DAVID G. RAND

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EDUCATION

2006-2009 Ph.D., Harvard University, Systems Biology
Thesis: "A systems approach to the evolution of cooperation"

2000-2004 B.A., Cornell University *summa cum laude*, Computational Biology
Thesis: "Incorporation of excitonic interactions into energy transfer/trapping simulations of *rhodobacter spheroids* reaction center complex"

PROFESSIONAL EXPERIENCE

2009-2010 Fellow in Mathematical Biology, Program for Evolutionary Dynamics, Harvard University - *Martin Nowak*
2009-2010 Fellow, Berkman Center for Internet & Society, Harvard University - *Yochai Benkler*
2007-2010 Consultant, UK Financial Services Authority & Sciteb Ltd. – *Nicholas Beale*
2006-2009 Ph.D. student, Harvard University - *Martin Nowak*
2004-2006 Mathematical modeler, Gene Network Sciences, Ithaca NY – *Jeffrey Fox*
2003-2004 Undergraduate research assistant, Psychology, Cornell University - *Carol Krumhansl*
2002-2004 Undergraduate research assistant, Plant Biology, Cornell University - *Thomas Owens*

PUBLICATIONS

1. Dreber A, **Rand DG**, Fudenberg D, Nowak MA (2008) Winners don't punish. *Nature*, **452** 348-351.
2. **Rand DG**, Zhou Q, Buzzard G, Fox JJ (2008) Computationally efficient strategy for modeling the effect of ion current modifiers. *IEEE T Bio-Med Eng*, **55** 3-13.
3. Pfeiffer T, **Rand DG**, Dreber A (2009) Decision-making in research tasks with sequential testing. *PLoS ONE*, **4** e4607.
4. **Rand DG**, Dreber A, Ellingsen T, Fudenberg D, Nowak MA (2009) Positive interactions promote public cooperation. *Science*, **325** 1272-1275.
5. **Rand DG**, Ohtsuki H, Nowak MA (2009) Direct reciprocity and costly punishment: generous tit-for-tat prevails. *J Theor Biol*, **256** 45-57.
6. **Rand DG**, Pfeiffer T, Dreber A, Sheketoff RW, Wernerfelt NC, Benkler Y (2009) Dynamic remodeling of in-group bias during the 2008 presidential election. *Proc. Natl. Acad. Sci. USA*, **106** 6187-6191.
7. Blake PR & **Rand DG** (In press) Currency value moderates equity preference among young children. *Evolution & Human Behavior.* doi:10.1016/j.evolhumbehav.2009.06.012
8. **Rand DG**, Pfeiffer T. (In press) Systematic differences in impact across publication tracks at PNAS. *PLoS ONE.*

Popular press articles

1. **Rand DG**, Nowak MA (2009) How reputation could save the Earth. *New Scientist*, **2734** 28-29.

SUBMITTED/ IN PREPERATION

Hill A, **Rand DG**, Nowak MA, Christakis NC. Happiness and depression as infectious diseases in a large social network: the SISa model. *Out for review at Proc. B.*

Beale N, **Rand DG,** Dreber A, Croxson K, Nowak MA. An evolutionary model of consumer-supplier dynamics. *Awaiting publication as a UK Financial Services Authority policy document.*

Rand DG. The evolution of in-group bias as a reciprocity heuristic.

Dreber A, **Rand DG**, Wernerfelt NC, Garcia JR, Lum JK, Zeckhauser RJ. Biological basis of risk-taking in the game of bridge.

Rand DG, Tarnita C, Fudenberg D, Nowak MA. The evolution of fairness in the ultimatum game.

Almenberg J, Dreber A, Apicella, C, **Rand DG**. Third party reward and punishment in dictator games with multiple recipients.

Tarnita C, Antal A, **Rand DG**, Nowak MA. Relaxed Prisoner's Dilemma and optional games.

TEACHING EXPERIENCE

SB200: A Systems Approach to Biology (Graduate level), Teaching fellow for Prof. Jeremy Gunawardena, Harvard University, Fall 2007, Average student rating of 4.9/5.0

Math153: Mathematical Biology – Evolutionary Dynamics (Undergraduate level), Teaching fellow for Prof. Martin Nowak, Harvard University, Fall 2008, Average student rating 4.4/5.0

Math 243: Evolutionary Dynamics (Graduate level), Teaching fellow for Prof. Martin Nowak, Harvard University, Spring 2009

Student theses

Nils C. Wernerfelt, "The Evolution of Cooperation on Dynamic Graphs", Mathematics senior thesis, Harvard College, June 2009. Winner of the 2009 Thomas Temple Hoopes prize for excellence in the work of undergraduates. Supervised jointly with with Corina Tarnita and Martin Nowak.

Joseph J. Armao, "Evolutionary Game Dynamics, Cooperation, and Costly Punishment", Mathematics senior thesis, Harvard College, June 2009. Supervised jointly with with Corina Tarnita and Martin Nowak.

FELLOWSHIPS & AWARDS

NSF Graduate Research Fellowship Program winner ($30,000 per year plus tuition 2007-2010), Derek Bok Center Certificate for Distinction in Teaching (Fall 2007), Harvard Mind Brain & Behavior Initiative Graduate Student Award 2008 ($2000, with Peter Blake) and 2009 ($2500), Berkman Center for Internet & Society Graduate Student Award 2009 ($5000), AAAS/Science Program for Excellence in Science (2009-2011)

REFEREEING

Science, PNAS, Proc R Soc B, PLoS ONE, Journal of Theoretical Biology, Theoretical Population Biology

PRESENTATIONS

Critical Perspectives on Law and Economics Seminar, University of Minnesota Law School, March 2010 (Invited speaker)

Behavioral Decision Research Workshop, Cornell University, February 2010 (Invited speaker)

International Symposium on Complex Networks and Evolutionary Dynamics, Xidian University, Xi'an, China, October 2009 (Invited speaker)

Conference on Evolutionary Dynamics, Peking University, Beijing, Oct 2009 (Invited speaker)

Science Foo Camp, Google, Mountain View CA, July 2009 (Invited speaker)

Law, Behavior and the Brain, Gruter Institute for Law and Behavioral Research, Lake Tahoe NV, May 2009 (Invited speaker)

Plants and the evolution of cooperation and trading, Harvard Plant Biology Symposium, Cambridge MA, May 2009 (Invited speaker)

International Society for Performance Improvement, Orlando FL, April 2009 (Funded guest speaker) - Average rating by participants 4.8/5

Modeling Social Behavior, National Institutes of Health, Bethesda MD, November 2008 (Invited speaker)

Japanese Society for Mathematical Biology, Kyoto University, Kyoto, Japan, September 2008 (Invited speaker)

12th Experimental Social Sciences Conference, Tokyo Institute of Technology, Ookayama, Japan, September 2008 (Invited speaker)

Science and the Web, workshop at the Mediterranean Institute for Life Sciences, Split, Croatia, August 2008 (Instructor: experimental economics, MATLAB programming)

Law, Behavior and the Brain, Gruter Institute for Law and Behavioral Research, Lake Tahoe NV, May 2008 (Invited speaker)

International Ethological Conference, Dalhousie University, Halifax NS, Canada, August 2007 (Poster presenter)

Heart Rhythms Society, Boston MA, May 2006 (Poster presenter)

Eastern Regional Photosynthesis Conference, Woods Hole MA, April 2003, 2004 (Speaker)