

# Andrew J. Rominger

*Omidyar Postdoctoral Fellow at the Santa Fe Institute*

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- Education**
- 2016 **University of California Berkeley** Ph.D. Environmental Science, Policy and Management  
Committee: Rosemary Gillespie, John Harte, Charles Marshall  
Dissertation: The statistical mechanics of biodiversity
- 2009 **Stanford University** B.S. Biological Sciences  
Advisors: Elizabeth Hadly, Rodolfo Dirzo  
Honors thesis: Both neutral and deterministic processes drive community structure
- Appointments**
- 2017-2018 **Omidyar Fellow**, Santa Fe Institute
- 2016 **Postdoctoral Fellow**, Berkeley Initiative in Global Change Biology, UC Berkeley
- 2010 **Fulbright Scholar**, Pontificia Universidad Católica de Chile
- Publications**
- in revision **Rominger, A.J.** et al. (in revision). Linking evolutionary and ecological theory illuminates non-equilibrium biodiversity. Trends in Ecology and Evolution, preprint: [arxiv.org/abs/1705.04725](https://arxiv.org/abs/1705.04725).
- Rominger, A.J.**, Fuentes, M.A. & Marquet, P. (in revision). Punctuated non-equilibrium and niche conservatism explain biodiversity fluctuations through the Phanerozoic. Science Advances, preprint: [arxiv.org/abs/1707.09268](https://arxiv.org/abs/1707.09268).
- 2017 Harte, J., Newman, E.A. & **Rominger, A.J.** (2017). Metabolic partitioning across individuals in ecological communities. Global Ecology and Biogeography, 26(9), 993–997.
- Krehenwinkel, H., Wolf, M., Lim, J.Y., **Rominger, A.J.**, Simison, W.B. & Gillespie, R.G. (2017). Estimating and mitigating amplification bias in qualitative and quantitative arthropod metabarcoding. Scientific Reports, 7(1), 17668.
- O'Dwyer, J.P., **Rominger, A.J.** & Xiao, X. (2017). Reinterpreting maximum entropy in ecology: a null hypothesis constrained by ecological mechanism. Ecology Letters, 20(7), 832–841.
- Rominger, A.J.** & Merow, C. (2017). meter: an R package for testing the maximum entropy theory of ecology. Methods in Ecology and Evolution, 8(2), 241–247.
- Stegner, M.A., Karp, D.S., **Rominger, A.J.** & Hadly, E.A. (2017). Can protected areas really maintain mammalian diversity? Insights from a nestedness analysis of the Colorado Plateau. Biological Conservation, 209, 546–553.
- 2016 **Rominger, A.J.** (2016). Ecological Theories in Biogeography. In: Kliman, R.M. (ed.), Encyclopedia of Evolutionary Biology, 145–148. Academic Press, Oxford.
- Rominger, A.J.** et al. (2016). Community assembly on isolated islands: macroecology meets evolution. Global Ecology and Biogeography, 25(7), 769–780.
- Sardiñas, H.S., Tom, K., **Rominger, A.J.**, Andrew & Kremen, C. (2016). Sunflower (*Helianthus annuus*) pollination in California's Central Valley is limited by native bee nest site location. Ecological applications: a publication of the Ecological Society of America, 26(2), 438–447.
- 2015 Harte, J., **Rominger, A.J.** & Zhang, W. (2015). Integrating macroecological metrics and community taxonomic structure. Ecology Letters, 18(10), 1068–1077.
- 2013 Harte, J., Kitzes, J., Newman, E.A. & **Rominger, A.J.** (2013). Taxon Categories and the Universal Species-Area Relationship: (A Comment on Šizling et al., "Between Geometry and Biology: The Problem of Universality of the Species-Area Relationship"). The American Naturalist, 181(2), 282–287.

		Maurer, B.A., Kembel, S.W., <b>Rominger, A.J.</b> & McGill, B.J. (2013). Estimating metacommunity extent using data on species abundances, environmental variation, and phylogenetic relationships across geographic space. <i>Ecological Informatics</i> , 13, 114–122.
	2012	Karp, D.S., <b>Rominger, A.J.</b> , Zook, J., Ranganathan, J., Ehrlich, P.R. & Daily, G.C. (2012). Intensive agriculture erodes $\beta$ -diversity at large scales. <i>Ecology Letters</i> , 15(9), 963–970.
	2009	<b>Rominger, A.J.</b> , Miller, T.E.X. & Collins, S.L. (2009). Relative contributions of neutral and niche-based processes to the structure of a desert grassland grasshopper community. <i>Oecologia</i> , 161(4), 791–800.
Authored Software	2016	<b>Rominger, A.J.</b> (2016). pika: An R package for testing and visualization macroecology. <a href="https://github.com/ajrominger/pika">github.com/ajrominger/pika</a>
	2015	<b>Rominger, A.J.</b> & Merow, C. (2015). meteR: Testing the Maximum Entropy Theory of Ecology. R package version 1.0. <a href="https://cran.r-project.org/package=meter">cran.r-project.org/package=meter</a>
Grants	2016	<b>NSF Biocollections Postdoctoral Fellow</b> , University of Florida. (declined) <b>NIMBioS Postdoctoral Fellow</b> , University of Tennessee. (declined)
	2015	<b>Philomathia Graduate Student Fellowship</b> , UC Berkeley.
	2012-2017	<b>National Science Foundation Grant DEB 1241253</b> , Community level approach to understanding speciation in Hawaiian arthropod lineages. As a graduate student I contributed to the design and writing of this grant.
	2011-2015	<b>Graduate Research Fellowship</b> , National Science Foundation. <b>Walker Fund for Entomology</b> , Essig Museum of Entomology.
Awards & Honors	2015	<b>Outstanding GSI Award</b> , University of California, Berkeley <b>Usinger Award in Entomology</b> , University of California, Berkeley
	2009	<b>Kennedy Prize for Outstanding Honors Thesis</b> , Stanford University. Given to one thesis in the Natural Sciences <b>Firestone Medal for Excellence in Undergraduate Research</b> , Stanford University. Given to ten finishing students in the Department of Biology <b>Award for Excellence in Teaching</b> , Stanford University
Organized Working Groups	2018	<b>Extending the Reach of Info-Metrics to Dynamics and Non-Hierarchical Systems</b> , Santa Fe Institute.
	2017	<b>The Nexus of Ecology and Evolution in Space and Time</b> , Santa Fe Institute.
	2014	<b>Big ecological questions, diverse data, new methods</b> , Berkeley Initiative in Global Change Biology, University of California Berkeley.
	2013	<b>Global change biogeography</b> , University of California Berkeley.
Invited Talks	2018	<b>Rominger, A.J.</b> (2018). The statistical mechanics of biodiversity in evolving systems. German Center for Integrative Biodiversity Research, Leipzig, Germany.
	2016	<b>Rominger, A.J.</b> (2016). Isolated islands untangle universal patterns at the nexus of macroevolution and macroecology. Island Biology 2016. Terceira Island, Azores, Portugal.

		<b>Rominger, A.J.</b> (2016). The statistical mechanics of biodiversity in evolving island communities. University of Michigan Department of Ecology and Evolutionary Biology Early Career Scientists Symposium. University of Michigan.
	2015	<b>Rominger, A.J.</b> (2015). Community assembly on isolated islands: Macroecology meets evolution. Evolution 2015. Sao Palo, Brazil.
	2014	<b>Rominger, A.J.</b> (2014). Theory based perspectives on global change biology. Berkeley Initiative in Global Change Biology site visit by the Moore Foundation.
	2013	<b>Rominger, A.J.</b> (2013). Evolutionary constraints and information entropy in ecology. 98th Ecological Society of America Annual Meeting. Minneapolis, MN, USA.
	2012	<b>Rominger, A.J.</b> (2012). Specimen-based biogeography: Imperfect detection and biased sampling. 6th Biannual Meeting of the International Biogeography Society. Miami, FL, USA.
	2011	<b>Rominger, A.J.,</b> Gruner D., Harte J. & Gillespie R.G. (2011). Making and 2011 breaking a new ecological theory. Evolution of the Pacific. Honolulu, HI, USA.
Selected Conference Presentations	2016	<b>Rominger, A.J.</b> (2016) How to be happy when your data are SAD. 101st Ecological Society of America Annual Meeting. Ft. Lauderdale, FL, USA.
	2015	<b>Rominger, A.J.</b> & Gillespie, R.G. (2015). Macroevolutionary signals of insular adaptive radiations: Synthesizing across island systems with a novel statistical method. 7th Biannual Meeting of the International Biogeography Society. Bayreuth, Germany.
	2014	<b>Rominger, A.J.,</b> Maher, S.P., Iknayan, K.J., Chang, L., Rapacciuolo, G. & Holroyd, P. (2014). Estimating community change from sporadic data: A novel statistical technique sheds light on continental-scale ecology of the Pleistocene-Holocene transition. 99th Ecological Society of America Annual Meeting. Sacramento, CA, USA.
	2012	<b>Rominger, A.J.,</b> Gruner, D., Harte, J. & Gillespie, R.G. (2012). Making and breaking a new ecological theory. 97th Ecological Society of America Annual Meeting. Portland, OR, USA.
	2011	<b>Rominger, A.J.,</b> Fuentes, M.A. & Marquet, P.A. (2011). Volatility of clade-specific random walks evolves across lineages and drives complex diversification patterns through geologic time. 96th Ecological Society of America Annual Meeting. Austin, TX, USA.
	2007	<b>Rominger, A.J.,</b> Miller, T.E.X. & Collins, S.L. (2007). Dispersal, determinism and the structure of a local grasshopper community. 92nd Ecological Society of America Annual Meeting. San Jose, CA, USA.
Teaching Experience	2018	<b>Instructor</b> , Santa Fe Institute Complexity Explorer Complexicon: Keystone species
	2014	<b>Graduate Student Instructor</b> , UC Berkeley ESPM 174: Design and Analysis of Ecological Studies Instructor: Perry de Valpine  <b>Graduate Student Instructor</b> , UC Berkeley INTEGRATIVE BIOLOGY 166: Evolutionary Biogeography Instructor: Anthony Barnosky
	2009	<b>Teaching Assistant</b> , Stanford University BIOLOGY 121: Biogeography Instructor: Elizabeth Hadly
Mentoring Experience	2017-2018	<b>Dissertation committee member</b> for Isaac Overcast, City University of New York

	2013-2018	<b>Undergraduate research mentor</b> for 8 undergraduate students, UC Berkeley. Topics include phylogenetics of Hawaiian arthropod lineages, soundscape ecology, and scientific computation, including student-lead creation of open source R packages.	
Outreach	2018	<b>Board president</b> , Juniper Hill Center, Las Vegas, NM, USA	
	2013-2014	<b>Board member</b> , Talking Talons Youth Leadership Community Fund, Tijeras, NM, USA	
	2009-2018	<b>Community speaker</b> , Present about science, conservation and environmental education at youth and environmental group meetings including Central New Mexico Audubon Society and Pacific Internship Programs for Exploring Science.	
Professional Service		<b>Special issue editor for:</b>	
		Entropy	Frontiers in Ecology and Evolution
		<b>Referee for:</b>	
		The American Naturalist	Global Ecology and Biogeography
		Biological Invasions	Journal of Theoretical Biology
		Ecography	Biology
		Ecology	Oecologia
		Ecology Letters	
			PLoS ONE
			Proceedings of the Royal Society B