

# Christopher A. Johnson

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## PROFESSIONAL APPOINTMENTS

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2022 –	Research Scientist, University of Basel
2021 – 2022	Research Scientist, University of Washington
2019 – 2020	Associate Research Scholar, Princeton University
2015 – 2019	Postdoctoral Scholar, Swiss Federal Institute of Technology (ETH) Zürich
2013 – 2015	Postdoctoral Scholar, University of Arizona

## EDUCATION

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Ph.D. in Biology	University of California, Los Angeles (2013) Advisor: Priyanga Amarasekare
B.Sc.	University of Arizona (2008) Major: Ecology & Evolutionary Biology

## PUBLICATIONS (<sup>†</sup> denotes undergraduate coauthor)

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Citations to date: 844; h-index: 13; i10-index: 13

15. [Johnson, C.](#), Ren, R.<sup>†</sup>, Buckley, L. 2023. Temperature sensitivity of fitness components across life cycles drives insect responses to climate change. *The American Naturalist*: 202 (6)
14. [Johnson, C.](#), Dutt, P.<sup>†</sup>, Levine, J. 2022. Competition for pollinators destabilizes plant coexistence. *Nature*: 607 (7920), 721-725
13. [Johnson, C.](#), Smith, G., Yule, K., Davidowitz, G., Bronstein, J., Ferrière, R. 2021. Evolutionary transitions from antagonism to mutualism explained by the Co-Opted Antagonist Hypothesis. *Nature Communications*: 12 (1), 1-11
12. [Johnson, C.](#) 2021. How mutualisms influence the coexistence of competing species. *Ecology*: 102 (6), e03346
11. Richman, S., Levine, J., Stefan, L. [Johnson, C.](#) 2020. Asynchronous range shifts drive alpine plant-pollinator interactions and reduce plant fitness. *Global Change Biology*: 26 (5)
10. Yule, K., [Johnson, C.](#), Bronstein, J. Ferrière, R. 2020. Interactions among interactions: the dynamical consequences of antagonism between mutualists. *J. Theor. Biol.*: 501, 110334
9. [Johnson, C.](#) & Bronstein, J. 2019. Coexistence and competitive exclusion in mutualism. *Ecology*: 100 (6), e02708
8. Kandlikar, G., [Johnson, C.](#), Yan, X.<sup>†</sup>, Kraft, N., Levine, J. M. 2019. Winning and losing with microbes: how microbially mediated fitness differences influence plant diversity. *Ecology Letters* 22: (8), 1178-1191
7. Smith, G., [Johnson, C.](#), Davidowitz, G., Bronstein, J. 2018. Linkages between nectaring and oviposition preferences of *Manduca sexta* on two co-blooming *Datura* species in the Sonoran Desert. *Ecological Entomology*: 43 (1), 85-92
6. Amarasekare, P. & [Johnson, C.](#) 2017. Evolution of thermal reaction norms in seasonally varying environments. *The American Naturalist*: 189 (3), 31-45
5. [Johnson, C.](#), Coutinho, R., Berlin, E.<sup>†</sup>, Dolphin, K.<sup>†</sup>, Heyer, J.<sup>†</sup>, Kim, B.<sup>†</sup>, Leung, A.<sup>†</sup>, Sabellon, J.<sup>†</sup> Amarasekare, P. 2016. Effects of temperature and resource variation on insect population dynamics: the bordered plant bug as a case study. *Functional Ecology*: 30 (7)

4. [Johnson, C.](#) & Amarasekare, P. 2015. A metric for quantifying the oscillatory tendency of consumer-resource interactions. *The American Naturalist*: 185 (1), 87-99
3. [Johnson, C.](#) & Amarasekare, P. 2013. Competition for benefits can promote the persistence of mutualistic interactions. *Journal of Theoretical Biology*: 328, 54-64
2. Beardmore, S., Orr, P., Manzocchi, T., Furrer, H., & [Johnson, C.](#) 2012. Death, decay and disarticulation: Modeling the skeletal taphonomy of marine reptiles demonstrated using *Serpianosaurus*. *Palaeogeography, Palaeoclimatology, Palaeoecology*: 337, 1-13
1. Tierney, J., Mayes, M., Meyer, N., [Johnson, C.](#), Swarzenski, P., Cohen, A., Russell, J. 2010. Late-20<sup>th</sup>-century warming in Lake Tanganyika unprecedented since 500 AD. *Nature Geosciences*: 3, 422-25

## SELECTED GRANTS AND FELLOWSHIPS

Year	Name	Institution	Amount
2015-18	ACE Postdoctoral Fellowship	ETH Zürich	>\$250,000
2013-15	Bisgrove Postdoctoral Fellowship	University of Arizona	\$200,000
2011-12	Denver Zoological Society Grant	Denver Zoo	\$12,000
2008-11	GAANN Fellowship & SIB Grant	UCLA	\$78,000
Total:			>\$540,000

## PRESENTATIONS

### Selected Invited Talks

Year	Title	Conference or Institution
2024	"Range lags and rewired interaction in a changing world"	University of Pittsburgh
2023	"Range lags in European alpine plants under climate change"	University of Basel
2021	"Plant-pollinator interaction in a changing world"	eScience Institute University of Washington
2020	"Plant-pollinator interaction in a changing world"	University of Newcastle University of Plymouth University of Aberdeen
2018	"Species' responses to environmental variability: from traits to communities"	Adaptations to a Changing Environment Final Seminar ETH Zürich
2016	"Cheating as a competitive strategy"	"Cheating in Paris" Meeting Paris, France
2016	"Eco-evolutionary responses to environmental variability"	Adaptations to a Changing Environment Seminar Monte Verita, Switzerland
2015	"Eco-evolutionary dynamics of mutualism"	École Normale Supérieure Paris, France
2014	"Eco-evolutionary approaches to modeling mutualism"	École Normale Supérieure Paris, France
2010	"Communities subject to perturbation"	University of Queensland Brisbane, Australia

## Selected Conference Presentations

Year	Title	Conference
2024	"Range lags in European alpine plants under climate change"	Internat. Biogeography Society
2022	"Predicting climate change impacts on insect population dynamics across latitude"	Internat. Biogeography Society
2020	"How pollinators affect plant coexistence"	American Naturalist Society
2019	"Competition for pollinators can promote or erode plant coexistence"	Ecological Society of America
2018	"A coexistence theory of mutualism"	Ecological Society of America
2017	"How climate warming affects plant phenology and reproduction in the Swiss Alps"	American Naturalist Society, British Ecological Society, Ecological Society of America
2016	"A graphical-mechanistic approach to competition and mutualism"	Ecological Society of America
2016	"The interplay between pollination and herbivory: insights from a mutualism in the Sonoran Desert"	American Naturalist Society
2014	"An M" rule of competitive exclusion in mutualism"	Ecological Society of America
2011-2013	Three presentations during Ph.D.	Ecological Society of America

## TEACHING

### Awards

2010 UCLA Schechtman Award for Outstanding Merit in Teaching

### Independent/Team Teaching (§ denotes graduate level course)

Years	Course	Institution	Description
2023-2024	Ecology & Conservation	University of Basel	Mentored two student pairs performing field research projects; developed lectures on species distribution models, abstract writing, and giving flash talks and poster presentations
2019	Ecology	ETH Zürich	Developed a lecture on phenology with an interactive activity
2018	§Plant Ecology	ETH Zürich	Organized and taught a two-week module on pollination ecology including discussions of current topical literature
2017-2019	§Quantitative Methods in Ecology	ETH Zürich	Co-taught month-long modules on the dynamics of structured populations and co-developed an interactive web application
2016	§Ecology Term Paper	ETH Zürich	Supervised a Masters student in a writing-intensive course
2014-2015	§Ecology	University of Arizona	Developed and presented lectures for incoming graduate students on the role of theory in ecology and evolution
2013	§Ecology	UCLA	Developed and taught a lecture on consumer-resource models
2012	Ecology	UCLA	Taught a guest lecture on metapopulation models

### Teaching Assistant (§ denotes graduate level course)

Years	Course	Institution	Description
2010-2012	§Ecology	UCLA	Guided graduate students on math-intensive problem sets
2009-2011	Ecology	UCLA	Developed and taught discussion section; helped write exams
2009, 2012-13	Intro. Ecology	UCLA	Led discussion sections; guided students on research papers

## MENTORING

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### Masters Students

1. Maimoonah Choudhry, University of Basel, 2024- “Pollinator decline impacts on plant fitness”
2. Bastian Zingg, University of Basel, 2023- “Effects of urbanization on native bee richness”
3. Laura Stefan, ETH Zürich, 2017. “Effects of warming climates on phenology of alpine plants”
4. Martina Lüthi, ETH Zürich, 2016. “Phenological responses of alpine plants to climate change”

### Undergraduate and High School Students

University of Basel: I mentored a high school student with the Swiss Youth in Science program who used machine learning to model deforestation in the Congo Rainforest. He won the Swiss national competition and competed at Regeneron International Science and Engineering Fair

University of Washington: I collaborated with an undergraduate statistics major to analyze CMIP6 climate model data and parameterize insect population models

ETH Zürich: I mentored an undergraduate from the Indian Institute of Sciences who conducted a senior project on the consequences of pollinator decline on plant reproduction

University of Arizona: I mentored four undergraduate and two high school students with the KEYS Research Internship Program, which supports students from underrepresented backgrounds

UCLA: I mentored eight undergraduate students who each conducted senior research projects. Six are coauthors (Johnson *et al.* 2016)

## ACADEMIC SERVICE & CONSERVATION WORK

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### Peer Review

The American Naturalist • Ecology Letters • Journal of Ecology • Theoretical Population Biology • Environmental Conservation

### Conservation Work

Research Associate, Denver Zoological Society (2010-12): I helped to establish a waterbird conservation program at the Soysambu Conservancy in Kenya.

## PROFESSIONAL REFERENCES

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Dr. Sabine Rumpf. Assistant Professor, University of Basel (current Principal Investigator)  
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Dr. Lauren Buckley. Professor, University of Washington  
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Dr. Jonathan Levine. Professor, Princeton University & ETH Zürich  
levinej@princeton.edu • +1 (609) 258-8256

Dr. Judith Bronstein. Distinguished Professor, University of Arizona  
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Dr. Priyanga Amarasekare. Professor, University of California Los Angeles (Ph.D. adviser)  
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