Ian T. Carroll

Research area

Theoretical ecology, stochastic population dynamics, competitive coexistence, neutral theory of biodiversity

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Education

University of California at Santa Barbara (UCSB) 2006 – 2012
Ph. D. in Ecology, Evolution and Marine Biology (EEMB)
Major advisor: Roger M. Nisbet

Brown University 1999 – 2003
A. B., with Honors, in Biology
Advisor: Jennifer B. H. Martiny

Publications

Carroll, IT, and RM Nisbet. *In prep*. Neutral and non-neutral communities differ in distributions of abundance and species' lifetimes.

Carroll, IT, and RM Nisbet. *In prep*. Signature of the initial state on the mean time to extinction in homogeneous and periodic environments.

Carroll, IT and CJ Briggs. *In prep*. An individual based model of *Batrachochytrium dendrobatidis* infection parameterized with field data.

Carroll, IT, BJ Cardinale and RM Nisbet. 2012. Niche and fitness differences relate the maintenance of diversity to ecosystem function: Reply. *Ecology* 93(6):1487-1491.

Carroll, IT, BJ Cardinale and RM Nisbet.2011. Niche and fitness differences relate the maintenance of diversity to ecosystem function. *Ecology* 92(5):1157-1165.

Cardinale BJ, DS Srivastava, JE Duffy, JP Wright, AL Downing, M Sankaran, C Jousea, MW Cadotte, **IT Carroll**, JJ Weis, A Hector and M Loreau. 2009. Effects of biodiversity on the functioning of ecosystems: A summary of 164 experimental manipulations of species richness. *Ecology (data paper)*, 90(3): 854.

Doak DF, JA Estes, BS Halpern, U Jacob, DR Lindberg, J Lovvorn, DH Monson, MT Tinker, TM Williams, JT Wootton, **IT Carroll**, M Emmerson, F Micheli and M Novak. 2008. Understanding and predicting ecological dynamics: Are major surprises inevitable? *Ecology* 89(4): 952-961.

Cardinale, BJ, JP Wright, MW Cadotte, **IT Carroll**, A Hector, DS Srivastava, M Loreau and JJ Weis. 2007. Impacts of plant diversity on biomass production increase through time due to species complementarity: A meta-analysis of 44 experiments. *PNAS* 104(46): 18123-18128.

Chikarmane HM, AM Kuzirian, **ITCarroll** and R Dengler. 2001. Development of genetically tagged bay scallops for evaluation of seeding programs. *Biological Bulletin* 201(2):285-6.

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Conference Papers & Posters

Carroll IT and RM Nisbet. 2011. From birth-death process to observed macrostates in neutral and non-neutral ecological communities.*Gordon Research Conference: Stochastic Physics in Biology.* Ventura, CA.

Carroll IT and RM Nisbet. 2010. Opposing effects of density-independent and density-dependent selection on species abundance distributions. *Ecological Society of America Annual Meeting.* Pittsburg, PA.

Matulich KL, **IT Carroll** and BJ Cardinale. 2009. Priority effects: initial densities alter exponential growth rates of competing species. *Ecological Society of America Annual Meeting*. Albuquerque, NM.

Carroll IT and BJ Cardinale. 2009. Diversity-stability relationships with competition for variable resources: Diversity and niche breadth are stabilizing. *Ecological Society of America Annual Meeting*. Albuquerque, NM.

Carroll IT and BJ Cardinale. 2007. The balance of niche and neutral processes dictate the effects of biodiversity on ecosystem production. *Ecological Society of America Annual Meeting*. San Jose, CA.

Carroll IT and LA Meyerson. 2005. Number of New Introductions as an Indicator of Biological Invasion. *Ecological Society of America Annual Meeting*. Montreal, QC.

Carroll IT and JB Hughes. 2003. Metabolic Cross-feeding in Two-Species Bacterial Communities. *Gordon Research Conference in Microbial Population Biology*. Andover, NH.

Academic Appointments & Professional Experience

Postdoctoral Scholar, Biology, Woods Hole Oceanographic Institution	2012 – current
Teaching Associate, EEMB, UCSB	
EEMB 120 – Introduction to Ecology	Summer 2011, 2012
Teaching Assistant, EEMB, UCSB	
EEMB 120 – Introduction to Ecology	Fall 2009
EEMB 179/279 – Ecological Models	Winter 2009, 2010
EEMB 130/230 – Population Genetics	Spring 2010
EEMB 116 – Invertebrate Zoology	Spring 2008
Research Assistant, H. John Heinz III Center, Washington, DC	2005 – 2006
Biological Field Technician, Stanislaus National Forest, Sonora, CA	2004
Lab and Teaching Assistant, Biological Science, Brown University, Providence, RI	2001 – 2003
Field Assistant, Center for Conservation Biology, Stanford University, Costa Rica	2002

Funding Sources

Grant in aid of research, Graduate Division, UCSB [$4,000]	2010
Croasdale Fellowship, American Phycological Society	2008
Graduate Student Research Grant, Valentine Eastern Sierra Reserve [$2,000]	2008
Graduate Research Fellowship, National Science Foundation	2006
Regents Special Fellowship, UCSB	2006
Research Experience for Undergraduates, National Science Foundation	2001

Honors

Ellen Schamberg Burley Award, EEMB, UCSB	2010
Worster Award for Undergraduate Mentorship, EEMB, UCSB	2008
Cheadle Award, Cheadle Center for Biodiversity and Ecological Restoration, UCSB	2008
Maria L. Caleel Award for Academic Excellence, Brown University	2003

Academic Service & Affiliations

Contributed reviews: *Science*, *Ecology, Oecologia* and *Hydobiologia*	
Departmental Representative, UCSB Graduate Student Association	2008 – 2010
Planning Committee, EEMB Graduate Student Research Symposium	2008
Ecological Society of America	since 2007
Association for the Advancement of Science	since 2007

Software & Programming Languages

adept	MATHEMATICA
skilled	C, MATLAB, R, LATEX
newb	CUDA, ARC GIS