
 Sp 2019–*pres.* **Diversity and Inclusion Contact**, Department of Biology, USU
 2017–*pres.* **Faculty Rep**, Long-Range Planning Committee, Department of Biology, USU
 2017–*pres.* **Chapter Member**, [Society of Advancement of Chicanos/Hispanics and Native Americans in Science \(SACNAS\)](#), USU
 Sp–Su 2022 **Faculty Rep**, LBBJ Scholarship Committee, College of Science, USU
 2020–2022 **Chair**, Diversity, Equity, and Inclusion Committee, Department of Biology, USU
 F 2021 **Faculty Rep**, Assistant Professor in Soil/Plant Microbial Ecologist Search Committee, Department of Biology, USU
 2018–2021 **Faculty Rep**, Department of Biology Seminar Committee, USU
 2018–2020 **Faculty Advisor**, Ecology Center Graduate Student Seminar Committee, USU
 Sp 2019 **Faculty Rep**, Postdoctoral Research Fellow in Computational Anthropology and Socio-environmental Systems Search Committee, Department of Sociology, Social Work, and Anthropology, USU
 2018–2019 **Chair**, Department of Biology Seminar Committee, USU
 2018–2019 **Faculty Rep**, Biology Curriculum Reform and Assessment Working Group, USU
 F 2018 **Faculty Rep**, Assistant Professor in Evolutionary Developmental Biology Search Committee, Department of Biology, USU
 2016–2017 **Organizer**, SESYNC Postdoctoral Professional Development Lunches
 2016 **Review Panel**, Postdoctoral Socio-Environmental Immersion Program Proposals
 2013–2014 **Organizing Committee**, Workshop for Young Researchers in Mathematical Biology, Mathematical Biosciences Institute
 2013 **Colloquium Committee**, Mathematical Biosciences Institute
Poster Judge, The Ohio State University Natural and Mathematical Sciences Undergraduate Research Forum
 F 2010–Sp 2012 **Postdoc Advisory Council (PAC) Member**, Office of Postdoctoral Studies, UNL
PAC Postdoctoral Travel Grant Committee, Office of Postdoctoral Studies, UNL
PAC Postdoctoral Minimum Wage Committee, Office of Postdoctoral Studies, UNL
 2012 **Strategic Hiring Task Force Committee**, School of Biological Sciences, UNL
Poster Judge, University of Nebraska–Lincoln Undergraduate Research Conference
 Sp 2012 **Organizer**, Theoretical Ecology Journal Club, UNL
 F 2010 **Organizer**, EcoChat Seminar, School of Biological Sciences, UNL

2007–2008 **Student Academic Grievance Committee**, Ecology, Evolution, and Behavior, UMN
 2005–2007 **Graduate Student Peer Mentor**, Ecology, Evolution, and Behavior, UMN
 2006–2007 **Teaching Assistant Liaison**, Ecology, Evolution, and Behavior, UMN
 2005–2006 **Friday Noon Seminar Committee**, Ecology, Evolution, and Behavior, UMN
 2004–2005 **Audio-Visual Committee**, Ecology, Evolution, and Behavior, UMN

PROFESSIONAL SERVICE

2022 **Grant Reviewer**, *Utah Agricultural Experiment Station*
Grant Reviewer, *India Alliance*
 2020 **Grant Panelist**, Division of Environmental Biology, *National Science Foundation*
Grant Panelist, Division of Environmental Biology, *National Science Foundation*
Grant Reviewer, *United States-Israel Binational Science Foundation*
 2019 **Grant Reviewer**, Division of Environmental Biology, *National Science Foundation*
 2018 **Judge**, Lotka-Volterra Student Awards, Theoretical Ecology Section, *Ecological Society of America*
 2017 **Grant Reviewer**, Division of Environmental Biology, *National Science Foundation*
 2016 **Judge**, Lotka-Volterra Student Awards, Theoretical Ecology Section, *Ecological Society of America*
 2016 **President**, *Ecological Society of America*
 2009–2015 **Associate Faculty Member** in Theoretical Ecology, *Faculty of 1000*
 2014 **Grant Reviewer**, Division of Environmental Biology, *National Science Foundation*
 2010 **Grant Reviewer**, Division of Environmental Biology, *National Science Foundation*

EDITORIAL SERVICE

2019–pres. **Associate Editor**, *Journal of Ecology*
 2018–pres. **Recommender**, *Peer Community in Ecology*
 2018–2020 **Guest Associate Editor**, Special Issue in *AoB Plants* entitled, “The role of seed dispersal in plant populations: perspectives and advances in a changing world”

[Ad hoc Reviewer](#) for the following journals:

Austral Ecology; *Australian Journal of Botany*; *Biotropica*; *Ecological Modelling*; *Ecology*; *Ecology Letters*; *Ecosphere*; *European Journal of Forest Research*; *Global Ecology & Biogeography*; *Israel Journal of Ecology & Evolution*; *Journal of Ecology*; *Journal of Theoretical Biology*; *Journal of Tropical Ecology*; *Nature Communications*; *Nature Ecology & Evolution*; *Oecologia*; *Oikos*; *Plant Ecology*; *Perspectives in Plant Ecology, Evolution, and Systematics*; *Proceedings of the Royal Society B*; *Plant Ecology*; *PLOS ONE*; *Scientific Reports*; *Smithsonian Contributions*; *Theoretical Ecology*; *Theoretical Population Biology*; *Trends in Ecology & Evolution*

MEDIA

2022 [Chemicals may explain why there are so many plants on our planet](#) by Colleen Meidt. Interview with Utah Public Radio.
[Moveable Feast: USU Ecologists Explore Changing Chemistry of Plant-Animal Seed Dispersal](#) by Mary-Ann Muffoletto. Interview with Utah State Today.
[To get by in a changing climate, plants need animal poop to carry them to safety](#) by Lauren Sommer. Interview with National Public Radio.

- [To survive climate change, plants can't just get up and move](#) by Lauren Sommer. Interview with Morning Edition, National Public Radio.
- 2020 [Not Falling Far From the Tree: USU Ecologist Studies Seed-to-Seedling Transitions](#) by Mary-Ann Muffoletto. Interview with Utah State Today
- [Individual variation in plant dispersal and fecundity increases rates of spatial spread](#) by William Hager. Featured in Botany One.
- [Drivers of intraspecific variation in seed dispersal are diverse and pervasive](#) by William Hager. Featured in Botany One.
- [Advancing an interdisciplinary framework to study seed dispersal ecology](#) by William Hager. Featured in Botany One.
- 2019 [The total dispersal kernel: a review and future directions](#) by William Hager. Featured in Botany One.
- [Consequences of intraspecific variation in seed dispersal for plant demography, communities, evolution and global change](#) by William Hager. Featured in Botany One.
- [Employing plant functional groups to advance seed dispersal ecology and conservation](#) by William Hager. Featured in Botany One.
- 2018 [How A Plant Disperses Seeds Impacts Its Future Growth, Study Shows](#) by Rachel Hager. Interview with Utah Public Radio.
- [USU Ecologist says Seed Dispersal Ability Linked to Plants' Life Cycles](#) by Mary-Ann Muffoletto. Interview with Utah State Today.
- 2015 [Seeds of Change: Climate change could disrupt plants' dispersal of seeds](#) by Lisa Palmer. Interview with Yale Climate Connections.
- 2014 *Nature* article on tree carbon accumulation [recommended by Faculty of 1000](#)
- 2007 *Biotropica* article on hunting highlighted as [Editor's Choice in Science 316: 955](#)

Professional Societies

American Association for the Advancement of Science, Association for Tropical Biology and Conservation, British Ecological Society, Ecological Society of America, Society of Mathematical Biology, Society for Advancement of Chicanos/Hispanics and Native Americans in Science

OTHER EXPERIENCE

LONG-FORM IMPROVISATIONAL COMEDY

- 2016 Level 3: Character, Washington Improv Theater, Washington D.C.
Level 2: Foundations of Scenework, Washington Improv Theater, Washington D.C.
- 2014–2015 Player in the Revelators, Harold House Team at First Beat Theatre, Columbus, Ohio
- 2013–2015 Player in Game, Set, Match; Performances at Strongwater, Columbus, Ohio
- 2014 Harold Workshop with Tara Defrancisco (iO, Second City, ComedySportz)
Intro to Long-Form Improvisation, Make a Scene Improv, Columbus, Ohio
- 2012–2013 Player in See You Thursday; Performances at Wild Goose Creative, Columbus, Ohio
- 2013 Performed with See You Thursday at Chicago Improv Festival
Improv Workshop at the Annoyance Theatre, Chicago, IL
- 2012 Improv Workshop with Mega Grano (iO, Second City, Annoyance Theatre)
Level 2 Improv: Callbacks and Connections, Backline Improv Theatre, Omaha, NE

2007 Level 1 Improv: Intro to Improv, Backline Improv Theatre, Omaha, NE
Level 1 Everyday Improv, Brave New Workshop, Minneapolis, MN

MUSIC

2018–2020 Cellist, Cache Symphony Orchestra, Logan, Utah
2018–2020 KBLU-LP Aggie Radio DJ
2012–2015 Cellist, Metropolitan Chamber Orchestra, Columbus, Ohio
2010–2012 Cellist, Lincoln Civic Orchestra, Lincoln, Nebraska
2009–2010 Cellist, University of Panama Orchestra, Panama City, Panama
1998–2002 Cellist and Violinist, University-Shenandoah Symphony Orchestra, Washington and Lee University
Winter 2002 Cello Recital, Washington and Lee University
Winter 2001 Cellist in production of *The Elephant Man*, Washington and Lee University
2001 WLUR Radio DJ
Winter 2000 Cello Recital, Washington and Lee University
1999 WLUR Radio DJ
Fall 1999 Cello Recital, Washington and Lee University
1994–1998 Cellist, Asheville Youth Orchestra
1994–1998 Cellist, Jubilee Summer Orchestra, Asheville, NC
1995 North Carolina All State Orchestra
1995 Furman Music Camp

SOCCER

1998–1999 Women's Varsity Soccer, Washington and Lee University, Lexington, VA
1994–1998 Women's Varsity Soccer, A. C. Reynolds High School, Asheville, NC
1998 Women's Varsity Soccer Captain, A. C. Reynolds High School, Asheville, NC
1997–1998 Mountain Athletic Conference Women's Soccer All-Conference
1997 North Carolina All Region Honorable Mention
1997 Women's Varsity Soccer Most Dedicated Player, A. C. Reynolds High School, Asheville, NC
1996–1998 United States Soccer Federation Referee
1995–1998 Soccer Camp Counselor, A. C. Reynolds High School, Asheville, NC
1995, 1997 UNCA Soccer Camp, Asheville, NC