Sam C. Levin

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Education

Martin Luther University Halle-Wittenberg

PhD Biology   2018-Present

Martin Luther University Halle-Wittenberg

MSc Biology   2016-2017

Wake Forest University

BA Biology   2008-2012

Work Experience

Pivot Bio

Data Scientist I   2022-Present

Martin Luther University Halle-Wittenberg

Research Officer   2018-Present

Helmholtz-Zentrum für Umweltforschung

Student Research Assistant   2017

German Centre for Integrative Biodiversity

Student Research Assistant   2016 - 2018

University of Missouri-St. Louis

Field Research Technician   2015 - 2016

Washington University in St. Louis

Field Research Technician   2014 - 2015

Student Conservation Association

National Park Service Southeast EPMT Intern   2013 - 2014

Publications

Journal Articles

∗ denotes mentee

Levin SC, Evers S∗, Pena-Guerrero M, Compagnoni AC, Childs DZ, Knight TM & Salguero-Gomez R (2022). Rpadrino: an R package to access and use PADRINO, an open access database of Integral Projection Models. Methods in Ecology and Evolution. DOI: 10.1111/2041-210X.13910

Jones OR, Barks P, Stott I, James TD, **Levin SC**, Petry WK *et al.* (2022). Rcompadre and Rage—Two R packages to facilitate the use of the COMPADRE and COMADRE databases and calculation of life-history traits from matrix population models. Methods in Ecology and Evolution. DOI: 10.1111/2041-210X.13792

Levin SC, Childs DZ, Compagnoni AC, Evers S∗, Knight TM & Salguero-Gomez R (2021). ipmr: Flexible implementation of Integral Projection Models in R. Methods in Ecology and Evolution. DOI: 10.1111/2041-210X.13683

Keppel G, Craven D, Weigelt P, Smith SA, van der Sande MT, Sandel B, **Levin SC**, Kreft H & Knight TM (2021). Synthesizing tree biodiversity data to understand global patterns and processes of vegetation. Journal of Vegetation Science. DOI: 10.1111/jvs.13021

Bogdan A∗, **Levin SC**, Salguero-Gomez R & Knight TM. (2021). Demographic analysis of an Israeli *Carpobrotus* population. Plos One. DOI: 10.1371/journal.pone.0250879.

Paniw M, James T, Archer CR, Romer G, **Levin SC**, Compagnoni AC, *et al.* (2021). Global analysis reveals complex demographic responses of mammals to climate change. Journal of Animal Ecology. DOI: 10.1111/1365-2656.13467

Compagnoni AC, **Levin SC**, Childs DZ, Harpole S, Paniw M, Romer G, *et al.* (2021). Short-lived plants have stronger demographic responses to climate. Nature Communications. Nature Communications. DOI: 10.1038/s41467-021-21977-9

Levin SC, Crandall RM, Pokoski TC∗, Stein C & Knight TM (2020). Phylogenetic and functional distinctiveness explain alien plant population responses to competition. Proceedings of the Royal Society B. DOI: 10.1098/rspb.2020.1070

Sandel B, Weigelt P, Kreft H, Keppel G, van der Sande MT, **Levin SC**, Smith S, Craven DC & Knight TM (2019). Current climate, isolation, and history drive global patterns of tree phylogenetic endemism. Global Ecology and Biogeography. DOI: 10.1111/geb.13001

Compagnoni A, Bibian BJ, Ochocki BM, **Levin SC**, Zhu K & Miller TEX (2019). popler: an R package for extraction and synthesis of population time series from the long-term ecological research (LTER) network. Methods in Ecology and Evolution. DOI: 10.1111/2041-210X.13319

Levin SC, Crandall RM, Knight TM (2019) Population projection models for 14 alien plant species in the presence and absence of above-ground competition. Ecology. DOI: 10.1002/ecy.2681

Carl G, **Levin SC**, Kühn I. (2018) spind: an R Package to Account for Spatial Autocorrelation in the Analysis of Lattice Data. Biodiversity Data Journal. DOI: 10.3897/BDJ.6.e20760

Workshops & Invited Talks

Levin SC, Childs DZ, Compagnoni AC, Evers S, Knight TM & Salguero-Gomez R. `ipmr`: An R Package for Easy and Flexible Construction and Interpretation of Integral Projection Models. Ecological Society of America, Long Beach, August 2021.

Levin SC. Invasive plants: research, control, and what you can do to help! Point Reyes National Seashore, May 2020. (Cancelled due to COVID-19 pandemic).

Levin SC & Salguero-Gomez R. Effective, efficient, and safe data collection with UAVs. Oxford University, January 2020.

Salguero-Gomez R, Jones OR, *et al.* A gentle introduction to the COMADRE & COMPADRE databases for demographic analyses. British Ecological Society, Belfast, December 2019.

Presentations

* denotes mentee; [#] *denotes poster presentations, otherwise oral*

2020

Salguero-Gomez R,Che-Castaldo JP, Jones O, Caswell H, Ezard T, Hernandez-Yanez H, Hodgson D, Knight TM, **Levin SC**, Stott I, Thomas C, Vaupel J. (2020) The next generation of demographic databases: Building and delivering a distributed network for user contributions and engagement. Ecological Society of America

2018

Levin SC, RM Crandall, TC Pokoski, Stein C, Knight TM. Mechanisms underlying the differential success of alien plant species. Ecological Society of America – New Orleans, USA

2016

Levin SC, Stein C, Knight TM. Phylogenetic novelty alters the strength of biotic interactions for exotic plant species. NeoBiota 2016 – Vianden, Luxembourg

Levin SC, Stein C, Knight TM. Phylogenetic novelty alters the strength of biotic interactions for exotic plant species. iDiv Conference – Leipzig, Germany

2015

Poor E[*],Thompson AH[*], **Levin SC**, Knight TM. Novel functional traits aid the success of the invasive biennial Carduus nutans. Washington University in St. Louis Undergraduate Research Symposium – St. Louis, MO [#]

Workman M[*], Thompson AH[*], **Levin SC**, Knight TM. Competitive release may increase the fitness of exotic plants in their novel range. Washington University in St. Louis Undergraduate Research Symposium – St. Louis, MO [#]

2014

Patterson A[*], Galluppi CG, **Levin SC**, Maynard EE, Knight TM. How plant species become common: examining the success strategies of native and invasive plants. Washington University in St. Louis Undergraduate Research Symposium – St. Louis, MO [#]

Van Horn T*, Galluppi CG, **Levin SC**, Knight TM. Examining the enemy release hypothesis in Ozark woody species. Washington University in St. Louis Undergraduate Research Symposium – St. Louis, MO #

Software

Maintainer (current) and developer (> v2.0.0) of *spind*. Project page and CRAN.

Maintainer and developer of *ipmr*. Project page and CRAN.

Maintainer and developer of the *PADRINO IPM Database* and *Rpadrino*. PADRINO page and RPadrino page.

Contributed to development of popler, bRacatus, taxlist, plotbiomes, popdemo, Rcompadre, and Rage.

Languages

Fluent in English and R, proficient with Stan, Git, shell, and C++, and familiar with Python and German.

Certifications

United States FAA Part 107 UAV Pilot License

United States NPS S212 A Faller

Mentoring

Sanne Evers	Helmholtz-Zentrum für Umweltforschung
Ana Bogdan	Babeş-Bolyai University, Cluj-Napoca, Romania
Tyler Pokoski	University of Iowa 2017
Tom Collins	Missouri S&T 2017
Amy Patterson	Washington University in St. Louis 2015
Amibeth Thompson	Illinois College 2014
Sami Hunkler	University of California, Berkeley 2017
Thomas Van Horn	Washington University in St. Louis 2018
Sarah Link	Eureka High School 2015
Brenda Alvarado	Francis Howell North 2015
Matilda Workman	Kirkwood High School 2017
Elizabeth Poor	Clayton High School 2017

Service

Reviewer for rOpenSci, Functional Ecology, BMC Ecology, Annals of Botany, and Plant Ecology

Referees

Dr. Tiffany Knight

Martin Luther University, Helmholtz-Zentrum für Umweltforschung, German Centre for Integrative Biodiversity

tiffany.knight@idiv.de

Dr. Roberto Salguero-Gomez

Oxford University Department of Zoology

rob.salguero@zoo.ox.ac.uk