Helen M. Kurkjian

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Department of Aquatic Ecology
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Research Appointments	2021 - present	Postdoctoral Researcher, **Eawag**, Aquatic Ecology Mentors: Drs. Florian Altermatt and Luis Gilarranz
	2018 - 2021	Postdoctoral Researcher, **Boston College**, Biology Mentor: Dr. Babak Momeni
Education	2018	PhD, **University of California, Berkeley**, Integrative Biology Dissertation Title: *Metapopulations in miniature: connectivity, subpopulation extinction, and recovery in microbial microcosms* Advisor: Dr. Ellen Simms Date Granted: May 11, 2018 Certificate of Teaching and Learning in Higher Education, **UC Berkeley**
	2012	Master of Science, **Humboldt State University**, Biology Thesis Title: *A population viability analysis of the Lassics lupine* Advisor: Dr. Erik S. Jules
	2007	Bachelor of Arts, **New York University**, Individualized Major, *cum laude*
Classroom Teaching Experience	2019	Instructor, **Boston College** Plant Biology, Spring 2019
	2018 – 2012	Graduate Student Instructor, **UC Berkeley** • General Biology (Bio 1B) Lab: Spring 2018, Spring 2017, Fall 2015, Spring 2014, Spring 2013, Fall 2012 • Ecology (IB 153) Discussion Sections: Fall 2017, Fall 2013 • Teaching Colloquium (IB 303): Fall 2016 • Methods in Population and Community Ecology (!B 170LF): Spring 2015 • Ecological Genetics (IB 162): Fall 2014
	2011 - 2009	Teaching Associate, **Humboldt State University** • Introduction to Ecology Lab: Spring 2011, Fall 2010 • Plant Taxonomy Lab: Spring 2010, Fall 2009
Other Teaching Experience	Curriculum Development Graduate Student Instructor, General Biology (Bio 1B) Lab, Organismal Diversity (Plant Biology) Module, UC Berkeley, Spring 2016 Discipline-Cluster Leader, Biological Sciences, UC Berkeley Teaching Conference for First-Time GSIs: Fall 2016, Spring 2016, Fall 2015 Co-facilitator, Fostering Critical Reading Wksp, UC Berkeley GSI Center, March 10, 2016	

	Focus Session Leader, Facilitating Laboratory Sections, UC Berkeley Teaching Conference for First-Time GSIs, Fall 2014 Volunteer, Introduction to California Plant Families Workshop, Jepson Herbarium, August 8-10, 2014	
Research Interests	Role of connectivity in metapopulation dynamics, Allee effects, early warning signals of population collapse, population and community ecology, intra- and inter-specific facilitation and competition, ecology of rare and endangered plants, dynamics of extinction	
Research Experience	2021-2022	Bacterial Genetics in Spatial Networks, Eawag
	2018-2021	Fungal-Bacterial Interactions, Boston College
	2013-2018	Network Heterogeneity in Bacterial Metapopulations, UC Berkeley
	2012-2014	Seed Predation in California Endemic Lupines, UC Berkeley
	2009-2012	Master's Thesis Research, Humboldt State University
	2011-2012	Research Associate, Humboldt State University
	2011-2012	Database Developer, California Native Plant Society
	2009	Research Associate, Great Basin Institute
	2008	Vegetation Technician, Oregon State University
	2007-2008	Field Technician, Colorado Division of Wildlife
	2007	Field Technician, Utah State University
	2007	Wildlife Technician, Kansas State University
	2006	Field Assistant Intern, Student Conservation Association
Publications	Kurkjian, H.M. in review. Dispersal corridor clustering in metapopulations leads to higher rates of recovery following subpopulation extinction. Preprint: https://biorxiv.org/cgi/content/short/2020.01.29.925529v1 Kurkjian, H.M., M.J. Akbari, B. Momeni. 2021. The impact of interactions on invasion and colonization resistance in microbial communities. PLOS Computational Biology 17(1): e1008643. https://doi.org/10.1371/journal.pcbi.1008643 Kurkjian, H.M. 2019. The metapopulation microcosm plate: A modified 96-well plate for use in microbial metapopulation experiments. Methods in Ecology and Evolution, 10(2): 162-168. https://doi.org/10.1111/2041-210X.13116 Kurkjian, H.M., Carothers, S.K. and Jules, E.S. 2017. Seed predation has the potential to drive a rare plant to extinction. Journal of Applied Ecology, 54: 862–871. doi:10.1111/1365-2664.12808	

	Jules, E.S., J.I. Jackson, R.J. Butz, H.M. Kurkjian. 2017. Population structure and site characteristics of the rare Shasta snow-wreath (*Neviusia cliftonii*). Madroño 64(4):116-123. doi: 10.3120/0024-9637-64.4.116
Contributed Talks	Kurkjian, H.M. Metapopulation corridor position and subpopulation connectivity affect recovery following subpopulation extinction. Ecological Society of America 2018, New Orleans, LA. Kurkjian, H. M. Metapopulation connectivity and persistence in *Pseudomonas syringae*. Ecological Society of America 2017, Portland, OR. Kurkjian, H. M., S. K, Carothers, E. S. Jules. Seed predation reduces the fecundity of a rare plant and leads to population decline. Ecological Society of America 2012, Portland, OR. Kurkjian, H., S. Carothers, E. Jules. A population viability analysis of the Lassics lupine. California Native Plant Society 2012, San Diego, CA.
Contributed Posters	Kurkjian, H.M. and B. Momeni, *Candida albicans* biofilm pore size and shape affect pore pH. MIT Quantitative Ecology 2020. Kurkjian, H.M. and B. Momeni, Effects of spatial patterns in *Candida albicans* hyphal growth on *Staphylococcus aureus* growth and dispersal. Ecological Society of America 2019. Kurkjian, H.M. and B. Momeni, *Candida albicans-Staphylococcus aureus* interactions altered by pH-induced changes to biofilm architecture. Gordon Research Conference on Microbial Population Biology 2019. Kurkjian, H. M., Network heterogeneity in *Pseudomonas syringae*: an empirical test of a new method for bacterial metapopulation experiments. American Society of Naturalists 2016. Abstract P6. Kurkjian, H. M., Network heterogeneity and metapopulation persistence in *Pseudomonas syringae*. ESA 2015. Annual Meeting Abstracts. Bulletin of the Ecological Society of America 96 (4).
Published Data Packages	Kurkjian, H. M. 2018. Data from: The Metapopulation Microcosm Plate: a modified 96-well plate for use in microbial metapopulation experiments. Dryad Digital Repository. https://doi.org/10.5061/dryad.dq335ff Kurkjian, H. M., S. K. Carothers, E. S. Jules. 2016. Data from: Seed predation has the potential to drive a rare plant to extinction. Dryad Digital Repository. doi:10.5061/dryad.mq3mq
Publications, Non-refereed	Kurkjian, H.M. 2012. Lassics Lupine Seed Production Study, 2010-2011. Report to the United States Fish and Wildlife Service, Arcata Field Office. 10 pgs. Kurkjian, H.M. 2010. Seed Predation Study on Mount Lassic. Report to the United States Fish and Wildlife Service, Arcata Field Office. 6 pgs.

Relevant Coursework

Population & Community Ecology, Plant-Animal Interactions, Intermediate Statistics, Forest Pathology, Ascomycetes & Basidiomycetes, Field Lab in Ecology, Ecology & Environmental Thought, Evolution, Microbiology & Microbial Genomics, Rethinking the Bio Sciences, Intro to GIS, AIC Model Selection, Modern Statistical Modeling, Hierarchical Statistical Modeling, Plant Physiological Ecology

Awards

Outstanding Graduate Student Instructor Award, UC Berkeley, 2014

Gregory Mark Jennings Award for Botany, Humboldt State University, 2012

Other Education

Boston College Research and Scholarship Integrity Program 2019-2020

Santa Fe Institute, Massively Open Online Courses
Introduction to Complexity, Completed: June 29, 2013
Mathematics for Complex Systems, in progress

Joint 2013 MBI-NIMBioS-CAMBAM Summer Graduate Wksp: Connecting Biological Data with Mathematical Models at the National Institute for Mathematical and Biological Synthesis

UC Berkeley GSI Teaching and Research Center Workshops Attended
Peer Exchange of Statements of Teaching Philosophy, Spring 2016
Grading and Assessment, Fall 2015
Strategies for Teaching and Learning, Spring 2015
Syllabus and Course Design, Fall 2014
How Students Learn, Fall 2013
Developing a Statement of Teaching Philosophy, Spring 2013

Grants & Funding

2016	Doctoral Dissertation Improvement Grant: Network heterogeneity and metapopulation persistence in *Pseudomonas syringae* National Science Foundation, $20,396
2015	Reshetko Family Scholarship of the College of Letters and Sciences, $3011
2014	Sigma Xi National, Network Heterogeneity in Bacterial Metapopulations, $672
2014	Roy Leeper Scholarship for the Biological Sciences, $1700
2013	Sigma Xi, UC Berkeley, Seed Predation on California Endemic Lupines, $466
2013	Lawrence R. Heckard Endowment Fund of the Jepson Herbarium Seed Predation on *Lupinus* species of northern California, $4466
2012	USFWS, Arcata Field Office, Lassics Lupine Seed Production Study, $2287
2011/10	Humboldt State University, Dept of Biological Sciences, Master's Student Grant
2010	USFWS, Arcata Field Office, Seed Predation Study on Mount Lassic, $1000
2009	Six Rivers NF, USFS, Estimate of *Lupinus constancei* Seed Production, $2000

Professional & Community Service	Boston College Evaluation of Departmental Environment for Biology Postdoctoral Researchers and Senior Research Associates, Fall 2019 Be A Scientist Mentor to sixth-grade students' independent projects, Fall 2017, Spring 2016 Co-chair Queer Grads and Organizer of LGBT Science Reception, UC Berkeley, 2015-2016 Dept of Integrative Biology Delegate to the UC Berkeley Graduate Assembly, 2014 – 2016 Laboratory Safety Officer, Simms Lab, UC Berkeley, Fall 2013 – Spring 2018 Review Services, New Phytologist, Nature Communications Treasurer, Biology Graduate Students Association, HSU, 2010-2011 Volunteer Docent, Friends of the Dunes, Arcata, CA
Professional Societies	California Native Plant Society, Ecological Society of America, Northern California Botanists

Professional References

Dr. Babak Momeni	Postdoctoral Research Mentor	momeni@bc.edu
Dr. Ellen Simms	PhD Advisor	esimms@berkeley.edu
Dr. Wayne Sousa	Teaching Mentor	wpsousa@berkeley.edu
Dr. David Ackerly	PhD Committee Member	dackerly@berkeley.edu