

# Carl Boettiger

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## employment

2015-current Assistant Professor, Department of Environmental Science, Policy and Management, **University of California, Berkeley**.

2013-2015 NSF Post-doctoral Scholar in the Department of Applied Mathematics and Statistics, **University of California, Santa Cruz**. Mentors: Marc Mangel, Stephan Munch

## education

2012 Ph.D Population Biology, **University of California, Davis**. Mentor: Alan Hastings

2007 A.B in Physics, **Princeton University**, with honors and certificates in *biophysics* and *applied and computational mathematics*.

## publications

24. Milad Memarzadeh, **Carl Boettiger** (2018). Adaptive management of ecological systems under partial observability. *Biological Conservation*. 224, 9-15. doi:10.1016/j.biocon.2018.05.009.
23. **Carl Boettiger** (2018). From noise to knowledge: how randomness generates novel phenomena and reveals information. *Ecology Letters*. doi:10.1111/ele.13085
22. **Carl Boettiger**, Dirk Eddelbuettel (2018). An Introduction to Rocker: Docker Containers for R. *The R Journal*. <https://journal.r-project.org/archive/2017/RJ-2017-065/index.html>.
21. **Carl Boettiger** (2017). Generating Codemeta Metadata for R Packages. *The Journal of Open Source Software* 2 (19), 454, doi:10.21105/joss.00454
20. Getz, Marshall, Carlson, Giuggioli, Ryan, Románach, **Boettiger**, Chamberlain, Larsen, D’Odorico, O’Sullivan, D. (2017). Making ecological models adequate. *Ecology Letters*. doi:10.1111/ele.12893
19. Ben Marwick, **Carl Boettiger**, Lincoln Mullen (2017). Packaging data analytical work reproducibly using R (and friends). *The American Statistician*. doi:10.1080/00031305.2017.1375986.
18. Hampton, Jones, Wasser, Schuldauer, Supp, Brun, Hernandez, **Boettiger**, Collins, Gross, Fernandez, Budden, White, Teal, Labou & Aukema. (2017) Skills and Knowledge for Data Intensive Research. *BioScience*. doi:10.1093/biosci/bix025.
17. T Alex Perkins, **Carl Boettiger**, Benjamin L. Philips. (2016) After the games are over: life-history trade-offs drive dispersal attenuation following range expansion. *Ecology and Evolution* 6 (18) 6425-6434. doi:10.1002/ece3.2314.
16. **Carl Boettiger**, Michael Bode, James N. Sanchirico, Jacob LaRiviere, Alan Hastings, and Paul Robert Armsworth. (2016) Optimal management of a stochastically varying population when policy adjustment is costly. *Ecological Applications* 26 (3) 808-817. doi:10.1890/15-0236.
15. **Carl Boettiger**, Scott Chamberlain, Edmund Hart, Karthik Ram. (2015) Building Software, Building Community: Lessons from the rOpenSci Project. *Journal of Open Research Software* 3: e8, doi:10.5334/jors.bu.

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14. **Carl Boettiger**, Scott Chamberlain, Rutger Vos and Hilmar Lapp. (2015) RNeXML: a package for reading and writing richly annotated phylogenetic, character, and trait data in R. *Methods in Ecology and Evolution*. doi:10.1111/2041-210X.12469.
13. **Carl Boettiger**. (2015) An introduction to Docker for reproducible research. *ACM SIGOPS Operating Systems Review*, Special Issue on Repeatability and Sharing of Experimental Artifacts. 49(1), 71-79. doi:10.1145/2723872.2723882.
12. **Carl Boettiger**, Marc Mangel, Stephan Munch. (2015) Avoiding tipping points in fisheries management through Gaussian process dynamic programming. *Proceedings of the Royal Society B* 282(1801), 8–11. doi:10.1098/rspb.2014.1631.
11. **Carl Boettiger**, Alan Hastings. (2013) No early warning signals for stochastic transitions: insights from large deviation theory. *Proceedings of the Royal Society B*. doi:10.1098/rspb.2013.1372.
10. **Carl Boettiger\***, Noam Ross\*, Alan Hastings. (2013) Early warning signals: The charted and uncharted territories. *Theoretical Ecology* doi:10.1007/s12080-013-0192-6.
9. **Carl Boettiger**, Alan Hastings (2013). Tipping points: From patterns to predictions, *Nature* 493, 157–158. doi:10.1038/493157a.
8. **Carl Boettiger**, Alan Hastings (2012). Early Warning Signals and the Prosecutor’s Fallacy, *Proceedings of the Royal Society B* 279 (1748) 4734-4739. doi:10.1098/rspb.2012.2085.
7. **Carl Boettiger**, Duncan Temple Lang, Peter Wainwright (2012). rfishbase: exploring, manipulating and visualizing FishBase data from R, *Journal of Fish Biology*. 81 (6) 2030–2039. doi:10.1111/j.1095-8649.2012.03464.x.
6. **Carl Boettiger**, Duncan Temple Lang (2012). Treebase: An R package for discovery, access and manipulation of online phylogenies, *Methods in Ecology and Evolution* 3 (6) 1060–1066. doi:10.1111/j.2041-210X.2012.00247x.
5. **Carl Boettiger** and Alan Hastings (2012). Quantifying Limits to Detection of Early Warning for Critical Transitions, *Journal of the Royal Society: Interface* 9 (75) 2527-2539. doi:10.1098/rsif.2012.0125.
4. Jeremy M. Beaulieu, Dwueng-Chwuan Jhwueng, **Carl Boettiger** and Brian O’Meara, (2012). Modeling Stabilizing Selection: Expanding the Ornstein-Uhlenbeck Model of Adaptive Evolution, *Evolution* 66 (8) 2369-2383. doi:10.1111/j.1558-5646.2012.01619.x
3. **Carl Boettiger**, Graham Coop, Peter Ralph (2012) Is your phylogeny informative? Measuring the power of comparative methods, *Evolution* 66 (7) 2240-51. doi:10.1111/j.1558-5646.2011.01574.x,
2. **Carl Boettiger**, Jonathan Dushoff, Joshua S Weitz (2010) Fluctuation domains in adaptive evolution, *Theoretical Population Biology* 77 (1) 6-13. doi:10.1016/j.tpb.2009.10.003.
1. James J. Wray, Neta A. Bahcall, Paul Bode, **Carl Boettiger**, Phillip Hopkins. (2006) The Shape, Multiplicity, and Evolution of Superclusters in Lambda-CDM Cosmology, *The Astrophysical Journal* 652 (2) 907-916. doi:10.1086/50860.

## grants

The rOpenSci Project (2015-2018, Co-PI). Helmsley Trust \$2,900,000  
 The Codemeta project (2015). NSF #ACI-1549758 165,782 USD.  
 The rOpenSci Project, Phase II funding (2014, Co-PI). Sloan Foundation \$300,000  
 NSF Biology Post-doc (2013-2015). #DBI-1306697, \$138,000  
 The rOpenSci Project Phase I funding (2013, Co-PI). Sloan Foundation \$180,000  
 IIASA YSSP fellowship (2009). NAS, OISE-0738129, \$8,000  
 Computational Science Graduate Fellowship (2008). DOE, #DE-FG02-97ER25308, \$149,000

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