

Carl Boettiger

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Education University of California, Davis

Davis, CA 95616
9/07 – current

Ph.D candidate, Population Biology Program
Adviser: Professor Alan Hastings

Princeton University

Princeton, NJ 08544
9/03 – 6/07

A.B in Physics with Honors
Certificate in Biophysics, Certificate in Applied and Computational Mathematics
Thesis Adviser: Stephen Pacala

Publications

Boettiger, C. Hastings, A (2012) “Quantifying limits to detection of early warning for critical transitions.” *Journal of The Royal Society Interface*, 1-29. doi: [10.1098/rsif.2012.0125](https://doi.org/10.1098/rsif.2012.0125).

Beaulieu, J.M., Jhwueng, D., Boettiger, C., O’Meara, B. (2012) “Modeling Stabilizing Selection: Expanding the Ornstein-Uhlenbeck Model of Adaptive Evolution,” *Evolution*. doi: [10.1111/j.1558-5646.2012.01619.x](https://doi.org/10.1111/j.1558-5646.2012.01619.x))

Boettiger, C., Coop, G., Ralph, P. (2012) “Is your phylogeny informative? Measuring the power of comparative methods.” *Evolution*. doi: [10.1111/j.1558-5646.2012.01574.x](https://doi.org/10.1111/j.1558-5646.2012.01574.x)

Boettiger, C., Dushoff, J., Weitz, J. S. (2010) “Variation in the phenotypic dynamics of evolving populations,” *Theoretical Population Biology* 77, 6-13. doi: [10.1016/j.tpb.2009.10.003](https://doi.org/10.1016/j.tpb.2009.10.003)

Wray, J., Bahcall, N., Bode, P., Boettiger, C., Hopkins, P. (2006) “The Shape, Multiplicity, and Evolution of Superclusters in Λ CDM Cosmology.” *Astrophysical Journal* 652, 907. doi: [10.1086/508600](https://doi.org/10.1086/508600)

Submitted Manuscripts

Boettiger, C., Temple-Lang, D., Wainwright, P.C. “rfishbase: exploring, manipulating and visualizing FishBase data from R” Submitted to *Journal of Fish Biology*

Boettiger, C., Hastings, A. “Early Warning Signals and the Prosecutor’s Fallacy.” Submitted to *Biology Letters*

Boettiger, C., Temple-Lang, D. “Programmatic access to TreeBASE phylogenies in R.” Submitted to *Methods in Ecology and Evolution*

Presentations

- 2011 Limits to Detection for Early Warning Signals. *Ecological Society of America*; Austin, TX.
- A general model of continuous character evolution. *Evolution Conference*; Norman, OK.
- Using Treebase from R. *iEvoBio Conference*; Norman, OK.
- Integrating Open Lab Notebooks with Online Databases. *Science Online*; Durham, NC.
- Is your phylogeny informative? *Society for Integrative and Comparative Biology*. Salt Lake City, UT.
- 2010 My experiment with open science. *iEvoBio Conference*; Portland, OR.

	Detecting niches and transitions with continuous characters. <i>Evolution Conference</i> ; Portland OR.	
2009	Inferring Adaptive Landscapes from Phylogenetic Trees. <i>University of Tennessee</i> , Knoxville, TN.	
	The Evolutionary Seesaw: Origins of Biodiversity? <i>IIASA</i> , Vienna; Austria.	
Grants	<i>Short-term visitor grant to NIMBioS</i> 2012 for research on optimal control theory and applications to policy.	
	<i>PI on 50,000 hr supercomputing grant</i> 2011,2012 for research on early warning signals, NERSC, Dept. of Energy Grant No. DE-AC02-05CH11231	
	<i>Young Scientist's Summer Program, International Institute for Applied Systems Analysis</i> 2009 National Academy of Sciences under NSF Grant No. OISE-0738129, \$8,000	
	<i>Computational Science Graduate Fellowship</i> 2008-2012 Department of Energy, Grant No: DE-FG02-97ER25308, 4 yrs × \$36,000/yr	
Honors & Awards	<i>Third place in software development competition</i> 2011 Mendeley & PLoS API Binary Battle, \$1000 prize.	
	<i>Volterra Award</i> 2011 for best student talk in theory section at the annual meeting of the Ecological Society of America.	
	Elected to Membership in the Society of <i>Sigma Xi</i> 2007	
	<i>Allen G. Shenstone Prize in Physics</i> , 2007 Princeton Physics Department	
	<i>The Class of 1870 Old English Prize</i> , 2007 Princeton English Department	
	<i>Kusaka Memorial Prize in Physics</i> , 2006 Princeton Physics Department	
	<i>Plasma Physics Fellow</i> , 2006 Princeton Plasma Physics Laboratory	
Authored Software	earlywarning: tools for the detection of early warning signals of regime shifts (2012) wrightscape: Infer adaptive landscapes from phylogenetic trees (2012) pmc: Phylogenetic Monte Carlo tools to quantify uncertainty in comparative methods. (2011) treeBASE: An R interface to the TreeBASE API (2011) rfishbase: An R interface to the fishbase database (2011) RMendeley: Implementation of the Mendeley API in R (2011) BranchingTime: Individual based simulations for adaptive dynamics. (2011) knitcitations: Dynamic citation manager for R. (2012) populationdynamics: Gillespie algorithms for exact simulation of continuous time Markov processes of common ecological models (2011) More software at http://carlboettiger.info/software.html	
Service	Reviewer for: <i>Theoretical Ecology</i> , <i>Journal of Mathematical Biology</i> , <i>Ecological Modelling</i> , <i>Evolution</i> , <i>Methods in Ecology and Evolution</i> , <i>Ecosphere</i> , <i>Proceedings of the Royal Society B</i> , <i>Journal of Theoretical Biology</i> , <i>Ecology</i>	

Teaching Experience	Mentor for Google Summer of Code Student	Summer 2012
	Instructor, Bodega Phylogenetics Workshop	Winter 2011
	Student Mentor, CLIMB program	Spring, Summer 2008
	Teaching Assistant: Introductory Zoology	Winter 2008
References	Alan Hastings Dept of Env Sci & Policy, UC Davis	amhastings@ucdavis.edu
	Sebastian Schreiber Dept of Evolution & Ecology, UC Davis	sschreiber@ucdavis.edu
	Simon Levin Dept of Ecology & Evolution, Princeton	slevin@princeton.edu
	Jim Sanchirico Dept of Env Sci & Policy, UC Davis	jsanchirico@ucdavis.edu
	Peter Wainwright Dept of Evolution & Ecology, UC Davis	pcwainwright@ucdavis.edu