

C. LANE SCHER

Duke University

✉ lane.scher@duke.edu | 🐦 @lane_scher

EDUCATION

Duke University	Durham, NC
PhD, University Program in Ecology	2018 – 2023
Advisor: James S. Clark	
University of Virginia	Charlottesville, VA
BA, Biology and Spanish, with distinction	2012 – 2016

FELLOWSHIPS AND GRANTS

Conference Travel Award, Duke University	2022
Data Expeditions, Duke University	2020
Summer Course Scholarship, Highlands Plateau Audubon Society	2020
NEON-ESA Early Career Scholar, National Ecological Observation Network	2020
UPE Thematic Symposium, Duke University	2019
Center for Tree Science Fellowship, The Morton Arboretum	2019
Graduate Research Fellowship, National Science Foundation	2018
W. D. Billings Fellowship, Duke University	2018
James B. Duke Fellowship, Duke University	2018
Center for Tree Science Fellowship, The Morton Arboretum	2018
Small Research and Travel Grant, University of Virginia	2016
Research Experience for Undergraduates, National Science Foundation	2015

PEER-REVIEWED PUBLICATIONS

16. **Scher, C. L.**, Clark, J. S. Food-mediated responses to climate change in North American birds. In prep.
15. Solie, S. E., **Scher, C. L.**, and Johnsen, S. Visual acuity and contrast sensitivity in the Trinidadian guppy (*Poecilia reticulata*). In prep.
14. **Scher, C. L.**, Krouse, K., Roberts S., Clark, J. S. Leveraging relationships between species abundances to improve predictions and inform conservation. In review.
13. Bogdziewicz, M., Acuña, M. C. A., Andrus, R., Ascoli, D., Bergeron, Y., Brveiller, D., ... **Scher, C.L.**, ... & Clark, J. S. (2023). Linking seed size and number to trait syndromes in trees. *Global Ecology and Biogeography*.
12. **Scher, C. L.**, Clark, J.S. (2023). Species traits and observer effects that bias data assimilation. *Ecological Applications*, DOI: <https://doi.org/10.1002/eap.2815>.

11. Journé, V., Andrus, R., Aravena, M. C., Ascoli, D., Berretti, R., Berveiller, D., ... **Scher, C. L.**, ... & Clark, J. S. (2022). Globally, tree fecundity exceeds productivity gradients. *Ecology letters*, 25(6), 1471-1482. DOI: <https://doi.org/10.1111/ele.14012>
10. Qiu, T., Andrus, R., Aravena, M. C., Ascoli, D., Bergeron, Y., Berretti, R., ... **Scher, C. L.**, ... & Clark, J. S. (2022). Limits to reproduction and seed size-number trade-offs that shape forest dominance and future recovery. *Nature communications*, 13(1), 1-12. DOI: <https://doi.org/10.1038/s41467-022-30037-9>
9. Sharma, S., Andrus, R., Bergeron, Y., Bogdziewicz, M., Bragg, D. C., Brockway, D., ... **Scher, C. L.**, ... & Clark, J. S. (2022). North American tree migration paced by climate in the West, lagging in the East. *Proceedings of the National Academy of Sciences*, 119(3), e2116691118. DOI: <https://doi.org/10.1073/pnas.2116691118>
8. Creux, N. M., Brown, E. A., Garner, A. G., Saeed, S., **Scher, C. L.**, Holalu, S. V., ... & Harmer, S. L. (2021). Flower orientation influences floral temperature, pollinator visits and plant fitness. *New Phytologist*, 232(2), 868-879. DOI: <https://doi.org/10.1111/nph.17627>
7. Qiu, T., Aravena, M. C., Andrus, R., Ascoli, D., Bergeron, Y., Berretti, R., ... **Scher, C. L.**, ... & Clark, J. S. (2021). Is there tree senescence? The fecundity evidence. *Proceedings of the National Academy of Sciences*, 118(34), e2106130118. DOI: <https://doi.org/10.1073/pnas.2106130118>
6. Clark, J. S., Andrus, R., Aubry-Kientz, M., Bergeron, Y., Bogdziewicz, M., Bragg, D. C., ... **Scher, C. L.**, ... & Zlotin, R. (2021). Continent-wide tree fecundity driven by indirect climate effects. *Nature communications*, 12(1), 1-11. DOI: <https://doi.org/10.1038/s41467-020-20836-3>
5. **Scher, C. L.**, Karimi, N., Glasenhardt, M. C., Tuffin, A., Cannon, C. H., Scharenbroch, B. C., & Hipp, A. L. (2020). Application of remote sensing technology to estimate productivity and assess phylogenetic heritability. *Applications in plant sciences*, 8(11), e11401. DOI: <https://dx.doi.org/10.1002/aps3.11401>
4. Clark, J. S., **Scher, C. L.**, & Swift, M. (2020). The emergent interactions that govern biodiversity change. *Proceedings of the National Academy of Sciences*, 117(29), 17074-17083. DOI: <https://doi.org/10.1073/PNAS.2003852117>
3. **Scher, C. L.**, Griffoul, E., & Cannon, C. H. (2019). Drone-based photogrammetry for the construction of high-resolution models of individual trees. *Trees*, 33(5), 1385-1397. DOI: <https://doi.org/10.1007/s00468-019-01866-x>
2. Cannon, C. H., **Scher, C. L.**, Gao, A., Khan, T., & Kua, C. S. (2017). Building a tree observatory. *Acta Horticulturae*. (pp. 85-92). DOI: <https://doi.org/10.17660/ActaHortic.2018.1222.12>
1. Cannon, C. H., & **Scher, C. L.** (2017). Exploring the potential of gametic reconstruction of parental genotypes by F1 hybrids as a bridge for rapid introgression. *Genome*, 60(9), 713-719. DOI: <https://doi.org/10.1139/gen-2016-0181>

INVITED SEMINARS

3. Sherwood Forest Nature Nuts. Brevard, NC. March 2022
2. Richmond Audubon Society Monthly Meeting. Richmond, VA. October 2021
1. Duke University PopBio Seminar. Durham, NC. September 2021

WORKSHOPS AND TUTORIALS

6. **Scher, C. L.** GJAM: Theoretical background and example. [LINK](#)
5. **Scher, C. L.**, Swift, M. How do hurricanes affect the distribution of coastal birds? Data Expeditions. Duke University. Spring 2021. [LINK](#)
4. Swift, M., **Scher, C. L.** Exploratory Data Analysis with eBird data. Data Expeditions. Duke University. Spring 2021. [LINK](#)
3. **Scher, C. L.** Modeling bird species jointly with Dynamic GJAM. Dynamic joint species distribution models – potential and applications. Grenoble France. November 2019.
2. Clark, J. S., Swenson, J. J., Kilner, C. L., Minich, T. J., Nuñez, C. L., **Scher, C. L.**, Schwantes, A. M., Sharma, S. Analysis of species jointly: biodiversity data with GJAM. NASA Biodiversity and Ecological Forecasting Team Meeting. Washington DC. May 2019. [LINK](#)
1. **Scher, C. L.** A view of the canopy: Drone demonstrations. Trees and Tech Workshop. Lisle IL. March 2018.

PRESENTATIONS

16. **Scher, C. L.**, Krause, K., Roberts, S., Clark, J. S. Capturing information from some species abundances to improve predictions of others. Ecological Society of America. Montreal, Canada. August 2022.
15. Qiu, T., Swenson, J. J., Clark, J. S., Courbaud, B., Journé, V., Kunstler, G., **Scher, C. L.** Global analysis of reproductive investment in trees: effects of soil nutrients, species traits, and phylogeny. Ecological Society of America. Virtual. August 2021.
14. Clark, J. S., Courbaud, B., Journé, V., Kilner, C. L., Kunstler, G., Qiu, T., Swenson, J. J., **Scher, C. L.** The volatility and periodicity of tree masting at the global scale: The role of species traits and phylogeny. Ecological Society of America. Virtual. August 2021.
13. **Scher, C. L.**, Clark, J. S. Food has a larger effect on bird abundances where thermoregulatory costs are high. Ecological Society of America. Virtual. August 2021.
12. Sharma, S., et al. [including **Scher, C. L.**]. North American tree migration paced by fecundity and recruitment through contrasting mechanisms east and west. Ecological Society of America. Virtual. August 2020.
11. Qiu, T., **Scher, C. L.**, Swift, M. E., Swenson, J. J., Clark, S. C. Capturing emergent interactions that govern food web dynamics with climate change. Ecological Society of America. Virtual. August 2020.
10. Clark, J. S., et al. [including **Scher, C. L.**]. Interactions that control the pace of forest change in North America. Ecological Society of America. Virtual. August 2020.
9. **Scher, C. L.**, Clark, J. S. Quantifying reporting differences in eBird and BBS. Ecological Society of America. Virtual. August 2020.
8. **Scher, C. L.**, Griffoul, E., Cannon, C. H. Building, testing, and analyzing detailed 3D models of individual trees. UAS 4 Enviro. Split, Croatia. June 2018.
7. Cannon, C. H., **Scher, C. L.** Introduction to future technologies and approaches. Ex-situ conservation workshop. Xishuangbanna, China. October 2017.

6. **Scher, C. L.**, Cannon, C. H. The Tree Observatory as a test bed for UAS applications to study trees. UAS 4 Enviro. Porto, Portugal. June 2017.
5. Cannon, C. H., **Scher, C. L.** Building a Tree Observatory for a comprehensive understanding of tree growth, behavior, and health, or the quest to create an “activity tracker” for trees. International Conference on Sap Flow. Fullerton, CA. May 2017.
4. **Scher, C. L.** Drone applications in research and forestry. Chicago Region Tree Initiative Community Trees Meeting. Lisle, IL. April 2017.
3. **Scher, C. L.**, Wadleigh, R. L., Abolins-Abols, M., Ketterson, E. D. The effect of competition on male courting songs in Dark-eyed Juncos (*Junco hyemalis*). Society for Integrative and Comparative Biology Conference. Portland, OR. January 2016. Poster.
2. Wadleigh, R. L., **Scher, C. L.**, Abolins-Abols, M., Ketterson, E. D. Competition changes courtship behavior in Dark-eyed Juncos (*Junco hyemalis*). Society for Integrative and Comparative Biology Conference. Portland, OR. January 2016. Poster.
1. **Scher, C. L.**, Brown, E. A., Garner, A. G., Blackman, B. K. Does floral orientation affect reproduction in sunflowers? University of Virginia Katz Poster Session. Charlottesville, VA. April 2015. Poster.

RESEARCH EXPERIENCE

PhD student researcher, Duke University	2018 – 2023
Research assistant, The Morton Arboretum	2016 – 2018
NSF-REU fellow, Mountain Lake Biological Station	2015
Undergraduate researcher, University of Virginia	2014 – 2015
Field assistant, University of Virginia	2014
Lab assistant, Virginia Commonwealth University	2013

TEACHING EXPERIENCE

Guest lecturer, Geospatial Analysis for Conservation Management, Duke University	2020, 2022, 2023
Guest lecturer, Environmental Change in the Big-Data Era, Duke University	2021
Lead teaching assistant, Introduction to Environmental Science and Policy, Duke University	2020
Teaching assistant, Applied Data Analysis for Environmental Science, Duke University	2019
Teaching assistant, Statistics and Calculus Diagnostic Exams, Duke University	2019 – 2020

OTHER PUBLICATIONS

9. **Scher, C. L.** 2021. To save birds, keep your cat indoors. *Duke Medium*. [LINK](#)
8. **Scher, C. L.** 2020. Pardon the irruption: winged northern visitors massed for tasty NC mast. *Duke Research Blog*. [LINK](#)
7. **Scher, C. L.** 2020. Want to connect to the world and keep your distance? Try birdwatching. *Duke Medium*. [LINK](#)
6. **Scher, C. L.** 2020. In Spring, timing is everything. *NC DNA Day Blog*. [LINK](#)

5. **Scher, C. L.** 2020. The magical minds of sunflowers. *NC DNA Day Blog*. [LINK](#)
4. **Scher, C. L.** 2020. If you can't go north, where can you go? *PGJAM Blog*. [LINK](#)
3. **Scher, C. L.** 2019. The once and future American chestnut. *NC DNA Day Blog*. [LINK](#)
2. **Scher, C. L.** 2019. Figs and wasps: Name a more iconic duo. *NC DNA Day Blog*. [LINK](#)
1. Bruns, N., Cook, R., de la Mater, D., Fader, J., Gulley, R., Imwattana, K., Kilner, C., Lohmann, A., Nordseth, A., Quarles, B., Salomons, H., **Scher, C. L.**, Thellman, A., Wisse, J. 2018. Evolutionary Ecology & Ecosystem Ecology 101: PhD student perspectives on Duke's required course for ecology Ph.Ds. *Rapid Ecology*. [LINK](#)

COMMUNITY ENGAGEMENT AND MENTORSHIP

Invited Speaker, Sherwood Forest	2022
Invited Speaker, Richmond Audubon Society	2021
Volunteer, Duke University Science Olympiad Invitational Tournament	2020
Ambassador, North Carolina DNA Day	2019 – 2020
Panelist, Duke University Sloan Scholars Orientation	2019
Mentor, ELEMENTors	2019
Presenter, University of Chicago Collegiate Scholars STEM Field Trip	2017
Volunteer, Expanding Your Horizons	2017
Co-founder, 500 Women Scientists – Chicago Pod	2017

PROFESSIONAL SERVICE

Co-Organizer, University Program in Ecology Thematic Symposium Planning Committee	2019 – 2022
Member, Student Advisory Committee for Associate Dean of DEI	2021
Student Member, Oosting Lecture Planning Committee	2020
Peer Reviewer, Remote Sensing of Environment	2019
Co-Organizer, University Program in Ecology Retreat and Symposium Planning Committee	2019
Member, University Program in Ecology Recruitment Weekend Planning Committee	2019